U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 44 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

Comment 13 (Revocation of NWP 44, Mining Activities): Three commenters recommended revoking this NWP in the Seattle District due to the impacts from mining being more than minimal.

Response 13: Per the National Conditions for this NWP, a PCN is required in all instances. This will allow the Seattle District to review each project on a case-by-case basis to ensure impacts are minimal and to determine if discretionary authority is needed to require an IP. Therefore, revocation is not warranted.

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated

with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.

- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.
- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are

wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively

eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her

property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and*

associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping.

This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place,

to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in "line out" text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance

with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 44: This NWP has had three RCs since 2007 requiring reclamation to be achieved within 2 years of completion of mining, requiring compensatory mitigation for temporal losses of aquatic ecosystem functions, and only allowing the NWP to be used for aggregate mining activities in lower perennial streams meeting a list of criteria. No comments were received on these conditions. Therefore, these conditions will be retained.

A RC was proposed to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral streambeds. See Section 4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds, Comment and Response 1 for the rationale. Establishing this RC has the same outcome as disallowing waivers and will minimize impacts to streams.

The three RCs will be retain and another RC will be added.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

Comment 1: Two commenters stated they have serious concerns about fill within perennial, ephemeral, and intermittent streams (NWP 3, 5, 6, 7, 12, 13, 14, 18, 29, 39, 40, 42, 43, 44, 50, 51, and 52). They supported Seattle District's proposal to limit fill within intermittent and ephemeral stream beds to no more than 300 linear feet, they were concerned with the individual and cumulative effects of these actions. The filling of these streams impedes the recovery of ESA-listed species. If the Corps proposes to maintain the ability to issue a waiver for fill exceeding 300 linear feet, they encouraged the Corps to not delegate this authority below the District Engineer. Project Manager reviews of these waivers does not provide sufficient rigor for review of these fill exceedances.

Response 1: In NWP 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52 there is a national requirement that the discharge cannot cause the loss of more than 300 linear feet of a *perennial* stream bed. For intermittent and ephemeral streams, impacts are also limited to 300 linear feet; however, this limit can be exceeded with a written determination by the DE. Intermittent and ephemeral streams comprise a large portion of many watersheds, particularly in eastern

Washington. These streams can support distinctive riparian vegetation and are important biologically. The major biological role of these stream types is likely to be their influence on the supply of sediment, water, and organic materials to downstream channels where ESA-listed species are abundant. Therefore, because intermittent and ephemeral streams have the same biological importance as perennial streams, the Seattle District has added a regional condition to these NWPs to set a regional limit of 300 linear feet to ensure impacts to these important resources are minimized. Also, the requirements of RGCs 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 5 (Crossings of Waters of the U.S.) will help to ensure impacts from work in streams are minimized.

Comment 2: Two commenters requested a regional condition prohibiting fill in streams unless the applicant can demonstrate there will be an overall benefit to the aquatic system. They also requested the regional condition require a PCN for all actions proposing fill within a stream.

Response 2: The Corps cannot prohibit fills in streams which do not have an overall benefit to the aquatic system because the purpose of certain projects may not have a benefit to the aquatic environment (e.g., bank stabilization, utility lines, etc). However, for projects of this nature, the Corps can ensure impacts to streams are minimized (see Response 1 above). In Washington State the majority of streams support ESA-listed species; therefore, under NGC 18 (Endangered Species), a PCN is already required for any work in a majority of the streams in Washington State.

At this time, the Seattle District does not believe it is necessary to add additional regional limits or PCN thresholds to this NWP. The Seattle District believes the requirements under the national and regional conditions are sufficient to ensure only projects that result in minimal impacts are authorized by this NWP.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the

passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 44

Alternative regional conditions were not considered necessary as the Seattle District believes the added regional conditions provide the appropriate safeguards to ensure this NWP does not authorize activities with more than minimal adverse effects on the aquatic environment.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of “may affect, not likely to adversely affect” and “may affect, likely to adversely affect”, informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have "no effect" on threatened or endangered species. The determination of "no effect" will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle

District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH

may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 44

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local

Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values. Seattle District has added a regional condition to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral stream beds to ensure impacts to fish and wildlife values are minimized.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 44

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes;

stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a “sponge” for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 44 – Mining activities result in water quality impacts, as described above, due to the placement of fill in wetlands and streams.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. Based on an analysis of the types of activities authorized by the Seattle District under the 2007 NWPs, NWP 45 was never used.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based upon the usage of this NWP under the 2007 NWP regulations, the Seattle District estimates this NWP will not be used under the 2012 NWPs. This NWP has four RCs which will help ensure that the net effects to the aquatic environment will be minimal for activities authorized by this NWP. One RC will specifically ensure stream impacts are minimized. If this NWP is used under the 2012 NWPs, compensatory mitigation would likely be required. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of NWPs will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

Historical Conditions: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas,

often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The

result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to

cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank

stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

Future Trends: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people. In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part “f” of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection

methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 44

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation. Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish

protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District may require compensatory mitigation to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in

accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic

sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps

can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 44 Specific Regional Conditions.

1. No activity can result in the loss of greater than 300 linear feet of intermittent and ephemeral stream beds.

2. Reclamation, when required by the Washington State Department of Natural

Resources (DNR), must be achieved with 2 years of completion of mining in individual mining pits.

3. Permittees must provide compensatory mitigation for temporal losses of aquatic ecosystem functions in waters of the U.S. See Nationwide Permit General Condition 23 for mitigation requirements.

4. This NWP may only be used for aggregate mining activities in lower perennial streams that meet the following criteria:

a. Aggregate may not be excavated from a vegetated bar or flowing water, or pushed across a wetted channel.

b. A 5-foot (horizontal) buffer must be left in a natural state along the river edge of the aggregate bar during excavation. After aggregate material is removed, the area must be graded to restore a natural appearance and not trap fish.

c. Aggregate material may be temporarily stockpiled within the channel above the plane of the water surface for up to 7 days. Aggregate material may not be stockpiled in wetlands or flowing water.

d. Aggregate material may not be disposed in the channel or where it could re-enter a water of the United States.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation

and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process,

the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

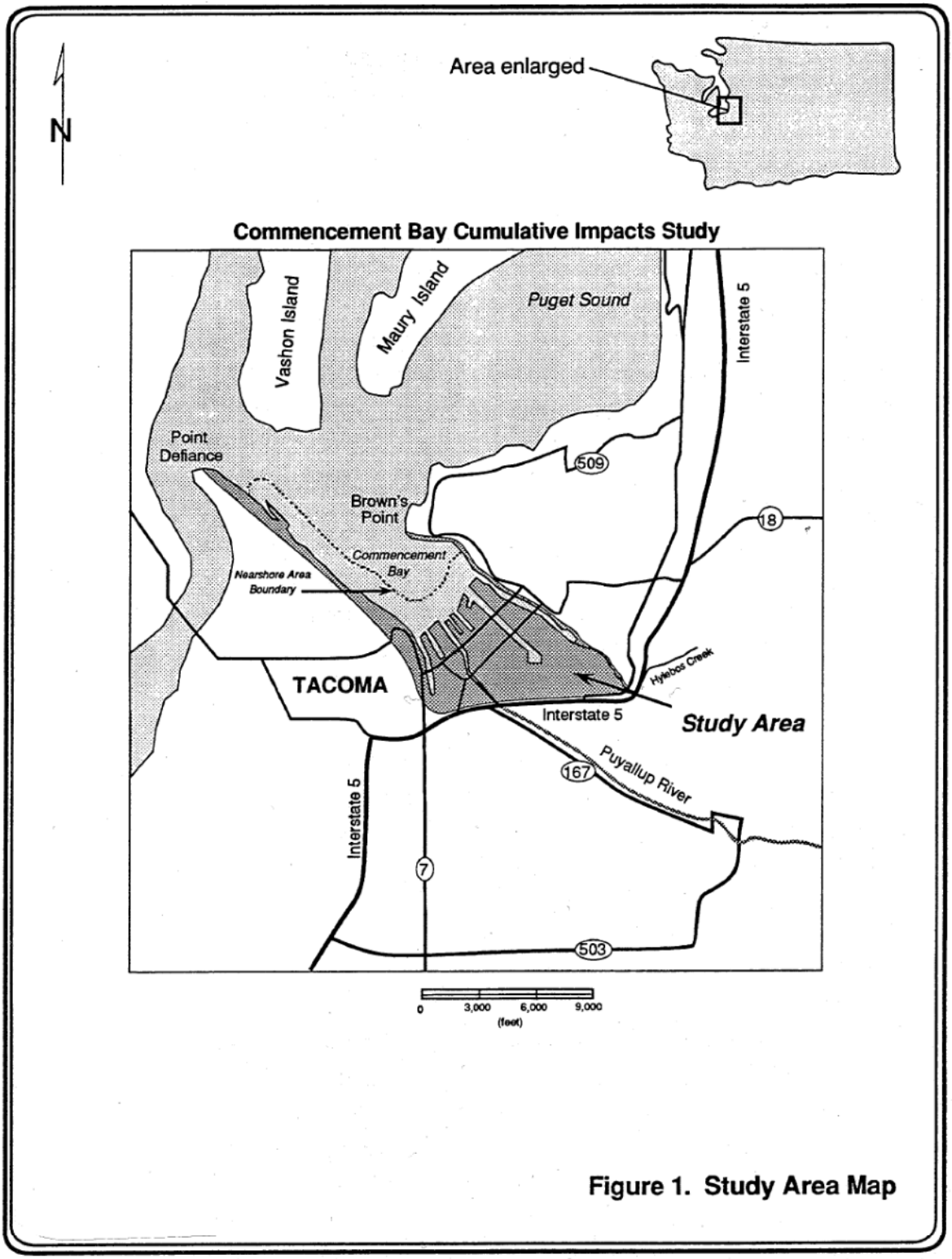
If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

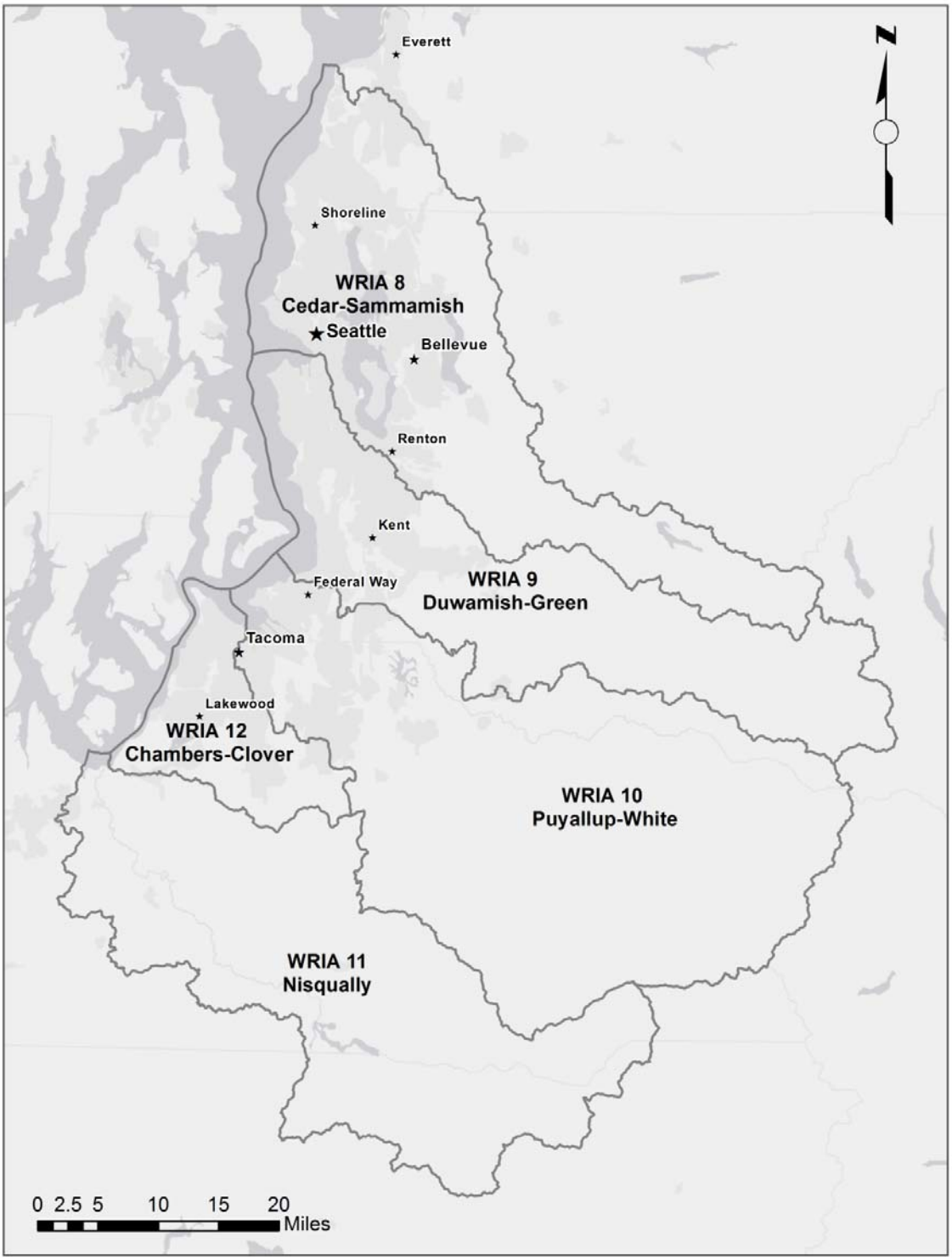
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 45 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14

federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.
- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.

- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were

historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be

adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.*

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of

bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping. This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place, to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in “line out” text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic

Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 45: No Regional Conditions are proposed to be added to this NWP.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish

habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

Comment: One commenter requested adding a requirement that the PCN include a short reason to believe analysis on the potential for sediment contamination at the location. If dredging is part of a maintenance activity, notification should also include a "reason to believe" analysis on the potential for sediment contamination at that location. This description will inform the decision of whether particular dredging Best Management Practices (BMPs) would be required, or whether sediment testing would be required, even if the material goes to an upland disposal area. Dredging of contaminated sediments could result in water quality impacts if BMPs are not used during the dredging and dewatering of materials.

Response: The Seattle District has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented. Therefore, there is no need to revise the PCN requirement.

At this time, the Seattle District does not believe it is necessary to add additional regional limits or PCN thresholds to this NWP. The Seattle District believes the requirements under the national and regional general conditions are sufficient to ensure only projects that result in minimal impacts are authorized by this NWP.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all

intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 45

Comment: Two commenters requested bank stabilization activities not be allowed under this NWP as they damage fish habitat.

Response: For all bank stabilization activities throughout the State, the Seattle District has revised RGC 4 (Bank Stabilization), to request project specific information so the activity can be adequately assessed to ensure the activity is minimally impacting. Therefore, an additional regional condition limiting bank stabilization under this NWP is not warranted.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA

requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of "may affect, not likely to adversely affect" and "may affect, likely to adversely affect", informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have "no effect" on threatened or endangered species. The determination of "no effect" will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the

anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset

the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 45

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and

332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 45

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a “sponge” for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 45 – Repair of uplands damaged by discrete events result in water quality, substrate, sediment transport and delivery impacts due to filling and stabilization of uplands. These impacts are described above.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. Based on an analysis of the types of activities authorized by the Seattle District under the 2007 NWPs, NWP 45 was used 5 times and impacted 235 linear feet of streams and 0.51 of an acre of wetlands. Typically, work authorized by this NWP includes the placement of sediment, riprap and rock protection. The Seattle District has not typically required compensatory mitigation for this NWP because the adverse impacts of these proposals have been minimal, both individually and cumulatively. No mitigation was required to offset impacts to the aquatic environment.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based upon the usage of this NWP under the 2007 NWP regulations, the Seattle District estimates this NWP will be used approximately one time per year under the 2012 NWPs. The Seattle District anticipates fewer impacts through increased avoidance, minimization, and compensatory mitigation for this NWP, as required by the revised Regional General Condition 4 for bank stabilization. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request an individual permit for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional general conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound

Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

Historical Conditions: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for

many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

<u>Historical and Current Stressors</u>: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore

processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas, often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations

surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and

forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

Future Trends: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people. In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part "f" of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore

environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 45

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation.

Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 45 Specific Regional Conditions. None.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain,

> preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

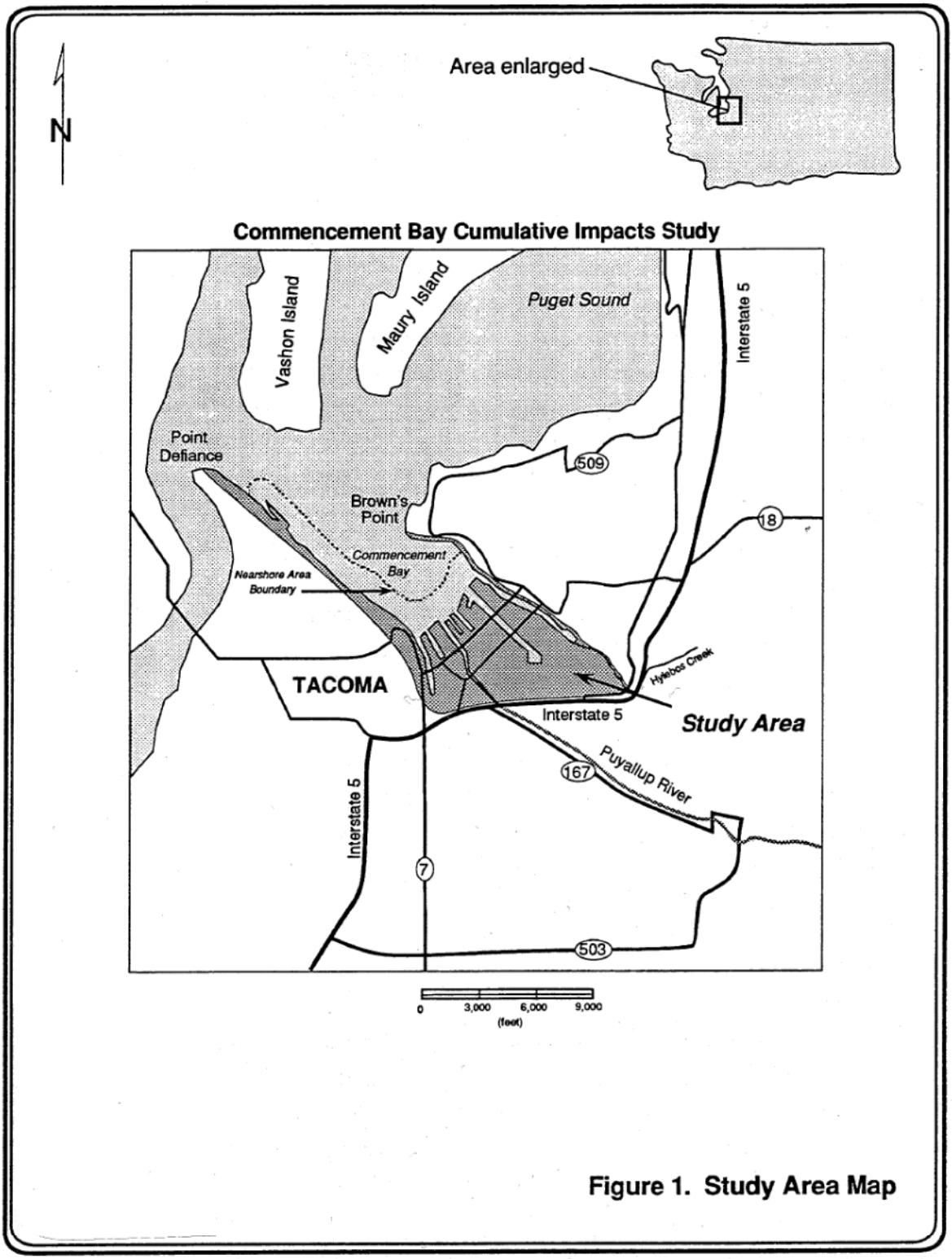
If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

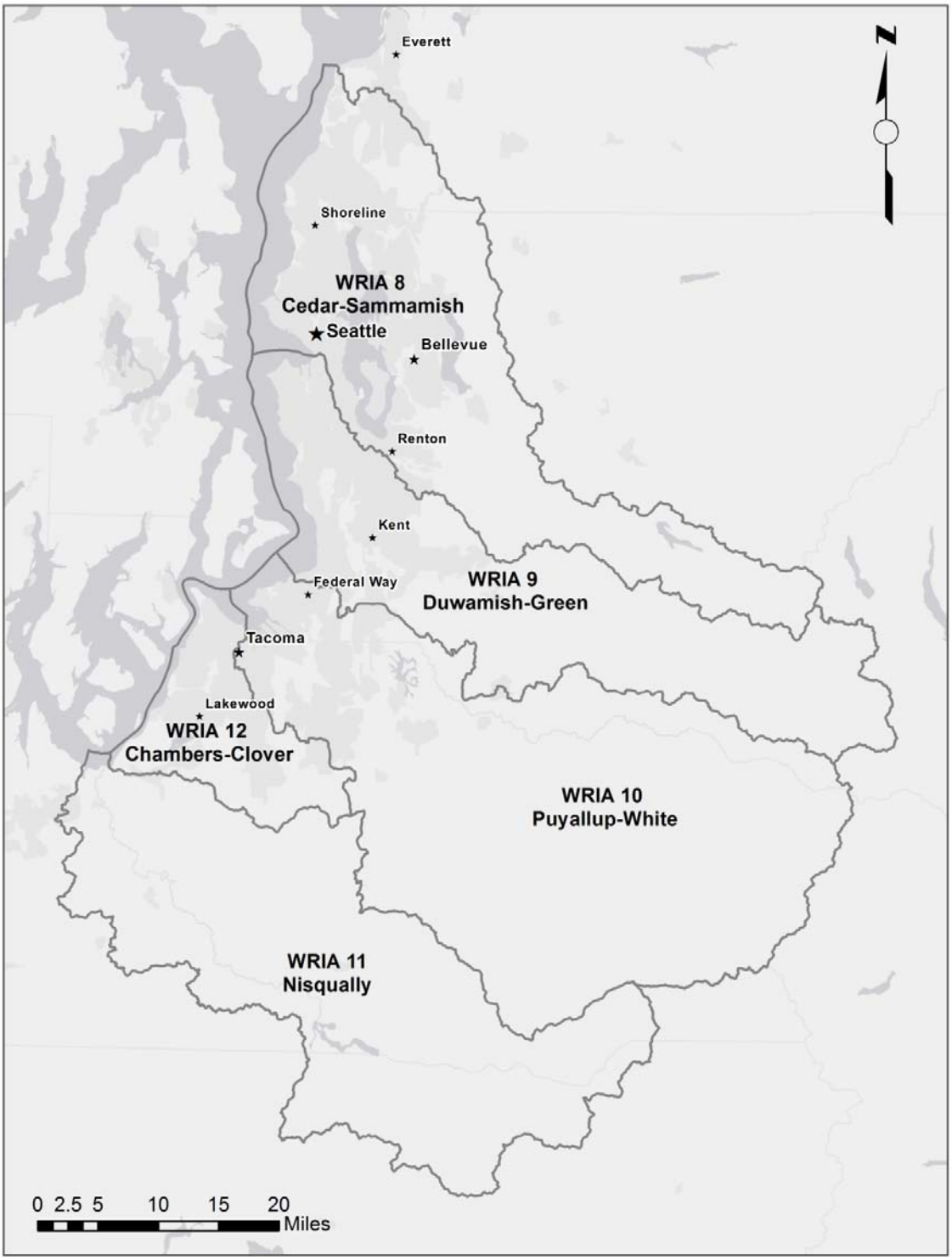
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 46 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14

federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.
- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.

- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were

historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be

adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.*

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of

bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping. This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place, to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in “line out” text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the

area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 46: No Regional Conditions are proposed to be added to this NWP.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish habitat have been identified as activities which can adversely impact water quality, water

storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

The Seattle District believes the requirements under the national and regional general conditions are sufficient to ensure only projects that result in minimal impacts are authorized by this NWP.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall

be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 46

Alternative regional conditions were not considered necessary as the Seattle District believes the national and regional general conditions provide the appropriate safeguards to ensure this NWP does not authorize activities with more than minimal adverse effects on the aquatic environment.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit

Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of “may affect, not likely to adversely affect” and “may affect, likely to adversely affect”, informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have “no effect” on threatened or endangered species. The determination of “no effect” will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated

Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 46

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-

dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 46

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very populous, particularly those along the coast. The first non-native settlements occurred in

Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly

adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a "sponge" for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 46 – Discharges in ditches result in water quality impacts due to the placement of fill material within ditches. These impacts are described above.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. The Seattle District has not typically required compensatory mitigation for this NWP because the adverse impacts of these proposals have been minimal, both individually and cumulatively. Based on an analysis of the types of activities authorized by the Seattle District under the 2007 NWPs, NWP 46 was used one time and impacted 0.09 of an acre of wetlands. No mitigation was required to offset impacts to the aquatic environment.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based upon the usage of this NWP under the 2007 NWP regulations, the Seattle District estimates this NWP will be used less than one time per year under the 2012 NWPs, based on usage of the 2007 NWPs. If this NWP is used under the 2012 NWPs, compensatory mitigation would likely be required. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request an individual permit for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional general conditions listed in this document, will ensure this NWP authorizes only

activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

Historical Conditions: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on

resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas, often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which

results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing

erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high

intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

<u>Future Trends</u>: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people. In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline

armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part "f" of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this

region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 46

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation. Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District may require compensatory mitigation to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments

NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging

practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information

about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 46 Specific Regional Conditions. None.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

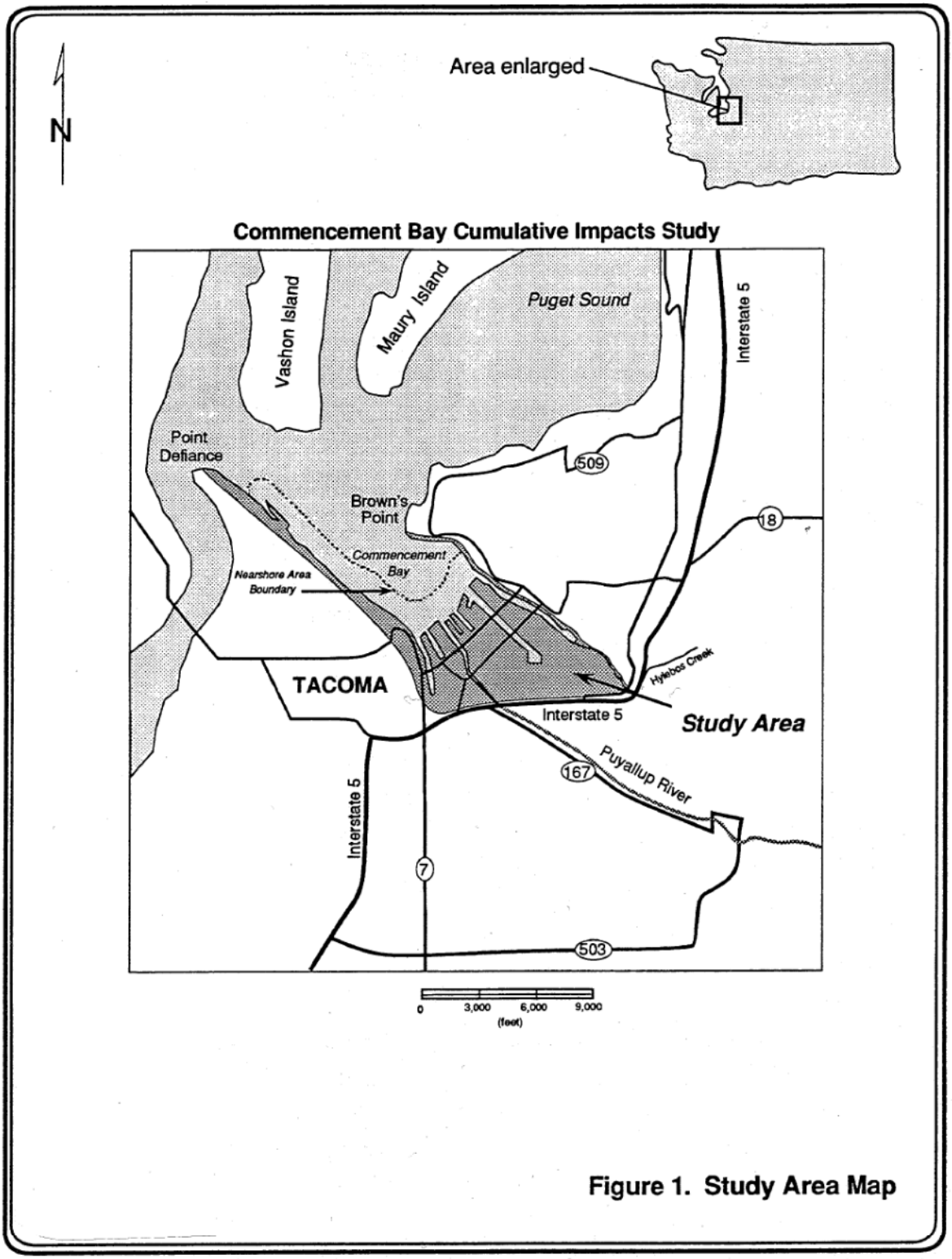
If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

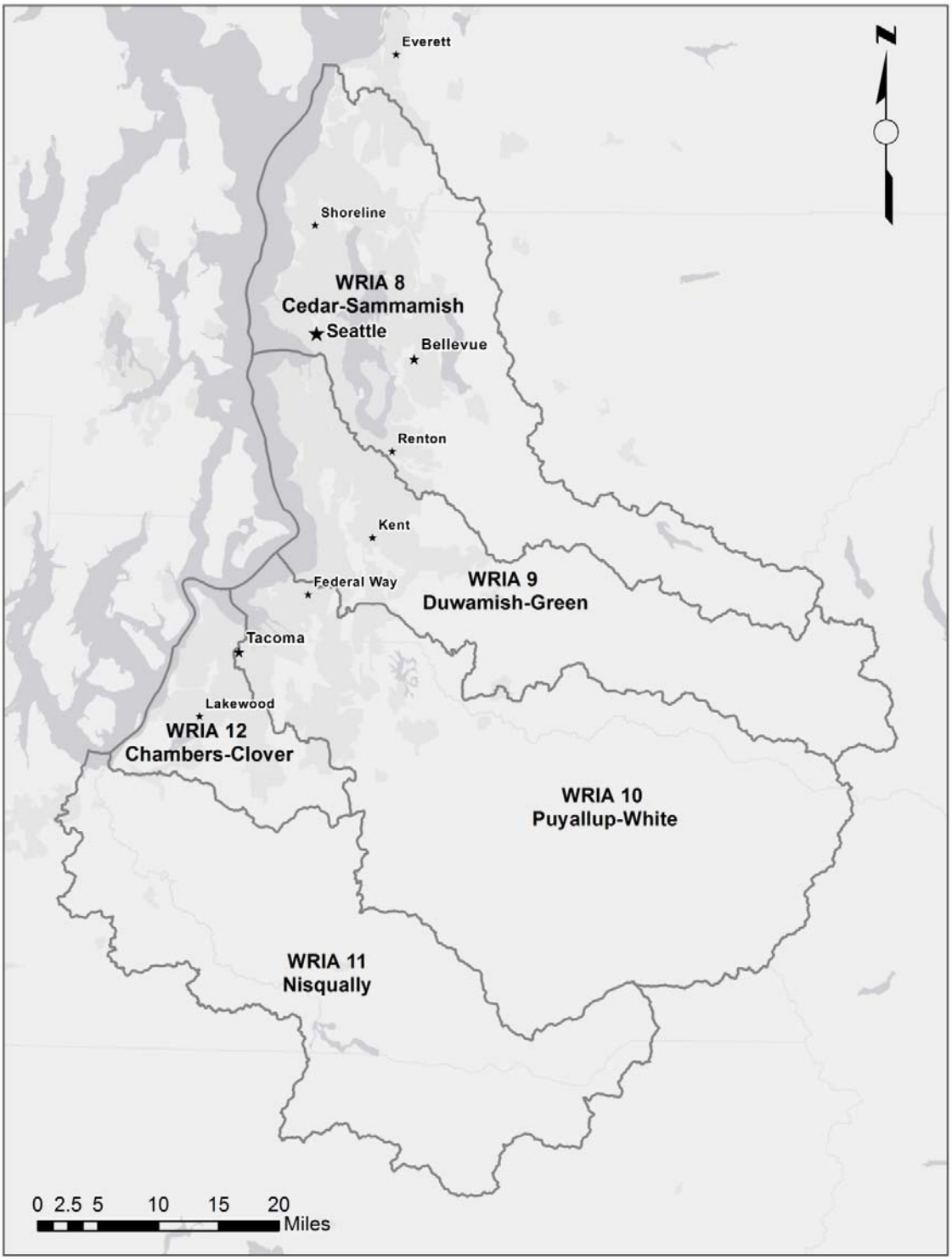
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 48 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Corps, Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the

Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or

individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the

detailed discussion below on RGC 3. In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

"Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the National General Condition 31(d)(2) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	**Agency to be Notified**
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS

NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of "special aquatic sites" to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4, 10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's

deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Resources Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.

- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.
- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the individual permit (IP) process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are wetlands located within sandy, depressional areas between coastal dunes. Replacement of these

unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWPs 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively

eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian tribes because camas were historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened

shoreline stabilization. Once one property owner constructs hard bank armoring on his/her property, adjacent shorelines often suffer from increased erosion and the need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound. This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. *This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2).* Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request*

an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques

include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping. This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA

coordination with the Services. While the Seattle District already has these procedures in place, to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in "line out text":

6. **Cultural Resources and Human Burials.** Permitees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21 (Discovery of Previously Unknown Remains and Artifacts) to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Comments on Proposed Regional Conditions for NWP 48: This NWP had one regional condition for the Prohibition of Hydraulic Escalator Harvesters. This has been a NWP regional condition since 1992 for NWP 4 and since 2007 for NWP 48. No comments were received. Therefore, this regional condition will be retained.

In a Special Public Notice dated 1 September 2011 announcing the Seattle District's Draft Final Regional Conditions, for NWP 48, the Seattle District stated should the final version of the 2012 NWP national language allow the expansion of the project area, in the Seattle District they will not allow authorization of expansion under this NWP. The Seattle District also proposed a regional condition to require a PCN for subsequent applications of gravel (frosting) in

special aquatic sites.

Comment 1: Seven commenters did not support Seattle District's proposal to not allow the expansion of existing farms under NWP 48. They stated the financial resources that must be invested to applying for an IP can be cost prohibitive to small business owners. They stated other shellfish growers in other parts of the country will be able to expand their businesses with comparable ease, while Washington growers struggle to clear the Seattle District's regulatory hurdles. Three commenters supported the proposal to not allow expansion of existing farms under NWP 48.

Response 1: All applications for new or expansion activities require individual ESA consultation. Because a PCN is required and individual ESA consultation must be completed, the Seattle District believes they can accurately and fully assess whether or not an activity is minimal impacting, individually and cumulatively. Therefore, the Seattle District will not be modifying the NWP to restrict its use for new or expansion activities.

Comment 2: One commenter stated the impacts from aquaculture are too significant to be classified as minimal because: (1) bivalve ingestion of fish and larvae (2) impact to sand lance burrowing in sediments, loss of this forage fish habitat and prey resources for ESA-listed species would violate the ESA, MSA, and the SMA (3) introduction of plastic tubes, nets, bands, zipties and oyster bags; the NWP does not take into account the significant adverse impact of marine plastic pollution resulting from shellfish industry practices (4) Destruction of macroalgae beds and sand dollar beds considered essential fish habitat for both ESA listed species and non-listed species (5) elimination of Puget Sound and Willapa Bay aquatic native animal and plant species by the shellfish industry; there is a long list of aquatic plant and animal species eliminated as pests by the shellfish industry (6) allowing dive harvesting below -18 feet adversely affects salmon; leasing/harvesting should not be allowed in water shallower than -18 feet below mean lower low water or 200 foot distance from mean high water, 2 feet vertically from the elevation of lower eelgrass margin, and within any region of documented herring or forage fish spawning; this restriction should be enforced for both subtidal and intertidal geoduck harvesting (7) industrial aquaculture has direct impacts to nearshore habitat adversely affects wild salmon and whale recovery in Washington State (8) restriction, disturbance and harassment of marine birds and (9) genetics, disease and parasites; until peer reviewed studies are completed and made available for review, decision makers are putting Puget Sound wild geoduck stocks at risk by allowing expansion in areas that are a vital part of the ecosystem in Puget Sound.

One commenter stated the Corps should have a better understanding of bed preparation and maintenance activities occurring in the shallow nearshore area. There appears to be overlap of some shellfish aquaculture practices occurring in the nearshore during documented life stages of juvenile salmon. Certain aquaculture activities could result in mobilization of suspended sediments in the water column, causing temporary blockage of the nearshore migration corridors and result in reduced foraging ability, elevated stress, minimization of avoidance behavior, reduction in predator responses, increased gill trauma, and osmoregulatory dysfunction of juvenile salmonids. It is reasonable to hypothesize direct mortality (crushing, etc) could occur as a result of interface between aquaculture activities and migration.

One commenter stated areas on beaches where manila clam culture occurs can sometimes overlap with surf smelt and Pacific sand lance spawning habitat. The Corps must consider adding provisions which protect surf smelt and sand lance. One commenter stated geoduck aquaculture should not be permitted near documented spawning habitats of forage fish. One commenter stated NWP 48 should not be applied to geoduck aquaculture as the effects are not minimal and amounts to significant and cumulative adverse impacts and expansion of any size is more than minimal and should require an IP and an Environmental Impact Statement (EIS) should be required. One commenter stated a Finding of No Significant Impact is not the appropriate NEPA finding for this NWP. One commenter stated expansion of existing commercial shellfish aquaculture operations not be allowed under this NWP as it would likely result in more than minimal individual and cumulative adverse environmental effects on the aquatic environment. There is currently no acreage limit for expansion or types of existing habitat that could be converted to shellfish aquaculture. Activities authorized under the NWP 48 would result in significant impacts to eelgrass and wildlife resources.

Response 2: The Seattle District has completed ESA Programmatic Consultation with the Services for *existing* commercial shellfish aquaculture activities. The consultation addresses impacts to ESA-species and their critical habitat, eelgrass and the ecosystem, competition for food resources, benthic community structure and disturbance, functional migratory corridors, forage fish spawning areas, water quality, turbidity and suspended sediments, change in nutrient balance, application of insecticides, and cumulative effects. As a result of the ESA consultation, the Seattle District has developed a set of standard special conditions which will be added to all permits (NWPs or IPs) for existing and new shellfish aquaculture activities to ensure these issues are fully addressed. The appropriate special conditions will be added to each individual approval and the most current list of special conditions will be posted on the Seattle District Regulatory Branch website.

For expansion/new commercial shellfish aquaculture activities, individual ESA consultation will be required to address these issues as well. A PCN is required for all NWP 48 authorizations per NGC 18 (Endangered Species), which requires the submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous listed species and/or their critical habitat in tidal waters of the U.S., in Washington State, all activities in tidal waters of the U.S., such as shellfish aquaculture, require the submittal of a PCN. The Seattle District will carefully review all PCNs and use its discretionary authority to require an IP for any project having more than a minimal individual or cumulative adverse impact on the aquatic environment. Based on these factors, the Seattle District has determined not to prohibit expansion/new activities under this NWP and an EIS is not required for NWP 48.

Comment 3: Two commenters stated there is no scientific justification for the proposed regional condition requiring a PCN for projects including “frosting”. They stated this will be burdensome on growers with no benefit gained for the environment. One commenter stated the Corps should not allow gravel applications under this NWP. One commenter (a Tribe) stated the PCN for frosting would be burdensome and cause unnecessary delays.

Response 3: Applying a thin layer of gravel for clam or oyster culture alters the substrate. NWP 48 authorizes existing graveled sites and the continued frosting of those sites. However, the Seattle District is concerned with the conversion of mud flats or impacts to existing vegetated shallows from large volumes of graveling. In addition, the ESA/EFH Section 7 programmatic consultation with NMFS for NWP 48 activities in Washington State did not authorize the conversion of existing mud flats to graveled sites. Shellfish aquaculture activities occur in tidal waters where there is an abundance of ESA-listed species. Therefore, per NGC 18 (Endangered Species) a PCN is required for all NWP 48 activities and a regional condition requiring a PCN is not needed. While the national requirement for a PCN will require review time, the PCN information will aid in determining if frosting or graveling may have more than minimal effects and thus require an IP and/or inclusion of special conditions germane to a specific project area. PCN information will also generate information to assist with assessing cumulative impacts for future permitting decisions and ESA programmatic consultations. Also, any modification to previously authorized work requires re-evaluation to determine if the modification meets permit requirements.

Comment 4: Two commenters do not support the removal of the reporting requirement for existing operations.

Response 4: This is a change in the national conditions for NWP 48 and is addressed in the National Decision Document for this NWP. However, in Washington State, use of this NWP requires a PCN as described in the response above.

Comment 5: One commenter (a Tribe) was concerned about impacts to Tribal treaty rights and believed Tribal notification should be required.

Response 5: As discussed in Section 7.2 of this document, the Seattle District has established Tribal Notification Procedures with fourteen Tribes. Through these procedures, when a PCN is received, the Seattle District will contact the appropriate Tribe(s) and request comments on projects they have identified needing coordination. Because the Seattle District has these procedures, they believe they will obtain site specific input from the Tribes on this NWP.

Comment 6: The Corps needs to clarify the difference between an expansion and a new activity.

Response 6: In the FR preamble for the 2012 NWP 48, these terms are discussed and clarified.

Comment 7: 72 FR 11197 defines vegetated shallows as “areas that are permanently inundated…” This definition could be (and has been) interpreted to exclude eelgrass as eelgrass is not inundated at time of certain low tides. This needs to be clarified.

Response 7: In the Federal Regulations this definition is discussed and clarified.

A regional condition restricting new/expansion shellfish aquaculture activities will not be added.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

At this time, the Seattle District does not believe it is necessary to add additional regional limits or PCN thresholds. The Seattle District believes the requirements under the national and regional general conditions are sufficient to ensure only projects that result in minimal impacts are processed by NWP 48.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes NGC 4 (Migratory Bird Breeding Areas) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Condition 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal

notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate.. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 48

Comment: One commenter recommended the addition of the following regional conditions: (1) Predator nets should preclude bird entanglement. (2) Nets shall be installed in such a manner to preclude fish from entering under the nets. (3) Nets will be tagged with the name, address, or other identification such that if the net is dislodged and later found, the owner of the next can be identified.

Response: As stated previously, the Seattle District has developed a set of standard special conditions which will be added to all permits (NWPs or IPs) for shellfish aquaculture activities to ensure these issues are addressed. There are standard special conditions relating to these specific issues; therefore, regional conditions for these specific issues are not required.

Alternative regional conditions were not considered necessary as the Seattle District believes the added national and regional general conditions provide the appropriate safeguards to ensure this NWP does not authorize activities with more than minimal adverse effects on the aquatic environment.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal

grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of "may affect, not likely to adversely affect" and "may affect, likely to adversely affect", informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. NGC 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have "no effect" on threatened or endangered species. The determination of "no effect" will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered

species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has programmatic consultations for the removal of fish passage barriers and existing shellfish aquaculture activities. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting

authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indians Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these

agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for NWP 48

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By

restricting the use of NWPs with a RGC, in these systems the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.
(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 48

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes formerly very populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their

supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a "sponge" for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 48 – Commercial shellfish aquaculture activities result in conversion of substrates (e.g. mudflats to gravel bars), impacts to SAV, alteration in aquatic communities from native to non-native shellfish species, and water quality impacts from nearshore development and activity. Impacts to substrate, SAV, and water quality are described above. The introduction of non-native species could result in increased competition for native species affecting their viability.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. At the end of 2010, there were 101 commercial shellfish growing areas in Washington State, covering about 900 miles of Washington's 3,200 miles of coastline. The Washington State Department of Health currently manages 325,000 shoreline, near-shore, and sub-tidal commercial shellfish harvesting acres throughout Washington State.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. The Seattle District estimates this NWP will be used approximately 50 times per year under the 2012 NWPs. Based on an analysis of the types of activities received in applications by the Seattle District during previous years, typical work to be authorized by this NWP include aquaculture activities such as planting and harvesting of clams, geoducks, oysters, the installation of rafts for mussels, and establishment of shellfish nurseries. Because NWP 48 covers new and existing farms, not every NWP verification would expand the acreage of aquaculture in Washington State. The national, regional, and required standard special conditions will attenuate cumulative impacts for presence of aquaculture in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of NWPs will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to aquatic resources.

<u>Conclusions</u>: The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with

minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities result in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

<u>Historical Conditions</u>: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing

and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas, often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts

off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007).

These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

<u>Future Trends</u>: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people.

In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part “f” of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be

determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 48

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document.

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 31(a)(2). Work in or affecting SAV in marine areas will be fully assessed through the PCN process and ESA consultation.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (NGC 18 – Endangered Species). These systems are very important for all life stages of the fish protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District may require compensatory mitigation to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army

authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request

an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permitees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 48 Specific Regional Condition.

1. The commercial harvest of clams by means of hydraulic escalator harvester equipment is not authorized by this NWP.

11.0 Water Quality Certification and Coastal Zone Management Act consistency determinations

In Washington State, two agencies and nine tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands,

trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the

floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

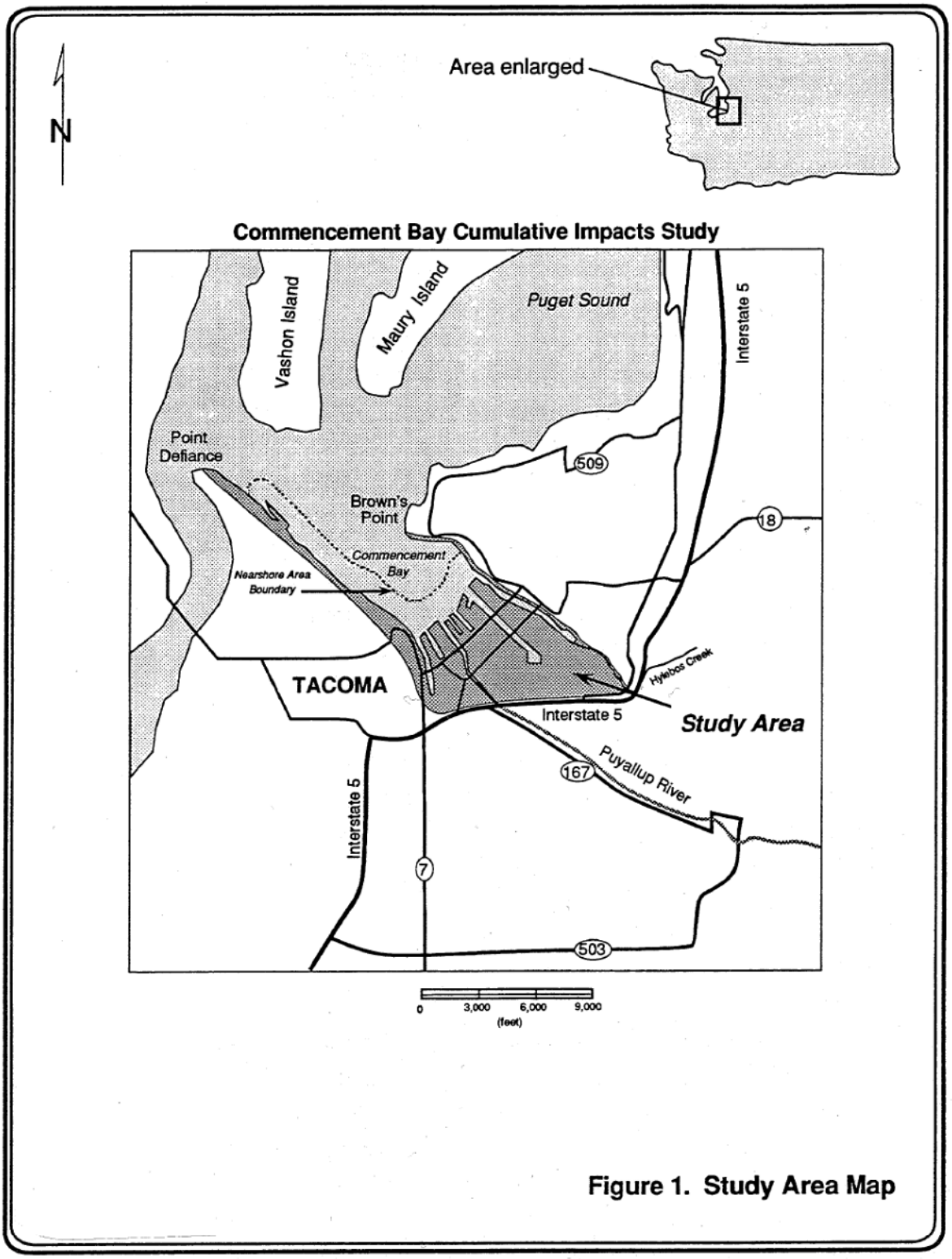
If, at a later time, there is clear, unequivocal evidence that use of certain NWPs would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

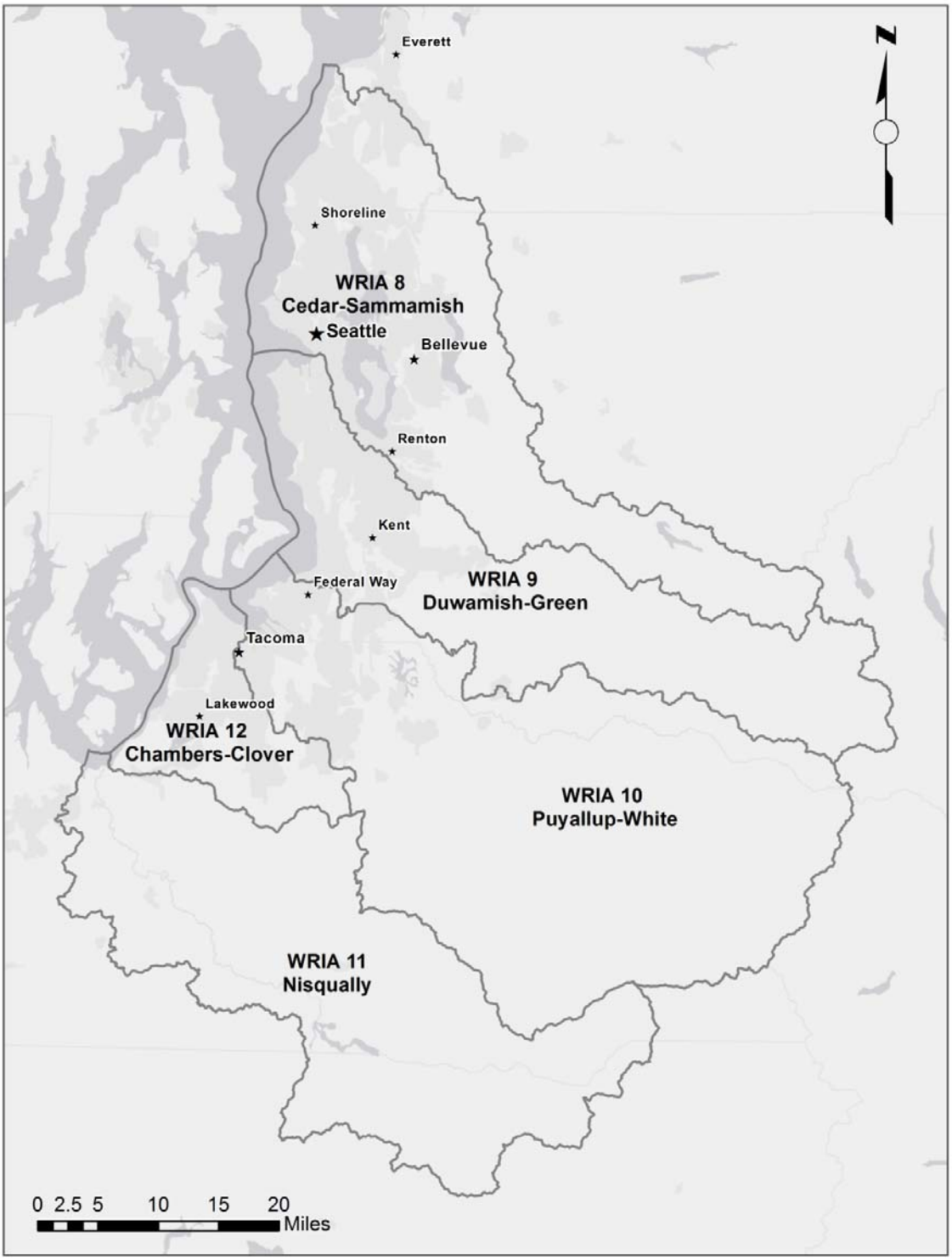
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines:

Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 49 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14

federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.
- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.

- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were

historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be

adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.*

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of

bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping. This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place, to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in “line out” text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic

Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 49: This NWP has had two RCs since 2007. No comments were received on these conditions. Therefore, these conditions will be retained.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish

habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

Comment: Two commenters stated they have serious concerns about fill within perennial, ephemeral, and intermittent under this NWP. They requested a regional condition to limit fill within intermittent and ephemeral stream beds to no more than 300 linear feet as they were concerned with the individual and cumulative effects of these actions.

Response: This NWP is for the remining of coal activities in areas already subject to mining activities, so the basic impacts to streams have already occurred as part of the original mining activities. As part of this NWP, a PCN is required in all instances. With the PCN requirement, the Seattle District will be able to review the project on a case-by-case basis to ensure the proposed project would result in minimal individual and cumulative impacts. Therefore, a regional condition limiting stream impacts is not necessary.

There are currently no active mines in Washington State. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Therefore, alternative regional conditions were not considered.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the

passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 49

There are currently no active mines in Washington State. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Therefore, alternative regional conditions were not considered.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of “may affect, not likely to adversely affect” and “may affect, likely to adversely affect”, informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement

that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have "no effect" on threatened or endangered species. The determination of "no effect" will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin

Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the

applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 49

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 49

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of

marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a “sponge” for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 49 – Coal remining activities result in water quality and wetland impacts due to coal mining and the discharge of fill material. There are currently no active mines in Washington State. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. Based on an analysis of the types of activities authorized by the Seattle District under the 2007 NWPs, NWP 49 was never used.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based upon the usage of this NWP under the 2007 NWP regulations, the Seattle District estimates this NWP will not be under the 2012 NWPs. This NWP has two RCs which will help ensure that the net effects to the aquatic environment will be minimal for activities authorized by this NWP. If this NWP is used under the 2012 NWPs, compensatory mitigation will be required. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request an individual permit for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

Historical Conditions: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas,

often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The

result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to

cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank

stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

Future Trends: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people. In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part “f” of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection

methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 49

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation. Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish

protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. There are currently no active mines in Washington State. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Therefore, alternative regional conditions were not considered. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District compensatory mitigation will be required to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions

NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift

patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 49 Specific Regional Conditions.

1. Reclamation to OSM standards must be completed within 5 years of completion of mining in individual mining pits.

2. Permittees must provide compensatory mitigation for temporal loss of aquatic ecosystem functions in waters of the U.S. See Nationwide Permit General Condition 23 for mitigation requirements.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

"The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other

> comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

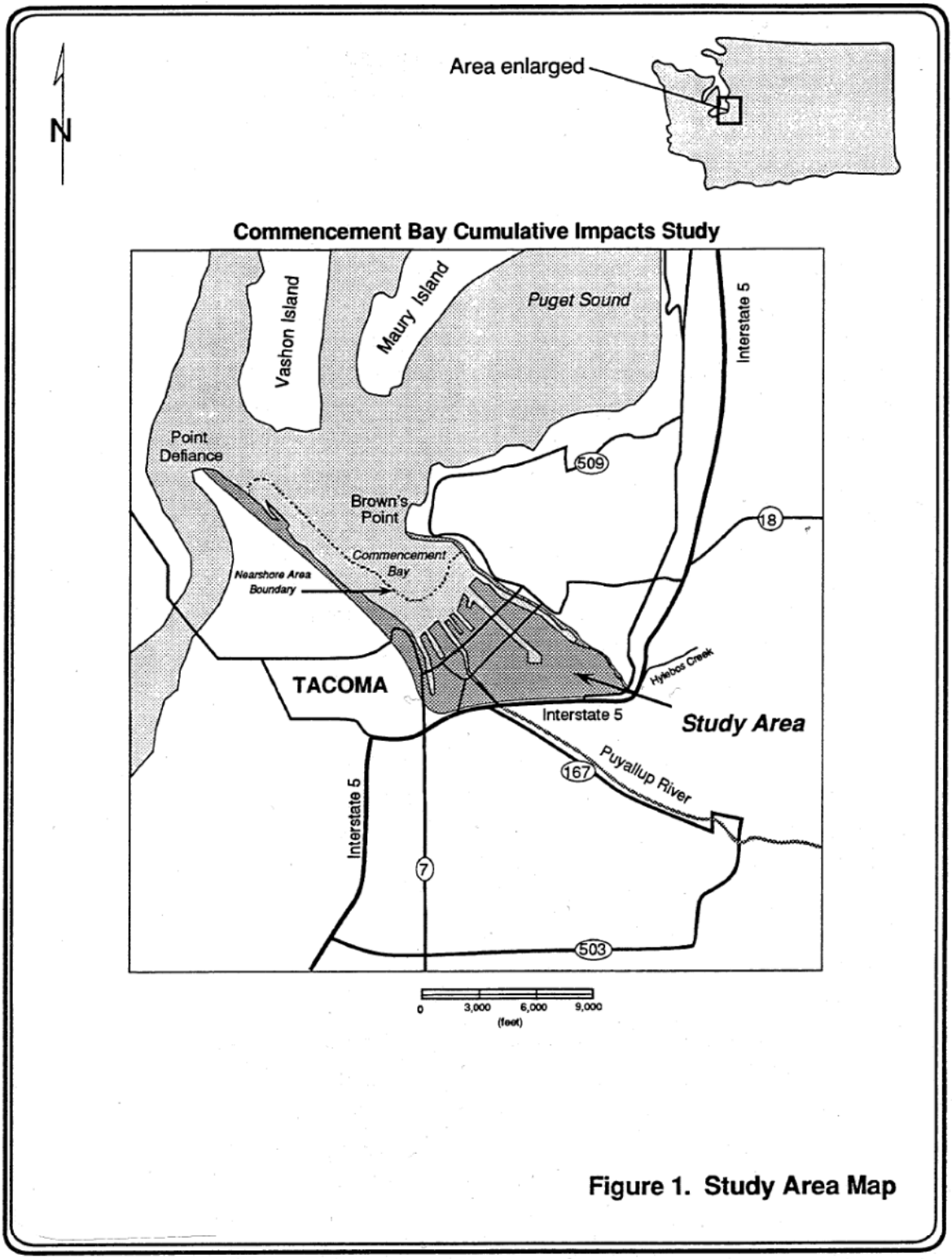
13.0 Final Determination

Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and

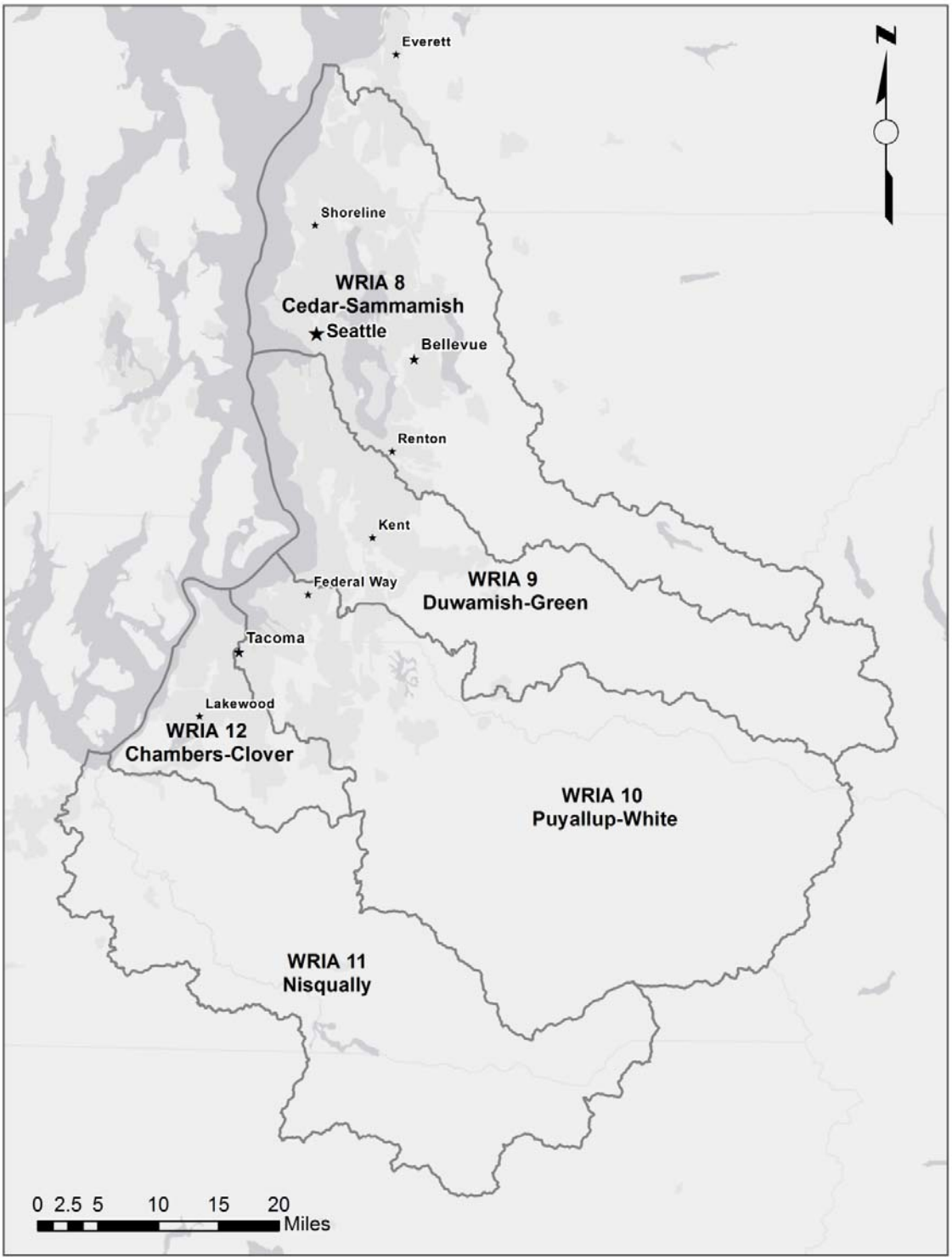
conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 50 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

Comment 13: (Revocation of NWP 50, Underground Coal Mining Activities): One commenter stated mining activities should not be covered under a NWP.

Response 13: In the Seattle District, this NWP has never been used. All past mining activities in Washington have been open pit mines. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Also, RC 3 of this NWP, as discussed later in this document, will further ensure stream impacts are minimal. Therefore, revocation is not warranted.

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide

Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated

with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.

- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.
- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are

wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively

eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her

property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and*

associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping.

This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place,

to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in "line out" text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance

with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 50: This NWP has had 2 RCs since 2007. No comments were received on these conditions. Therefore, these regional conditions will be retained.

A third RC was proposed to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral streambeds. See Section 4.2, Alternative Regional Limits or Pre-Construction Notification Thresholds, Comment and Response 1 for the rationale. This regional condition will be added.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

Comment 1: Two commenters stated they have serious concerns about fill within perennial, ephemeral, and intermittent streams (NWP 3, 5, 6, 7, 12, 13, 14, 18, 29, 39, 40, 42, 43, 44, 50, 51, and 52). They supported Seattle District's proposal to limit fill within intermittent and ephemeral stream beds to no more than 300 linear feet, they were concerned with the individual and cumulative effects of these actions. The filling of these streams impedes the recovery of ESA-listed species. If the Corps proposes to maintain the ability to issue a waiver for fill exceeding 300 linear feet, they encouraged the Corps to not delegate this authority below the District Engineer. Project Manager reviews of these waivers does not provide sufficient rigor for review of these fill exceedances.

Response 1: In NWP 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52 there is a national requirement that the discharge cannot cause the loss of more than 300 linear feet of a *perennial* stream bed. For intermittent and ephemeral streams, impacts are also limited to 300 linear feet; however, this limit can be exceeded with a written determination by the DE. Intermittent and ephemeral streams comprise a large portion of many watersheds, particularly in eastern Washington. These streams can support distinctive riparian vegetation and are important biologically. The major biological role of of these stream types is likely to be their influence on the supply of sediment, water, and organic materials to downstream channels where ESA-listed species are abundant. Therefore, because intermittent and ephemeral streams have the same biological importance as perennial streams, the Seattle District has added a regional condition to

these NWPs to set a regional limit of 300 linear feet to ensure impacts to these important resources are minimized. Also, the requirements of RGCs 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 5 (Crossings of Waters of the U.S.) will help to ensure impacts from work in streams are minimized.

Comment 2: Two commenters requested a regional condition prohibiting fill in streams unless the applicant can demonstrate there will be an overall benefit to the aquatic system. They also requested the regional condition require a PCN for all actions proposing fill within a stream.

Response 2: The Corps cannot prohibit fills in streams which do not have an overall benefit to the aquatic system because the purpose of certain projects may not have a benefit to the aquatic environment (e.g., bank stabilization, utility lines, etc). However, for projects of this nature, the Corps can ensure impacts to streams are minimized (see Response 1 above). In Washington State the majority of streams support ESA-listed species; therefore, under NGC 18 (Endangered Species), a PCN is already required for any work in a majority of the streams in Washington State.

In the Seattle District, this NWP has never been used. All past mining activities in Washington have been open pit mines. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Also, RC 3 of this NWP, as discussed later in this document, will further ensure stream impacts are minimal.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 50

In the Seattle District, this NWP has never been used. All past mining activities in Washington have been open pit mines. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Also, RC 3 of this NWP, as discussed later in this document, will further ensure stream impacts are minimal.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of “may affect, not likely to adversely affect” and “may affect, likely to adversely affect”, informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been

placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have "no effect" on threatened or endangered species. The determination of "no effect" will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle

District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The

Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 50

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 50

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to

authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a “sponge” for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 50 – Underground coal mining activities result in wetland and water quality impacts, as described above, due to the discharge of fill material and coal processing. In the Seattle District, this NWP has never been used. All past mining activities in Washington have been open pit mines. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Also, RC 3 of this NWP, as discussed later in this document, will further ensure stream impacts are minimal.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. Based on an analysis of the types of activities authorized by the Seattle District under the 2007 NWPs, NWP 50 was never used.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based upon the usage of this NWP under the 2007 NWP regulations, the Seattle District estimates this NWP will not be under the 2012 NWPs. This NWP has two RCs which will help ensure that the net effects to the aquatic environment will be minimal for activities authorized by this NWP. If this NWP is used under the 2012 NWPs, compensatory mitigation will be required. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request an individual permit for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

Historical Conditions: Puget Sound shorelines consisted of gravel and sand beaches, shallow

shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas, often directly filling the nearshore environment. Even when built high on the beach

profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The result is a shift to a coarser gravel and cobble beach and more frequent exposure of

underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011).

Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under

other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

Future Trends: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people. In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part “f” of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection methods and implementing compensatory mitigation will further result in minimal direct

impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of

beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 50

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation. Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish protected under the ESA. These systems are especially important because they are

typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. In the Seattle District, this NWP has never been used. All past mining activities in Washington have been open pit mines. If future proposals met the requirements of this NWP, because a PCN is required in all instances, the Seattle District would be able to review projects on a case-by-case basis to determine if the work is minimally impacting. Also, RC 3 of this NWP, as discussed later in this document, will further ensure stream impacts are minimal. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District may require compensatory mitigation to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions

NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift

patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 50 Specific Regional Conditions.

1. Reclamation to OSM, DOI or state agency standards must be completed within 5 years of completion of mining in individual mining pits.

2. Permittees must provide compensatory mitigation for temporal loss of aquatic ecosystem functions in waters of the U.S. See Nationwide Permit General Condition 23 for mitigation requirements.

3. No activity can result in the loss of greater than 300 linear feet of intermittent and ephemeral stream beds.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to

specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

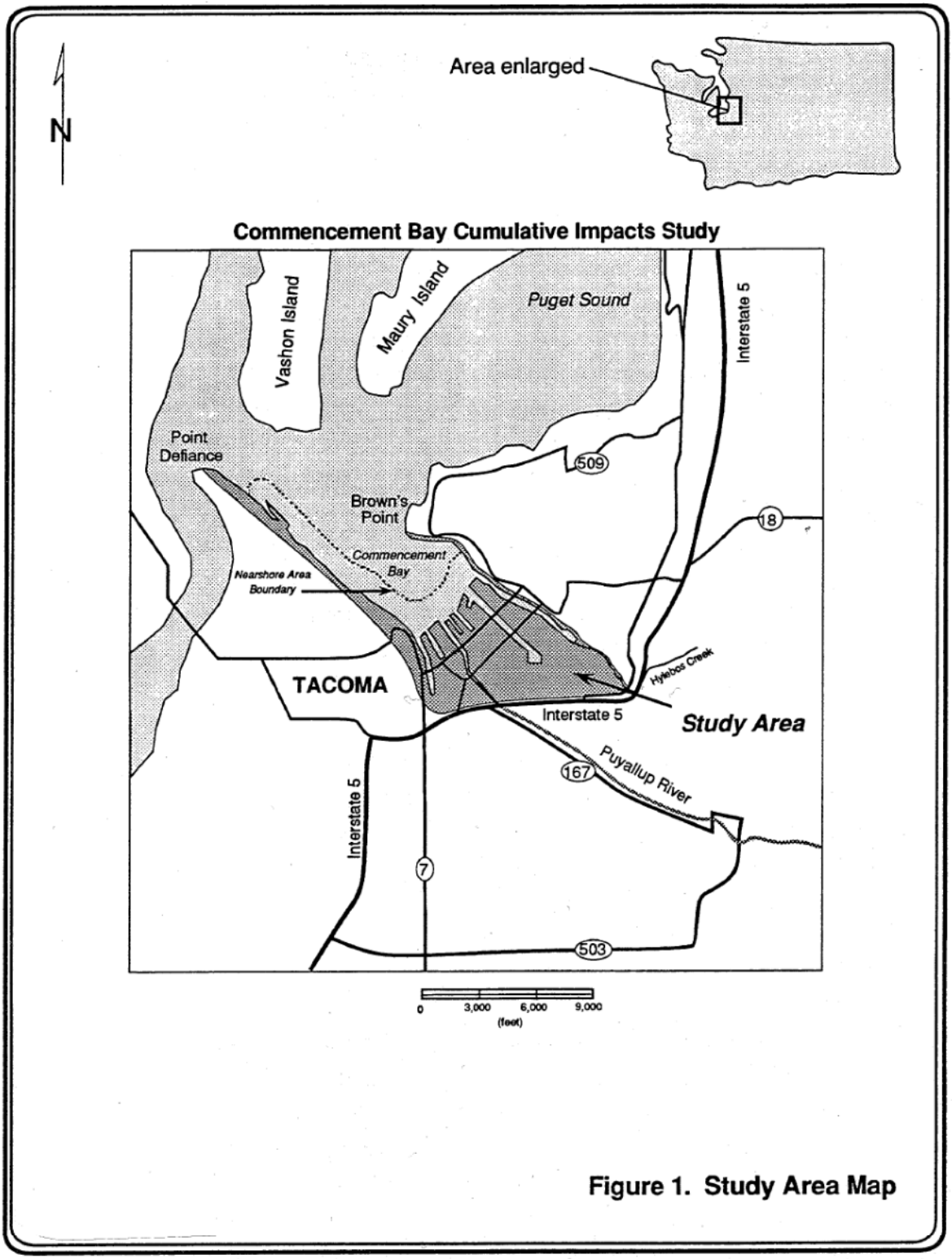
If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

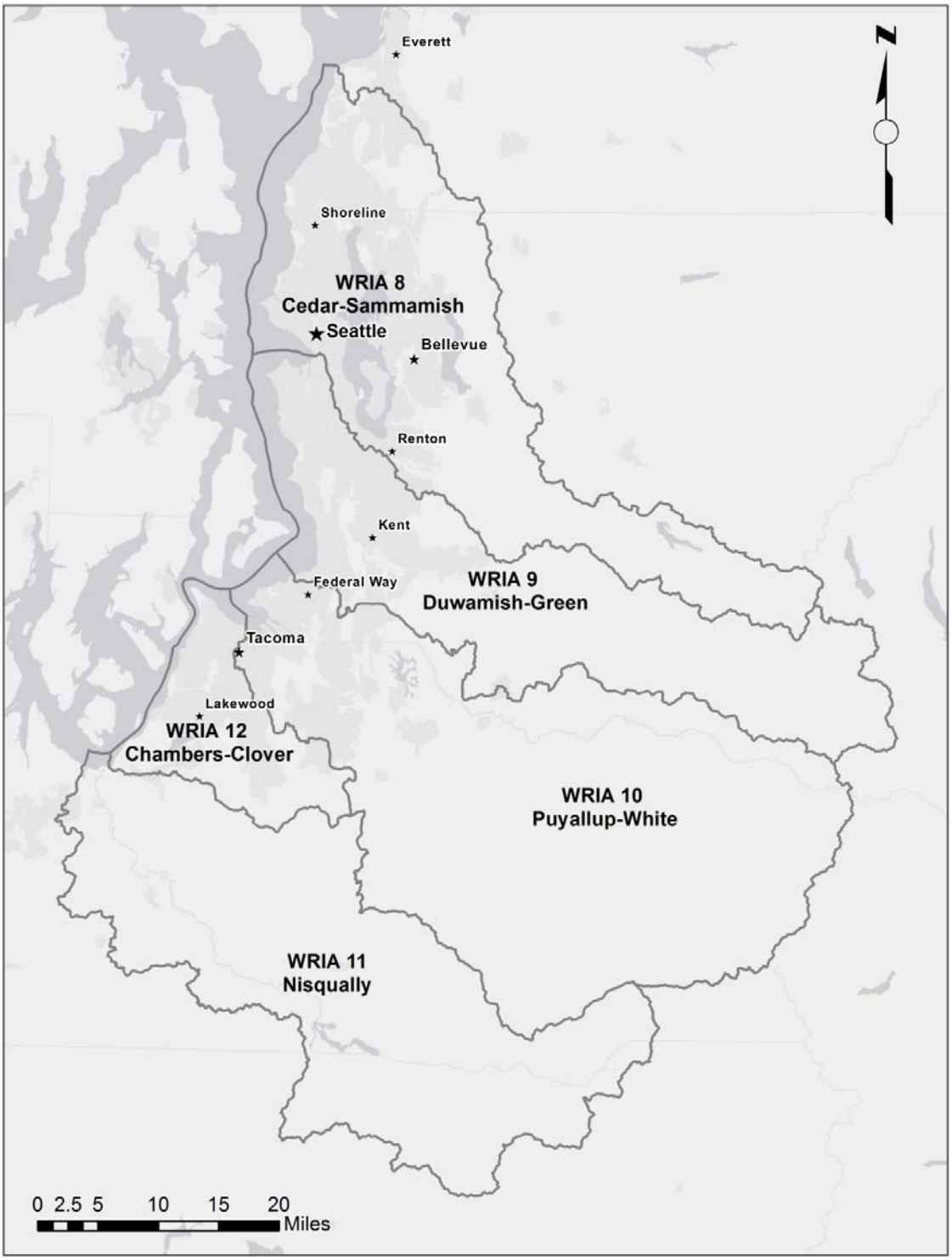
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 51 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

Comment 13: (Revocation of NWP 51, Land-Based Renewable Energy Generation Facilities): Five commenters recommended revoking this NWP in Washington State. One commenter recommended this because of the potential significant impacts to migratory birds, including the marbled murrelet, as well as other wildlife species. These actions may result in adverse impacts that are individually and cumulatively significant due to the footprint of the entire facility, as the impacts are not limited to the footprint within waters of the U.S. The commenter did not agree a FONSI is an appropriate conclusion under NEPA for this NWP. The Corps should require the applicant provide information regarding the placement of these facilities within bird and wildlife migration routes and areas identified as important breeding, wintering, foraging, and roosting areas and the potential effects to wildlife using these areas. Another commenter stated the NWP should be revoked because of unspecified and unknown scope, magnitude, and impacts of these kinds of projects. A commenter stated this NWP should only apply to proposals providing reasonable riparian buffers on streams and wetlands. Another commenter stated if this NWP is not revoked, the following two regional conditions should be added (1) Discharge must not cause the loss of greater than 0.5 of an acre of non-tidal waters of the U.S., including no more than 300 linear feet of intermittent or ephemeral stream bed and (2) No activity can result in the loss of a fish bearing perennial stream bed.

Response 13: This is a new NWP so there is no permitting history. However, based on previously issued permits for similar activities, the Seattle District believes it will only be used 5 times per year with each projected project impact to be no more than 0.5 of an acre of impacts to waters of the U.S.; therefore, revocation at this time is not warranted. However, the concerns raised by commenters are valid concerns. Concerns about ESA-listed species will be addressed through ESA consultation. The USFWS raised concerns over impacts to migratory birds and other wildlife species. To provide them an opportunity to raise project-specific concerns, the Seattle District has established agency notification procedures for this NWP (see Section 2.1, Comment and Response 11, Agency Notification). Regarding stream impacts, a regional condition will be added to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral streambeds (see Section 4.2, Alternative Regional Limits or Pre-Construction Notification Thresholds, Comment and Response 1). RGCs 5 (Crossings of Waters of the U.S.) and 4 (Bank Stabilization) will also help to ensure impacts to stream banks and functions and fish passage in streams are minimized (see discussion in Section 2.2).

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S.

require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.
- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.
- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or

installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide

Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.*

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.*

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be

required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping. This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place, to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in "line out" text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural

resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In

turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 51: A regional condition was proposed to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral streambeds. See Section 4.2, Alternative Regional Limits or Pre-Construction Notification Thresholds, Comment and Response 1 for the rationale.

This regional condition will be added.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species. Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

Comment 1: Two commenters stated they have serious concerns about fill within perennial, ephemeral, and intermittent streams (NWP 3, 5, 6, 7, 12, 13, 14, 18, 29, 39, 40, 42, 43, 44, 50, 51, and 52). They supported Seattle District's proposal to limit fill within intermittent and ephemeral stream beds to no more than 300 linear feet, they were concerned with the individual and cumulative effects of these actions. The filling of these streams impedes the recovery of ESA-listed species. If the Corps proposes to maintain the ability to issue a waiver for fill exceeding 300 linear feet, they encouraged the Corps to not delegate this authority below the District Engineer. Project Manager reviews of these waivers does not provide sufficient rigor for review of these fill exceedances.

Response 1: In NWP 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52 there is a national requirement that the discharge cannot cause the loss of more than 300 linear feet of a *perennial* stream bed. For intermittent and ephemeral streams, impacts are also limited to 300 linear feet; however, this limit can be exceeded with a written determination by the DE. Intermittent and ephemeral streams comprise a large portion of many watersheds, particularly in eastern Washington. These streams can support distinctive riparian vegetation and are important biologically. The major biological role of of these stream types is likely to be their influence on the supply of sediment, water, and organic materials to downstream channels where ESA-listed species are abundant. Therefore, because intermittent and ephemeral streams have the same biological importance as perennial streams, the Seattle District has added a regional condition to these NWPs to set a regional limit of 300 linear feet to ensure impacts to these important resources are minimized. Also, the requirements of RGCs 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 5 (Crossings of Waters of the U.S.) will help to ensure impacts from work in streams are minimized.

Comment 2: Two commenters requested a regional condition prohibiting fill in streams unless the applicant can demonstrate there will be an overall benefit to the aquatic system. They also requested the regional condition require a PCN for all actions proposing fill within a stream.

Response 2: The Corps cannot prohibit fills in streams which do not have an overall benefit to the aquatic system because the purpose of certain projects may not have a benefit to the aquatic environment (e.g., bank stabilization, utility lines, etc). However, for projects of this nature, the Corps can ensure impacts to streams are minimized (see Response 1 above). In Washington State the majority of streams support ESA-listed species; therefore, under NGC 18 (Endangered Species), a PCN is already required for any work in a majority of the streams in Washington State.

Comment 3: The WDNR requested notification for this NWP. For some NWPs, they want to ensure suspended contaminated sediments are not re-entering the waterways and impacting state-owned aquatic lands. One commenter stated new fill or additional placement of fill will not be allowed on state-owned aquatic lands except when authorized for remediation of contaminated sediments, habitat creation or restoration projects. Dredging is not allowed on state-owned aquatic lands (except where required for navigation for trade and commerce, flood control, or maintenance of water intakes). The WDNR would require a use authorization for activities on state-owned aquatic lands. Corps staff should be made aware of this jurisdictional issue.

Response 4: See Section 2.1 Comment and Response 11 for agency notification procedures. The State requirement to obtain a use authorization from WDNR on state-owned aquatic lands will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions.

At this time, the Seattle District does not believe it is necessary to add additional regional limits or PCN thresholds to this NWP. The Seattle District believes the requirements under the national and regional conditions are sufficient to ensure only projects that result in minimal impacts are authorized by this NWP.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 51

Alternative regional conditions were not considered necessary as the Seattle District believes the added regional condition provides the appropriate safeguards to ensure this NWP does not authorize activities with more than minimal adverse effects on the aquatic environment.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is

currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of “may affect, not likely to adversely affect” and “may affect, likely to adversely affect”, informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have “no effect” on threatened or endangered species. The determination of “no effect” will be documented in the file and if

NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals

comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the

Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 51

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) <u>Conservation</u>: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By

restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values. Seattle District has added a regional condition to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral stream beds to ensure impacts to fish and wildlife values are

minimized.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 51

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very

populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the

temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a "sponge" for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 51 – Projects involving land-based renewable energy generation facilities result in water quality and substrate impacts due to the installation of building pads, utility lines, and installation of wind and solar collection structures.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. This is a new NWP for 2012; therefore, there is no permitting data to utilize for this analysis.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based on previously issued permits for similar activities, the Seattle District estimates it will be used 5 times per year with each projected project impact to be no more than 0.5 of an acre of impacts to waters of the U.S. This NWP has one RC which will help ensure that the net effects to the aquatic environment, specifically impacts to streams will be minimal for activities authorized by this NWP. Compensatory mitigation would likely be required as part of any proposal under this NWP. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of NWPs will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with

minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

<u>Historical Conditions</u>: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on

resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas, often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which

results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing

erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high

intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

<u>Future Trends</u>: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people. In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline

armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part "f" of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this

region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 51

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation. Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District may require compensatory mitigation to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments

NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging

practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information

about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 51 Specific Regional Conditions.

1. No activity can result in the loss of greater than 300 linear feet of intermittent and ephemeral stream beds.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup, Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have

made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

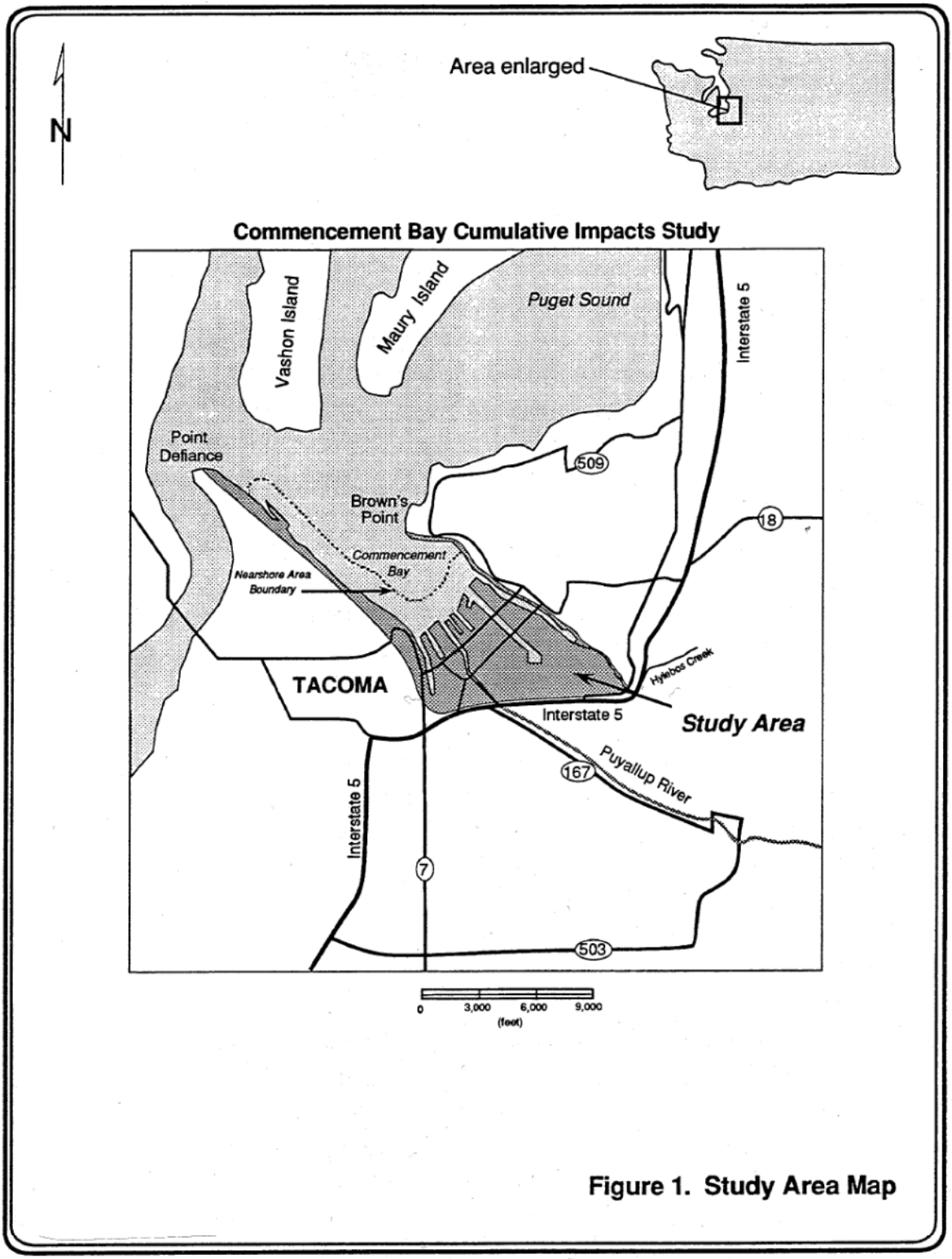
If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

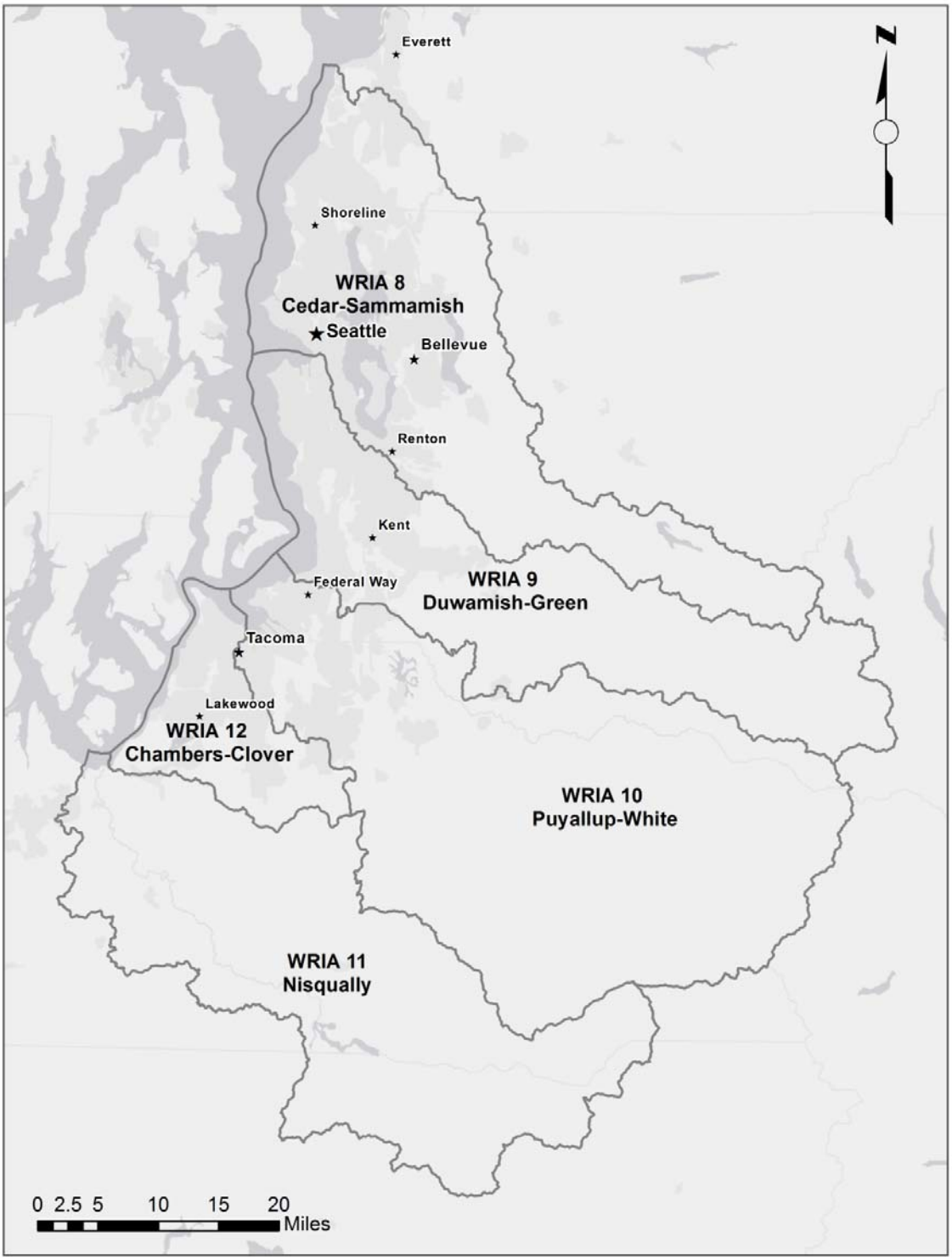
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.

U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
SUPPLEMENT TO THE NATIONAL DECISION DOCUMENT
FOR 2012 NATIONWIDE PERMIT 52 AND REGIONAL GENERAL CONDITIONS
19 March 2012

This document is a supplement to the national decision document for the above-referenced Nationwide Permit (NWP) and addresses regional conditions. The Northwestern Division Engineer has considered the potential cumulative adverse effects on the aquatic environment that could result from the use of this NWP, including the need for additional modifications of this NWP by the establishment of regional conditions to ensure that those cumulative adverse effects on the aquatic environment are minimal. These regional conditions are necessary to address important regional issues relating to the aquatic environment. These regional issues are identified in this document. These regional conditions are being required to ensure NWPs authorize activities resulting in no more than minimal individual or cumulative adverse effects on the aquatic environment. This document also identifies regionally important high-value waters and other geographic areas in which all NWPs should be regionally conditioned or excluded from NWP eligibility as described below, to further ensure NWPs do not authorize activities that may exceed the minimal adverse effects threshold.

1.0 Background

In the 16 February 2011 issue of the Federal Register (76 FR 9174), the U.S. Army Corps of Engineers (Corps) published its proposal to reissue 48 existing NWPs and issue two new NWPs. To solicit comments on its Proposed Regional Conditions for NWPs, the Seattle District Regulatory Branch (Seattle District) issued a public notice on 22 February 2011. On 1 September 2011, the Seattle District issued a public notice to announce the Draft Final Regional Conditions. The issuance of the NWPs was announced in the 21 February 2012 issue of the Federal Register (77 FR 10184). After the publication of the final NWPs, the Seattle District finalized the regional conditions for this NWP (see Section 10 of this document for the final regional conditions (RCs) for this NWP and Regional General Conditions (RGCs)). The Seattle District findings are discussed below.

2.0 Consideration of Public Comments

2.1 General Comments

Issues pertaining to the NWP regional conditions were discussed with the resource agencies in a series of five meetings held on 3 November 2010, 1 December 2010, 5 January 2011, 9 March 2011, and 13 July 2011. In addition, electronic communications concerning the development of regional conditions occurred during the review period from 3 November 2010 to March 2012. In addition, as discussed in Section 7.1 (Summary of Consultation Process with Indian Tribes) of this document, correspondence was sent and meetings were held with numerous Tribes. In response to the public notices, numerous comment letters from various organizations, Tribes, and agencies, were received. The Seattle District reviewed and fully considered all comments received in response to the notices. General comments to the public notices are discussed below.

Comment 1 (Cumulative Impacts): Six commenters were concerned about cumulative impacts. One commenter stated the cumulative impact analysis completed at the national level was too broad and did not provide actual data regarding the amount of cumulative impacts having occurred under the program and there should be an analysis describing impacts under each type of NWP and by watershed. This data should be available for future reauthorizations so trends in cumulative impacts can be determined. One commenter was concerned many NWPs allow damage to fish habitat and there is no monitoring or evaluation of cumulative effects from these actions. They state although each project is limited to avoid more than minimal damage to salmonid fish habitat, there is the potential of significant damage to fish habitat across a broad scale as multiple projects are approved within a single watershed. One commenter requested the Corps complete an evaluation/assessment of the total amount of impact from existing and future development activities permitted under each NWP. This review should utilize the existing Shoreline Master Program shoreline inventory which gives a good sense of baseline conditions and existing impacts. One commenter requested the Corps develop and share a peer reviewed study and modeling design and quality assurance project plan. The analysis needs to be based on aquatic resources not on workload.

Response 1: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document.

Comment 2 (Minimizing Impacts in general and in relation to critical habitat and fish habitat): One commenter stated many of the NWP activities should require an individual permit based on impacts being more than minimal. One commenter stated projects completed under NWPs affecting fish bearing waters should be determined to have no detrimental effects on habitat in order to be eligible for NWP issuance and projects determined to damage habitat should be required to obtain an individual permit (IP). They did not believe the proposed conditions provide adequate protection for salmonid fish habitat. One was very concerned about fill within spawning habitat for native salmonids and native forage fish. They recommended including additional forage fish species, species of concern in Washington State, and currently undocumented, but identified suitable spawning habitat in the definition of "important spawning area". They recommend the following definition for important spawning area: "Documented and potential spawning habitat for all salmonids native to Washington State, Pacific eulachon/smelt (*Thaleichthys pacificus*), Pacific lamprey (*Entosphenus tridentatus*), Pacific herring, sand lance, and surf smelt. Documented and potential spawning habitat information can be obtained from the StreamNet database (see http://www.streamnet.org) or the SalmonScape database (see http://wdfw.wa.gov/mapping/salmonscape/index.html) and other sources." If the above is not incorporated, they recommended requiring a Pre-Construction Notification (PCN) for all fills within native fish spawning habitat and long-term mitigation for any permitted impacts to these areas. One commenter suggested requiring new outfalls are not permitted to discharge into fish spawning habitat or negatively affect special aquatic sites.

Response 2: In Washington State, the majority of NWPs require a PCN because of the abundance of Endangered Species Act (ESA)-listed species in the State and the requirements of National General Condition (NGC) 18 (Endangered Species). With the required PCN, the Seattle District is able to closely review each application to ensure the terms and conditions of the NWPs, nationally and regionally, are met so impacts to the aquatic environment are

minimized or adequately compensated for. The Seattle District agrees protecting important spawning areas is very important to minimize impacts, particularly to ESA-listed species. Through ESA coordination, the Seattle District evaluates impacts to spawning areas for ESA-listed and their prey species. Therefore, defining this term is not warranted. Also, National General Condition 3 (Spawning Areas) prohibits the physical destruction of important spawning areas of ESA-listed and non-listed species. Also, with the addition of Regional General Condition (RGC) 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound (see Section 2.2.3) and Regional General Condition 5, Crossings of Waters of the United States (see Section 2.2.5), impacts to fish habitat will be minimized.

Comment 3 (Submerged Aquatic Vegetation): One commenter stated additional conditions should be included requiring surveys for aquatic vegetation and forage fish spawning areas and there should be total avoidance of impacts to submerged aquatic vegetation (SAV).

Response 3: In Washington State, the majority of NWPs require a PCN because of the abundance of ESA-listed species in the State, particularly in tidal waters. SAV is very important as spawning habitat for the forage fish of ESA-listed species. With a PCN and ESA requirements, the Seattle District closely reviews each application to ensure the requirements of the NWPs, nationally and regionally, are met so impacts to the aquatic environment, including SAV, are minimized or adequately compensated for. Also, to further protect SAV, RGC 8 (Vegetation Protection and Restoration) requires the removal of native submerged aquatic vegetation in estuarine and tidal areas be avoided and minimized to the maximum extent practicable.

Comment 4 (Testing of Dredged Material): One commenter recommended all actions including the excavation or dredging of marine and/or freshwater substrates should be evaluated for contaminants and be evaluated for the need for further testing for compliance with the Dredged Material Management Program requirements.

Response 4: The Seattle District already has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office (DMMO) is contacted by the Regulatory Branch to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District requires the appropriate testing and coordinates with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

Comment 5 (Coordination with Services on NWPs): One commenter recommended the Seattle District form a work group with representation from the Corps, National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the Services) to develop a method to track the issuance of NWPs, how ESA and Magnusson-Stevens Act (MSA) compliance was met, and a brief description of the extent of effects for projects issued as a NWP. The purpose of the work group would be to determine which projects received a general permit, how compliance with ESA and MSA was met (programmatic or individual consultation) and what the individual or cumulative effects of the permitted project are on ESA-listed species, designated critical habitat and Essential Fish Habitat (EFH). Tracking these for a period of 3 years should provide sufficient understanding of effects of the NWPs.

Response 5: This comment is focused on tracking effects for ESA purposes. All Corps of Engineers permit actions including impacts and mitigation are tracked through an internal database. The Seattle District regularly meets with the management of the NMFS and USFWS to discuss policy and procedural issues. This issue is best addressed in these meetings not through the NWP reissuance process.

Comment 6 (Coordination with Tribes): One commenter (a Tribe) requested Tribal notification on all projects authorized by NWPs. Another commenter (a Tribe) stated NWP general conditions should clearly outline the Corps' obligations to treaty Tribes.

Response 6: The Seattle District takes their obligations to treaty Tribes very seriously. The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. In the Special Public Notice (SPN) announcing the final NWP national and regional conditions, the Seattle District will include a brief discussion of treaty Tribes and required coordination with the Tribes.

Comment 7 (Bank Stabilization and other impacts in Puget Sound): One commenter stated the NWPs should not be utilized for any new shoreline armoring or bank stabilization activities in Puget Sound and maintenance of structure in Puget Sound should not be authorized if fill extends beyond the footprint of the existing structure. One commenter did not support the use of NWPs because they are contrary to the published recovery plans of Puget Sound. They stated each NWP must be considered in context of the recovery plans of Puget Sound and issuance of NWPs that block or are contrary to recovery efforts/goals have more than minimal individual and cumulative impacts. Another commenter had significant concerns about cumulative impacts in Puget Sound. They encouraged the Corps to adopt regional conditions which will be most protective of Puget Sound shorelines and marine and estuarine waters.

Response 7: The Seattle District addressed cumulative impacts in Sections 9.2 and 9.4 of this document. The Seattle District does not advocate revoking all NWPs for bank stabilization in Puget Sound. Utilizing NWPs is an important permitting method for minimally impacting projects to streamline the process for the regulated public. However, the Seattle District recognizes in certain watersheds of Puget Sound, cumulative impacts for new bank stabilization activities may be more than minimal. Therefore, the Seattle District has added RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit the use of NWPs in Puget Sound for new bank stabilization activities in specific watersheds. See the detailed discussion below on RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound). In addition, for *all* bank stabilization activities throughout the State, the Seattle District has added RGC 4 (Bank Stabilization), to request project specific information so they can adequately assess if the activity is minimally impacting.

Comment 8 (Temporary Fills): One commenter stated the removal of temporary fill should be defined as 90 days. Anything in place longer is not temporary. Temporary fill should have associated mitigation following the removal of the fill, as the site is actually not in the same state at which it started.

Response 8: Several NWPs already have adequate national conditions and requirements regarding the removal of temporary fills, including time limits. Regionally and on a case-by-case basis, the Seattle District determines if impacts of waters of the U.S. have been minimized and if compensatory mitigation is required, for permanent and temporary fills.

Comment 9 (Leaching of Chemicals and Deleterious Waste): One commenter suggested minimizing impacts to habitat and species from the leaching of heavy metals, pesticides, and Polycyclic Aromatic Hydrocarbons by requiring the following: (1) In saltwater systems, treated wood should only be allowed as part of the above water structural framing and not be used as decking, piling, or for any other uses. (2) Treated wood should be prohibited for all uses in freshwater. (3) During maintenance, existing treated wood timbers and piling should be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic, or encased in a manner that prevents leaching of contaminants into surface water Structural framing in saltwater systems should be replaced with non-creosote treated wood. (4) Tires should be prohibited as part of above and below water structures (e.g., flotation, fenders, decking). Existing tires used as flotation should be replaced with inert or encapsulated materials such as plastic or enclosed foam, during maintenance or repair of the structure. One commenter stated applicants should not be allowed to use wood products treated with biologically harmful leachable chemical components. Applicants should be required to remove chemically treated wood piles and debris. One commenter stated applicants should be required to not dispose of biologically harmful or waste materials into waters or wetlands.

Response 9: In the Seattle District, to complete ESA consultation, the Seattle District has standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard requirement which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard requirement which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Because the Seattle District already has these as standard requirements for all permit actions, the Seattle District does not see a need to add regional conditions to the NWPs in this regard. Also, National General Condition 6 (Suitable Material) already prohibits the use of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc); therefore, a regional condition is not required. Additionally, we do not have the legal authority to direct removal of material not associated with the permit action.

Comment 10 (Work Window): One commenter stated work should be limited to the preferred work windows specified by the Corps and Washington Department of Fish and Wildlife (WDFW).

Response 10: Work authorized by any type of permit in the Seattle District already has special conditions added to restrict work to the authorized work windows; therefore, a regional condition is not required.

Comment 11 (Agency Notification): Several agencies expressed strong concerns over several NWPs in certain circumstances and geographic areas and requested agency notification.

Response 11: The Seattle District has established procedures to ensure agency case-specific concerns are addressed to ensure impacts are minimal. The Seattle District has established agency notification procedures for the following NWPs and agencies per their request. The agencies will be required to use the same timing requirements as described in the NGC 31(d)(2) (Pre-Construction Notification) for agency notification. The agency notification requirements will be listed in Notes under each appropriate NWP in the SPN the Seattle District will publish announcing the final NWP national and regional conditions.

NWP # and Specific Activity	Agency to be Notified
NWP 3 (if bank stabilization work is proposed beyond the original footprint)	EPA, WDNR (WA Department of Natural Resources), USFWS
NWP 7 (if a new outfall is proposed)	EPA, WDNR
NWP 13 (for activities greater than 500 feet in length or activities in inland marine waters)	EPA, WDNR, USFWS
NWP 33 (when temporary fills will remain in place longer than 6 months)	WDNR
NWP 36 (if an activity will exceed 50 cubic yards of 20 feet in width)	WDNR
NWP 51	EPA, WDNR, USFWS
NWP 52	EPA, WDNR, USFWS

Comment 12 (National conditions and issues): One commenter wanted the definition of “special aquatic sites” to be expanded to include additional resources. One commenter stated the National General Conditions fall short of protecting critical habitat and minimizing environmental impacts. One commenter had comments on National General Conditions 2, 3, 4,

10, 11, 12, 16, 18, 20, 24, and 30. (Note: These issues we also sent directly to the Corps headquarters.)

Response 12: The Seattle District does not have the authority at the District level to address these issues. These are issues can only be addressed at the Corps headquarters level. As stated above, Corps headquarters is in receipt of this comment letter.

Comment 13: (Revocation of NWP 52, Water-Based Renewable Energy Generation Pilot Projects): Six commenters recommended revoking this NWP in Washington State. One commenter recommended this because of the potential significant impacts to migratory birds, including the marbled murrelet, as well as other wildlife species. The commenter did not agree a FONSI is an appropriate conclusion under NEPA for this NWP. Another commenter stated the NWP should be revoked because of unspecified and unknown scope, magnitude, and impacts of these kinds of projects. Two commenters state this NWP may result in more than minimal individual or cumulative effects on the aquatic environment and these actions should require an individual permit to allow for full public review and adequate time for the review for determining if the site is suitable for a pilot project. One commenter stated activities should be addressed through the IP process to allow affected Tribes to evaluate the potential impacts to habitat and treaty reserved fisheries. Three commenters stated if this NWP is not revoked, the following two regional conditions should be added (1) Discharge must not cause the loss of greater than 0.5 of an acre of non-tidal waters of the U.S., including no more than 300 linear feet of intermittent or ephemeral stream bed and (2) No activity can result in the loss of a fish bearing perennial stream bed. Two commenters stated if this NWP is not revoked, the following regional condition should be added, no activity may be placed within eelgrass, anchored macroalgae, or spawning habitat.

Response 13: This is a new NWP so there is no permitting history. However, based on previously issued permits for similar activities, the Seattle District believes it will only be used 5 times per year with each projected project impact to be no more than 0.5 of an acre of impacts to waters of the U.S.; therefore, revocation at this time is not warranted. However, the concerns raised by commenters are valid concerns. Concerns about ESA-listed species and critical habitat (including eelgrass and spawning habitat) will be addressed through ESA consultation. The USFWS raised concerns over impacts to migratory birds and other wildlife species. To ensure their concerns are addressed, the Seattle District has established agency notification procedures for this NWP to ensure resource agency's case-specific concerns are addressed to ensure impacts are minimal (see Section 2.1, Comment and Response 11, Agency Notification). The Seattle District has established Tribal Notification Procedures with fourteen Tribes (see Section 7.2). Through these procedures, the Seattle District contacts the appropriate Tribe(s) and request comments on projects they have identified needing coordination. Because the Seattle District has these procedures, they believe they will obtain site specific input from the Tribes on this NWP. Should the agency and tribal notification process review reveal substantial public interest review issues or the work may result in more than minimal individual or cumulative impacts, the District Engineer can take discretionary authority and require an IP for the proposed work. Regarding stream impacts, a regional condition will be added to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral streambeds (see Section 4.2, Alternative Regional Limits or Pre-Construction Notification Thresholds, Comment and Response 1). RGCs 5

(Crossings of Waters of the U.S.) and 4 (Bank Stabilization) will also help to ensure impacts to stream banks and functions and fish passage in streams are minimized (see discussion in Section 2.2).

2.2 Comments on Proposed Regional General Conditions

2.2.1 Proposed Regional General Condition 1, Aquatic Resources Requiring Special Protection

This has been a NWP RGC since 2002. Revisions are proposed as shown in *italics*:

1. **<u>Aquatic Resources Requiring Special Protection</u>.**

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland *wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons* cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with NGC 31 (Pre-Construction Notification) and obtain written approval before commencing work.

Part "b" of this RGC was deleted: b. For activities in or affecting a mature forested wetland, bog, bog-like wetland, wetland in a dunal system along the Washington coast, vernal pool, aspen-dominated wetland, alkali wetland, camas prairie wetland, or marine water with eelgrass beds (except for NWP 48) and not prohibited by the preceding , the permittee must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 27 (Pre-Construction Notification).

Comment 1 (PCN Requirements): Two commenters objected to the Seattle District's deletion of Part "b" of the condition describing PCN requirements because it would preclude notification to the Tribes when work was proposed in the listed aquatic resources. Three commenters stated a PCN should be required for activities impacting the listed aquatic resources and kelp and eelgrass beds. They further stated the specific species of kelp and eelgrass should be listed.

Response 1: The Seattle District currently has formal notification procedures with 14 federally recognized Tribes in the State of Washington and anticipates the establishment of procedures with many more Tribes (see Section 7.2 (Local Operating Procedures for Protecting Tribal Resources) for more details). Therefore, all applications received for NWP authorization

are sent to the appropriate Tribe(s) per the Seattle District's Tribal notification procedures to ensure the Tribes are given adequate notification so they have the opportunity to provide their comments on individual projects. These procedures provide the Tribes a venue to provide project specific comments. Several of the resources previously listed in Part "b" of this RGC as requiring a PCN are now on the list of areas where use of a NWP is prohibited (except in the four listed NWPs). Therefore, there is even more protection for these resources. Per National General Condition 18 (Endangered Species), submittal of a PCN and receipt of written approval from the Corps is required for all NWP activities which involve the potential to affect species listed under the ESA. Because of the numerous ESA listed species and/or their critical habitat located in tidal waters of the U.S. in Washington State, all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

Comment 2 (Restricted NWPs): Two commenters recommended the Seattle District remove NWPs 3 and 47 from the list of NWPs for which this RGC does not apply. One commenter requested the RGC expressly state the condition should not apply to activities conducted under NWP 48. One commenter requested the RGC state the condition should not apply to the installation and repair of Combined Sewer Outfall (CSO) facilities such as pump stations and outfalls being improved or installed per requirements of the U.S. Environmental Protection Agency (EPA) and Washington Department of Ecology (Ecology) under National Pollutant Discharge Elimination System permits.

Response 2: RGC 1 (Aquatic Recourses Requiring Special Protection) excludes the use of all NWPs in the listed resources, except for NWPs 3, 20, 32, and 38. The following four NWPs are allowed in these resources for the following reasons:

- **NWP 3 – Maintenance** – NWP 3 only authorizes the repair, rehabilitation, or replacement of any previously authorized structures. Only minor deviations in the structure's design are allowed. Because the impacts have already occurred with the original construction, the maintenance of such structures will not increase the scope of the impacts. Additionally, in waters containing ESA-listed species, submittal of a PCN is required in all instances. Construction impacts associated with the maintenance of an existing structure will be reviewed on a case-by-case basis to ensure impacts are minimal.
- **NWP 20 – Response Operations for Oil and Hazardous Substances** – Oil and hazardous substance spills are harmful to any environment and the cleanup should be expedited. Reviews of the clean-up plans are also regulated by other Federal regulations.
- **NWP 32 – Completed Enforcement Actions** – In instances where work is conducted illegally, the impacts have already occurred and all possible options for resolution and restoration need to be available to the Corps.
- **NWP 38 – Cleanup of Hazardous and Toxic Waste** – As with NWP 20, cleanup of hazardous and toxic waste sites needs to be expedited before further harm to the environment occurs. Control and review of the projects also occurs through other state and Federal regulations and agencies.

NWP 47 was removed from the list because NWP 47 was removed from the national listing of NWPs. This regional condition could apply to aquaculture activities under NWP 48 if the activity resulted in a loss of waters of the U.S. in estuarine wetlands and wetlands in coastal lagoons. Because of the high value and functions of these specific wetland types, all activities, including aquaculture should be assessed through the IP process. It is unlikely aquaculture activities will occur in these wetlands because these wetlands are typically located landward of or at mean higher high water which are areas not typically utilized for aquaculture because of their higher elevation (less frequency for complete inundation, the condition needed for aquaculture). The repair of CSO facilities such as pump stations and outfalls being improved or installed could potentially be authorized by NWP 3 which is not a NWP prohibited by this RGC. New CSO facilities which are proposed to be located in these listed aquatic resources have a high potential to have more than minimal impacts and would therefore, best be evaluated under the IP process.

Comment 3 (Additional of Aquatic Resources): Five commenters supported the addition of other aquatic resources. One commenter wanted the condition to be expanded to include channeled areas within the intertidal zone created by freshwater outfalls. Three commenters recommended adding other saltwater habitats, such as eelgrass, kelp beds, and forage fish spawning areas.

Response 3: The Seattle District added the following resources to the list of aquatic resources requiring special protection: wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. The reasons for exclusions are described in the following sections. Because of the numerous ESA listed species and/or their critical habitat are located in tidal waters of the U.S., in Washington State all activities in tidal waters of the U.S. require the submittal of a PCN. Impacts to kelp and eelgrass beds are always addressed in Section 7 ESA consultations with the Services. Therefore, these species do not need to be a listed resource under this regional condition.

2.2.1.1 Wetlands in a dunal system along the Washington coast

Reason for Exclusion: "Wetlands in a dunal system along the Washington coast" are wetlands located within sandy, depressional areas between coastal dunes. Replacement of these unique systems is very difficult to achieve and takes a very long time. Recreational development (e.g., summer homes and motels) frequently occurs along the Washington coast which has impacts to these resources. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in these types of wetlands because they are in wetlands adjacent to tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.2 Estuarine Wetlands

Reason for Exclusion: "Estuarine wetlands" are wetlands which form where a river

outlets into a tidal water. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Projects) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.3 Wetlands in Coastal Lagoons

Reason for Exclusion: "Wetlands in coastal lagoons" are wetlands in a shallow sound, channel, pond or pool directly connected to tidal waters. These wetlands are typically dominated by salt or salt tolerant plant species. Replacement of these unique systems is very difficult to achieve and takes a very long time. While some NWPs, such as NWP 29 (Residential Developments) and 39 (Commercial and Institutional Developments) prohibit activities in tidal waters, other NWPs, such as NWPs 14 (Linear Transportation Structures) and 18 (Minor Discharges) do not have this prohibition. Therefore, the Seattle District excluded this resource from NWP usage (except for the four listed NWPs) to ensure impacts to these unique systems are minimized.

2.2.1.4 Vernal pools

Reason for Exclusion: Vernal pools are typically inhabited by plant and animal species specially adapted to this ephemeral environment. Some of the plant species which typically grow in vernal pools are rare. When ponded, vernal pools provide foraging habitat for various species of migratory birds during the winter. Vernal pools are found in both eastern and western Washington but are very rare due to impacts from agricultural activities. The existence of such wetlands depends on the presence of a shallow impervious soil layer. Plowing typically breaks up the impervious layer, resulting in drainage and removal of the native wetland vegetation. The fragile hydrology of these systems makes them very sensitive to disturbance since surface or subsurface disturbances may cause these wetlands to be permanently drained. The Columbia Basin vernal pools typically have very shallow soils (less than 20 cm) underlain by basalt or impervious subsoil (such as high clay content horizon or ash horizon) which can effectively eliminate downward percolation.

2.2.1.5 Camas Prairie Wetlands

Reason for Exclusion: Camas prairie wetlands support communities of common camas (*Camassia quamash*) and great camas (*C. leichtlinii*). Geographic distribution of these systems include Thurston, Lewis, Clark, Skamania, Klickitat, Island, and San Juan counties, the Columbia plateau and prairie pothole regions (including the Moses Lake area, Grant, and Spokane counties). Camas is very important to local Indian Tribes because camas were historically an important staple food. While the tribal members may not rely on camas for a major food source in present times, harvesting still continues as part of celebrating their cultural heritage. Camas-dominated wetland systems are very rare primarily due to impacts from agricultural activities. Many camas wetlands in Washington State were located in developing

areas and have been filled. Because the hydrology of these seasonal wetland systems is dependent on a perched water table, plowing often destroys the impervious layer and drains the wetlands. As with other small wetland systems (e.g., vernal pools, prairie potholes, etc.) in drier climates, camas wetlands provide critical water and food resources for migratory birds during the nesting and juvenile periods.

This RGC will be retained with the proposed revisions.

2.2.2 Proposed Regional General Condition 2, Commencement Bay

This has been a NWP RGC since 1997. No changes are proposed.

Comment: One commenter recommended evaluating how these prohibitions were formulated and the Corps apply a similar rationale to the remainder of Puget Sound.

Response: Please see the discussion below for RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) for the response to this comment in regards to Puget Sound.

This RGC will be retained.

2.2.3 Proposed Regional General Condition 3, New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound

Comments: In the Corps public notice dated 22 February 2011, the Seattle District listed several options regarding conditions under RGC 4 (Bank Stabilization). Option 2 was the addition of the following condition: NWP 13 cannot be utilized for any new bank stabilization activities in Puget Sound. Eight commenters supported Option 2.

Response: The widespread extent and construction of seawalls and bulkheads on Puget Sound's beaches has become a significant issue in shoreline management and coastal restoration in the region. Additional cause for concern is the cumulative impact resulting from hardened shoreline stabilization. Once one property owner constructs hard bank armoring on his/her property, adjacent shorelines often suffer from increased erosion and then need to armor their bank, resulting in a long line of armored banks. Physical impacts from shoreline armoring include impacts on access both to and along the beach, loss of terrestrial sediment supply to the beach system, and localized erosion or changes to sediment transport caused by wave interaction with structures. These changes also impact the nearshore ecosystems and their functions, causing changes in habitat impacting aquatic species, including ESA-listed species and their prey (Shipman, et al, 2010). As discussed in detail in the Cumulative Impacts sections (9.2 and 9.4) of this document, for the listed watersheds, cumulative impacts are more than minimal for new bank stabilization activities in certain areas of Puget Sound; therefore, the Seattle District will be adding a condition similar to Option 2 for specific watersheds in the tidal waters of Puget Sound.

This RGC will limit the following as described below:

3. **New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound.** Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

2.2.4 Proposed Regional General Condition 4, Bank Stabilization

This has been a NWP RGC since 2007. Revisions are proposed as shown below in *italics*:

4. **Bank Stabilization**. *Any project including new or maintenance bank stabilization activities* requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. *The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).*

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. *In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.*

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, *submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats)* in the project area.

d. *In rivers and streams, an a*ssessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. *The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.*

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody *material*, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. *If the Corps determines you have not incorporated the least environmentally damaging practicable bank*

protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

Comments: Two commenters supported Option 3 in Seattle District's first public notice which stated: NWP 13 (Bank Stabilization) cannot be utilized for any new bank stabilization activities in Puget Sound unless the activities primarily consist of bioengineered methods or technologies. Four commenters stated if hardened stabilization is proposed, an IP should be required based on cumulative impacts and should require a review of alternatives including bioengineered methods. One commenter stated for new bank stabilization activities in waters of the U.S., outside of Puget Sound, no activity should occur below the plane of the ordinary high water mark or high tide line, unless bioengineering approaches are used. One commenter requested a definition for "bioengineering techniques". Four commenters stated compensatory mitigation should be required for all unavoidable impacts. Two commenters stated the current language in the regional general condition is not clear and needs to be replaced. One commenter requested a geotechnical analysis be submitted. One commenter requested clarification of the term "tidal waters".

Response: Bank stabilization can cause substantial impacts to both physical process and the ecosystem. Applicants need to be able to protect their property, but should also justify whatever method they are proposing to ensure impacts to the aquatic environment are minimized. Therefore, this regional general condition requires the submittal of detailed information regarding the existing conditions, methods to be used, and studies performed to determine which methods should be used. With this information the Corps can make an informed decision to determine if use of a NWP is appropriate or if an IP is required and the Seattle District can assess the applicability of bioengineering techniques and compensatory mitigation. Requiring this information up front may also save time for the applicant in regards to the ESA and Tribal consultation processes. Bioengineering techniques are generally defined as "soft" engineering treatments as opposed to "hard" engineering. Bioengineering techniques include but are not limited to root wads, live stakes, woody vegetation, herbaceous cover, soil reinforcement, coir bio-logs, fabric encapsulated soil banks, brush layering, and bank reshaping. This will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. Tidal waters are defined in 33 CFR 328.3(f) as waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. The landward limits of Corps jurisdiction in tidal waters is the high tide line and the limit of any adjacent wetlands. Because tidal waters are clearly defined in the regulations, there is no need to further clarify this in regards to NWPs or regional conditions.

This RGC will be retained with the proposed revisions.

2.2.5 Proposed Regional General Condition 5, Crossings of Waters of the United States

This is a new RGC.

5. **Crossings of waters of the United States.** Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

Comments: The Seattle District received comments from several Tribes about the impact of the NWP program on fish passage and tribal fishing resources.

Response: The WDFW currently has guidelines for designing water crossings. These guidelines are contained in a document entitled *Fish Passage Technical Assistance Design of Road Culverts for Fish Passage*, which outlines three methods for designing waterway crossings, such as culverts and bridges, for fish passage. These three methods are the Hydraulic Design (HD), the No Slope Design (NSD) and Stream Simulation Design (SSD). The Tribes have a strong preference for the SSD. A culvert designed using the SSD method typically is the most efficient to pass flood flows and debris, allow passage of nearly all fish and aquatic organism, and allow many natural stream processes compared to crossings designed using the other two methods. The Seattle District will add this RGC so the Seattle District can have more information about the project to more effectively assess if the proposed crossing is designed correctly to facilitate fish passage. Because there are numerous ESA-listed species and/or their critical habitat in waters of the U.S. in Washington State, projects involving crossings of waters of the U.S. already require a PCN because of National General Condition18 (Endangered Species), which requires the submittal of a PCN for all NWP activities involving the potential to affect species listed under the ESA. Impacts to fish passage are addressed in Section 7 ESA coordination with the Services. While the Seattle District already has these procedures in place, to ensure Tribal concerns are met and impacts to fish passage are minimized, this new condition will become a RGC.

2.2.6 Proposed Regional General Condition 6, Cultural Resources and Human Burials

This has been a NWP RGC since 2007. A revision is proposed and is shown in “line out” text:

6. **Cultural Resources and Human Burials.** Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered ~~and may be affected by the work~~. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

Comments: Three commenters (including Tribes) proposed the removal of the phrase "and may be affected by the work" so the permittee does not have leeway in making a determination if the project may affect the cultural resource.

Response: The Seattle District submitted comments to Corps Headquarters to change the language in NWP National General Condition 21, Discovery of Previously Unknown Remains and Artifacts to address these Tribal concerns. The national language was not revised; therefore, the Seattle District has kept and revised this condition in response to regional Tribal concerns. This revised RGC will provide improved protection of inadvertent discovery of cultural resources.

Therefore, RGC 6 will be retained with the proposed revision.

2.2.7 Proposed Regional General Condition 7, Essential Fish Habitat

7. **Essential Fish Habitat.** An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

This has been a NWP RGC since 2007. No comments or objections were received regarding this condition. Therefore, RGC 7 will be retained.

2.2.8 Proposed Regional General Condition 8, Vegetation Protection and Restoration

This has been a NWP RGC since 1997. Revisions are proposed as shown below in *italics*.

8. **Vegetation Protection and Restoration.** Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands*, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized* to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. *If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.*

Comments: Two commenters stated this condition should be expanded to preserve submerged aquatic vegetation (SAV) because of the low success rate of replanting or restoring SAV habitats and they recommend there should be the highest priority for siting projects away from SAV within estuarine and tidal areas. One commenter stated that because of the uncertainty

and design of projects, there should be total avoidance of impacts to SAV. One commenter stated shellfish farming often takes place in areas containing SAV and once permitted, the utilization of the farming area will prevent any opportunity to replant the impacted area. One commenter stated if aquaculture impacts SAV, mitigation must be required. One commenter stated SAV may include nuisance invasive species such as milfoil; therefore, the condition should only apply to native SAV species.

Response: SAV forms a critical link between the physical habitat and the biological community. The plants require specific physical and chemical conditions to remain vigorous. In turn, they stabilize sediments and provide habitat, nourishment, and oxygen to other species, such as ESA-listed species and their prey in an estuary like Puget Sound. Therefore, impacts to SAV should be minimized and avoided to the maximum extent practicable. The RGC reflects this clarification. The Seattle District acknowledges for aquaculture, once an area is permitted to impact SAV, ongoing farming use of the permitted area under NWP 48 (Commercial Shellfish Aquaculture Activities) will not allow the area to be replanted. The RGC reflects this clarification that such areas do not need to be replanted. As required by National General Condition 23 (Mitigation) for all NWPs, mitigation in all its forms (avoiding minimizing, rectifying, reducing, or compensating for resources losses) will be required for impacts to special aquatic sites such as SAV. As required by Executive Order 13112 (Invasive Species) we will review projects to prevent the introduction of invasive species and provide for their control. Therefore, if milfoil was removed as part of a project, we would not require replanting of this invasive species.

This RGC will be retained with revisions.

2.2.9 Proposed Regional General Condition 9, Access

This has been a NWP RGC since 2002.

9. **Access**. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

Comments: One commenter stated if the property is leased, the lease document should clearly state the owners also authorize inspections. One commenter stated this should be applied to every permit the Corps issues for all activities within the Seattle District.

Response: The Corps does not have the legal authority to dictate the conditions of a lease agreement between two private individuals. In situations where a lease is involved, the property owner must separately grant the Corps a right of access for inspection. This is already a standard condition for all other types of permits the Corps issues in the Seattle District.

This RGC will be retained.

2.2.10 Proposed Regional General Condition 10, Contractor Notification of Permit Requirements

This is a new RGC. This has been a standard special condition on all IPs in the Seattle District. To be consistent and to ensure the terms and conditions of a NWP are followed by all persons performing the work, this condition will be added to all NWPs as a RGC.

10. **Contractor Notification of Permit Requirements**. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

Comments: One commenter requested clarification if this notification must be provided to the contractor prior to the start of work.

Response: The condition will be revised to reflect notification must be provided to the contractor prior to the start of work.

This RGC will be added with revisions described above.

2.3 Proposed Regional Conditions for NWP 52: A regional condition was proposed to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral streambeds. See Section 4.2, Alternative Regional Limits or Pre-Construction Notification Thresholds, Comment and Response 1 for rationale. This regional condition will be added.

3.0 Waters Excluded from NWP or Subject to Additional Pre-Construction Notification Requirements – Discussion provided above in Section 2.

4.0 Alternatives for Regional Conditions

4.1 No Regional Conditions

Proposing no regional general conditions was determined to not be a viable alternative in Washington State. High quality, rare, and unique waters of the U.S. requiring additional protection have been identified and additional protection through restriction has been determined to be needed to ensure impacts of the NWPs are minimal in Washington State. These aquatic resources are generally very difficult, if not impossible, to recreate. Without RGC 1 (Aquatic Resources Requiring Special Protection), impacts to these aquatic resources would not be minimized. The Commencement Bay Study Area has been identified as an area where cumulative impacts to wetlands are a serious concern. Without RGC 2 (Commencement Bay), impacts to Commencement Bay would not be minimized. As discussed in the Cumulative Impact sections of this document, in the tidal waters of WRIAs 8, 9, 10, 11 and 12, cumulative impacts due to bank hardening are more than minimal. Therefore, without the prohibitions in RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound), impacts to aquatic resources in these WRIAs would not be minimal. Certain activities, such as bank stabilization, destruction of vegetation in riparian corridors and work impacting essential fish habitat have been identified as activities which can adversely impact water quality, water storage, and endangered or threatened species. Compliance with the ESA requires Federal agencies to take all necessary steps to help ensure the continued existence of ESA-listed species.

Therefore, allowing impacts in these areas without regional conditions would not ensure that the NWPs result in minimal adverse effects to ESA-listed species. Without RGC 4 (Bank Stabilization), 5 (Crossings of waters of the U.S.), 7 (Essential Fish Habitat) and 8 (Vegetation Protection and Restoration), impacts to aquatic resources would not be minimized.

4.2 Alternative Regional Limits or Pre-Construction Notification Thresholds

Comment 1: Two commenters stated they have serious concerns about fill within perennial, ephemeral, and intermittent streams (NWP 3, 5, 6, 7, 12, 13, 14, 18, 29, 39, 40, 42, 43, 44, 50, 51, and 52). They supported Seattle District's proposal to limit fill within intermittent and ephemeral stream beds to no more than 300 linear feet, they were concerned with the individual and cumulative effects of these actions. The filling of these streams impedes the recovery of ESA-listed species. If the Corps proposes to maintain the ability to issue a waiver for fill exceeding 300 linear feet, they encouraged the Corps to not delegate this authority below the District Engineer. Project Manager reviews of these waivers does not provide sufficient rigor for review of these fill exceedances.

Response 1: In NWP 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52 there is a national requirement that the discharge cannot cause the loss of more than 300 linear feet of a *perennial* stream bed. For intermittent and ephemeral streams, impacts are also limited to 300 linear feet; however, this limit can be exceeded with a written determination by the DE. Intermittent and ephemeral streams comprise a large portion of many watersheds, particularly in eastern Washington. These streams can support distinctive riparian vegetation and are important biologically. The major biological role of of these stream types is likely to be their influence on the supply of sediment, water, and organic materials to downstream channels where ESA-listed species are abundant. Therefore, because intermittent and ephemeral streams have the same biological importance as perennial streams, the Seattle District has added a regional condition to these NWPs to set a regional limit of 300 linear feet to ensure impacts to these important resources are minimized. Also, the requirements of RGCs 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 5 (Crossings of Waters of the U.S.) will help to ensure impacts from work in streams are minimized.

Comment 2: Two commenters requested a regional condition prohibiting fill in streams unless the applicant can demonstrate there will be an overall benefit to the aquatic system. They also requested the regional condition require a PCN for all actions proposing fill within a stream.

Response 2: The Corps cannot prohibit fills in streams which do not have an overall benefit to the aquatic system because the purpose of certain projects may not have a benefit to the aquatic environment (e.g., bank stabilization, utility lines, etc). However, for projects of this nature, the Corps can ensure impacts to streams are minimized (see Response 1 above). In Washington State the majority of streams support ESA-listed species; therefore, under NGC 18 (Endangered Species), a PCN is already required for any work in a majority of the streams in Washington State.

Comment 3: The WDNR requested notification for this NWP. For some NWPs, they want to ensure suspended contaminated sediments are not re-entering the waterways and

impacting state-owned aquatic lands. One commenter stated new fill or additional placement of fill will not be allowed on state-owned aquatic lands except when authorized for remediation of contaminated sediments, habitat creation or restoration projects. Dredging is not allowed on state-owned aquatic lands (except where required for navigation for trade and commerce, flood control, or maintenance of water intakes). The WDNR would require a use authorization for activities on state-owned aquatic lands. Corps staff should be made aware of this jurisdictional issue.

Response 3: See Section 2.1 Comment and Response 11 for agency notification procedures. The State requirement to obtain a use authorization from WDNR on state-owned aquatic lands will be clarified in the Seattle District SPN announcing the final NWP national and regional conditions. .

At this time, the Seattle District does not believe it is necessary to add additional regional limits or PCN thresholds to this NWP. The Seattle District believes the requirements under the national and regional conditions are sufficient to ensure only projects that result in minimal impacts are authorized by this NWP.

4.3 Alternative Regional General Nationwide Permit Conditions

Comment 1: One commenter recommended a regional condition be added which established buffers for migratory bird breeding areas because the National General Condition 4 (Migratory Bird Breeding Areas) is not restrictive enough.

Response 1: The Seattle District believes National General Condition 4 (Migratory Bird Breeding Areas) and 19 (Migratory Bird and Bald and Golden Eagle Permits) is adequate to protect migratory bird breeding areas.

Comment 2 (Fish Bearing Streams, Fish Passage and Fish Screening): One commenter requested the following RGC be added: No activity can result in the loss of fish bearing stream bed habitats. One commenter stated activities authorized by a NWP must not restrict passage of aquatic life. One commenter stated applicants should be required to ensure all intake pipes utilizes fish screening which complies with NMFS' standards.

Response 2: RGC 5 (Crossings of Waters of the U.S.) has been added to ensure minimal impacts to fish passage. National General Conditions 2 (Aquatic Life Movements) and 9 (Management of Water Flows) already require that no activity may substantially disrupt the passage of aquatic life or water flows. As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as appropriate fish screening standards are fully addressed; therefore, a regional condition is not required.

Comment 3 (Use of Mechanized Equipment): One commenter requested the following RGC be added: Applicants should be required to implement the following to prevent or limit aquatic impacts from mechanized equipment: 1. For all projects, applicants should utilize the type of equipment that minimizes aquatic impacts spatially and temporally, 2. They should use existing roads, paths, and drilling pads, and placing and removing mats or pads for access

through wetlands or onto tidal flats, 3. They should operate equipment from the top of a streambank and work outside of the active stream channel, 4. They should isolate storage, staging, and fueling areas, and operate and maintain equipment in isolation from waters, wetlands, and riparian areas, and 5. Applicants should be required to maintain spill prevention and containment materials with ready access at vehicle staging areas. Applicants and staff shall be trained to effectively deploy the measures.

Response 3: As discussed previously, because of the abundance of ESA-listed fish species in Washington State, through ESA coordination, issues such as construction staging are fully addressed; therefore, a regional condition is not required.

Comment 4: One commenter requested a regional condition requiring applicants obtain the signature of new owners and to transfer the permit to the new owners.

Response 4: National General Condition 29 (Transfer of Nationwide Permit Verifications) discusses the procedures regarding permit transfer; therefore, a regional condition is not required.

Comment 5: One commenter recommended the addition of a regional condition restricting the use of NWPs when a treaty Tribe notifies the Corps the proposed activity may adversely impact treaty reserved resources.

Response 5: As discussed previously, the Seattle District has established Tribal notification procedures. If a Tribe notifies the Corps the proposed project may adversely impact treaty reserved rights (e.g., access to usual and accustomed fishing areas or fish habitat), it is the Corps' standard operating procedure to consult with the Tribe about the issues and resolve as appropriate. Additionally, National General Condition 17 (Tribal Rights) already limits the Corps ability to verify a NWP if it or its operation impairs reserved Tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights; therefore a regional condition is not required.

Comment 6 (Erosion Control): One commenter wanted the addition of a regional condition requiring the permittee ensure all practicable measures are implemented and maintained to prevent the discharge of materials carried by precipitation, snow melt, wind, or any other conveyance to waters and wetlands.

Response 6: National General Condition 12 (Soil Erosion and Sediment Controls) already requires the installation of appropriate soil erosion and sediment controls; therefore, a regional condition is not required.

4.4 Alternative Regional Nationwide Permit Conditions for NWP 52

Alternative regional conditions were not considered necessary as the Seattle District believes the added regional condition provides the appropriate safeguards to ensure this NWP does not authorize activities with more than minimal adverse effects on the aquatic environment.

5.0 Endangered Species Act

On 15 February 2012, Mr. James H. Lecky, the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), signed a Biological Opinion (BiOp) pursuant to the Endangered Species Act regarding the U.S. Army Corps of Engineers Nationwide Permit Program. Major General Michael J. Walsh, the Deputy Commanding General for Civil and Emergency Operations of the U.S. Army Corps of Engineers, has advised that the BiOp is currently being reviewed by Corps Headquarters and by the Headquarters, Department of the Army. According to Major General Walsh, Corps Headquarters professional staff strongly disagrees with many important aspects of the BiOp on scientific, technical, practical, and legal grounds. Consequently, this Division will not attempt to interpret or implement the recent BiOp, but instead will wait for further guidance and direction from Corps Headquarters on this subject. However, Seattle District has already coordinated with the appropriate regional offices of the NMFS to develop regional conditions for the nationwide general permits to ensure compliance with the ESA. Moreover, this Division is willing to continue to work with the appropriate regional offices of the NMFS to further improve and enhance compliance with the ESA for all Corps nationwide general permits.

5.1 General Considerations

There are over 40 species in Washington State listed under the ESA as threatened or endangered. Over 20 species have designated critical habitat as well. With the high number of listed species and critical habitat, ensuring compliance with ESA comprises a significant percentage of the workload for the Seattle District.

Compliance with the ESA and the MSA is required for all permits issued by the Corps. The Seattle District combines compliance with the MSA and ESA into one process because MSA requirements are normally met by complying with ESA requirements. For the NWPs, compliance is specifically addressed in National General Condition 18 (Endangered Species).

For determinations of “may affect, not likely to adversely affect” and “may affect, likely to adversely affect”, informal and formal consultations, respectively, are required. The consultation initiation package for both informal and formal consultation includes an evaluation of impacts from the project and its associated construction techniques to the listed species and to designated critical habitat. National General Condition 18 (Endangered Species) reinforces the requirement that projects within designated or proposed critical habitat are brought to the Corps for review.

As mentioned above, additional regional notification requirements or restrictions have been placed on various NWPs in the Seattle District to ensure activities authorized by NWPs are minimally impacting and are consistent with the ESA and permittees are aware of these requirements.

When ESA consultation is required the applicant is informed of this decision. The Seattle District has a standard letter informing the applicant they intend to authorize their proposed project by a NWP; however, verification cannot occur until the Corps completes the evaluation and consultation required by the ESA. The Seattle District informs applicants construction

cannot occur until this process is completed and the ESA consultation may result in special conditions or project modifications in order to protect threatened and endangered species.

5.2 Local Operating Procedures for Endangered Species

The Seattle District first determines if the proposed activity will have “no effect” on threatened or endangered species. The determination of “no effect” will be documented in the file and if NWP terms and conditions are met, the Seattle District will proceed to issue the NWP verification. If the project may or will have an adverse effect on threatened or endangered species then the Seattle District will proceed with consultation. There are several methods the Seattle District uses to complete consultation.

The Seattle District completed a programmatic consultation with the Services on 10 categories of activities not likely to adversely affect listed species. This programmatic consultation is referred to as Phase I and covers many activities authorized by NWPs. In addition, the Seattle District has a programmatic consultation for the removal of fish passage barriers. This programmatic consultation is referred to as Fish Passage and Restoration. For these programmatic consultations, permit applicants are required to submit some additional information for monitoring and tracking purposes, but otherwise ESA consultation is essentially complete and the Corps may proceed with the NWP verification.

A majority of all permit applications received by the Seattle District require review for compliance with ESA. The Seattle District has developed, and continues to develop, additional streamlining tools such as reference biological evaluations and impact reduction guidelines to minimize impacts to listed species, reduce documentation and speed up consultation times for individual Section 7 consultations.

The Seattle District does not believe additional regional conditions other than those described in this document to protect ESA-listed species are warranted at this time. National General Conditions 2 (Aquatic Life Movements), 3 (Spawning Areas), 18 (Endangered Species), 23 (Mitigation), and 31 (Pre-Construction Notification) all serve to protect ESA-listed species. Special conditions and compensatory mitigation will be required on a case-by-case basis as appropriate to minimize impacts to ESA-listed species and designated critical habitat. Project-specific in-water work windows to protect ESA-listed species are included as a special condition of most NWP verifications.

6.0 National Historic Preservation Act

6.1 General Considerations and Local Operating Procedures

The Seattle District ensures compliance with the provisions of the National Historic Preservation Act (NHPA) for all permit applications, including those for NWPs. The Seattle District reviews every permit application received, including all NWPs, to determine if any historic properties are present. Archaeologists in the Regulatory Branch, with the assistance of a database provided by the State Historic Preservation Officer (SHPO), determine if a historic site is present in the permit area. If the Seattle District determines a site could be present and the proposed work

could adversely impact the site, an archaeological survey is required. Coordination between the Seattle District, Tribes, and the Tribal Historic Preservation Officer (THPO)/SHPO occurs when the Seattle District determines a proposal could adversely impact a historic or cultural site. The Seattle District will also coordinate with the THPO/SHPO and Tribes to improve procedures and to address other concerns.

The Seattle District has RGC 6 (Cultural Resources and Human Burials) to help ensure proposals comply with the provisions of the NHPA. The RGC states the permittee must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the NHPA, are discovered. The RGC further states failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the NHPA, and other pertinent laws and regulations could result in a violation of state and federal laws and violators are subject to civil and criminal penalties. The Seattle District believes this RGC will help to protect historic and cultural sites.

When the Seattle District consults with the Tribes and the THPO/SHPO under the NWP process, the applicant is notified in writing work cannot be verified under the NWP until all Section 106 requirements have been satisfied. If the Seattle District determines the activity would have no potential to cause effects on any historic properties, the Seattle District then issues the NWP authorization without further consultation with the THPO/SHPO.

7.0 Government-to-Government Consultation with Indian Tribes

7.1 Summary of the Consultation Process

On 6 July 2010, the Seattle District sent all Tribes a letter with early notification of the anticipated reissuance of the NWPs. On 17 November 2010, the Seattle District sent all Tribes a letter inviting them to participate in Government-to-Government (G2G) consultation regarding NWPs. On 14 February 2011, the Seattle District sent all Tribes a letter as notification to begin consultation on the proposal to reissue the NWP and again requested the Tribes contact the Seattle District if they want to participate in G2G consultation. On 25 March 2011, the Seattle District sent Tribes with 401 authority a letter requesting the Tribes meet with the Seattle District to discuss any 401 issues they may have. On 30 March 2011, the Seattle District met with Northwest Indian Fisheries Commission (NWIFC), Quinault, Muckleshoot, Tulalip and Squaxin Tribes to discuss the NWP reissuance process and their concerns. On 27 April 2011, the Seattle District met with Makah Tribe to discuss NWPs and 401. On 2 May 2011, the Seattle District met with the Skagit River System Cooperative to discuss NWPs. On 11 August 2011, the Seattle District met with NWIFC, Suquamish, Muckleshoot, Skokomish, and Sauk-Suiattle Tribes to discuss their concerns with the NWP reissuance process. On 17 October 2011, the Seattle District sent the Tribes with 401 authority a letter requesting they begin their 401 review process.

7.2 Local Operating Procedures for Protecting Tribal Resources

The Seattle District has 31 Tribes either with reservations and/or historical lands within the District's boundaries. At this time the Seattle District has established Tribal Notification

Procedures with the following 14 Tribes: Confederated Tribes of the Colville Reservation, Cowlitz Indian Tribe, Jamestown S'Klallam, Kalispel Tribe of Indians, Lower Elwha Klallam Tribe, Lummi Nation, Muckleshoot Indian Tribe, Port Gamble S'Klallam Tribe, Confederated Tribes of the Samish Indian Nation, Skagit River System Cooperative (Sauk-Suiattle and Swinomish Tribes), Skokomish Nation, Spokane Tribe, Suquamish Tribe, and Confederated Tribes of the Umatilla Indian Reservation. Through these procedures, when a PCN is received, the Seattle District contacts the appropriate Tribe(s) and requests comments on projects the Tribes have identified needing coordination. The Seattle District will continue to update these agreements and to reach out to the remaining Tribes to establish notification procedures. Because the Seattle District has these procedures, the Seattle District believes they will obtain site specific input from the Tribes on NWPs.

8.0 Essential Fish Habitat

Federal agencies are required, under section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NMFS regarding actions authorized, funded, or undertaken by the agency that may adversely affect EFH. If an action would adversely affect EFH, NMFS is required to provide the Federal action agency with EFH conservation recommendations (MSA section 305(b)(4)(a). In some cases, ESA conservation measures are adequate to avoid, minimize, or otherwise offset potential adverse effects to the EFH and specific EFH conservation recommendations are not necessary.

In other cases, NMFS provides specific conservation recommendations in order to minimize the potential adverse affects to the EFH. The Corps and the applicant must fully consider the EFH conservation recommendations provided by NMFS and must provide, within 30 days of receipt of the recommendations, a detailed written response to NMFS. The response includes a description of measures proposed, such as a permit special condition, to avoid, mitigate, or offset the adverse effects of the activity on EFH. In the case of a response that is not consistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effects.

The Seattle District has RGC 7 (Essential Fish Habitat) prohibiting applicants from conducting activities that may adversely affect EFH until all EFH requirements have been met by the applicant and the Corps. The RGC requires permittees to notify the District Engineer if EFH may be affected by, or is in the vicinity of, a proposed activity and prohibits permittees from starting work until notified by the District Engineer all EFH requirements have been met. The Seattle District believes this RGC is necessary to properly notify applicants of their responsibilities and to ensure compliance with the MSA.

9.0 Supplement to National Impact Analysis

9.1 Public interest review factor (33 CFR 320.4(a)(1)) Evaluation for RGCs and NWP 52

In addition to the discussion in the national decision document for this NWP, the Seattle District

has considered the local impacts expected to result from the activities authorized by this NWP, including the reasonably foreseeable cumulative effects of those activities.

(a) Conservation: The NWPs could impact the existence and viability of many rare and unique aquatic systems in Washington such as mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons. By restricting the use of NWPs with a RGC, in these systems, the Seattle District is able to ensure activities authorized by NWPs would have minimal impact and support the conservation of these critical aquatic systems.

(b) Economics: Same as discussed in the National decision document.

(c) Aesthetics: Same as discussed in the National decision document.

(d) General environmental concerns: Same as discussed in the National decision document.

(e) Wetlands: RGC 1 (Aquatic Resources Requiring Special Protection) protects many specialized wetlands which are of high quality or are very rare. Compensatory mitigation for many of these systems also would be difficult, if not impossible in some situations, to develop and implement effectively. For impacts to wetlands and all other waters of the U.S., mitigation is required. Mitigation consists of actions to avoid, minimize, and compensate for impacts from the project. All permit applicants are required to avoid and minimize impacts to waters of the U.S. A compensatory mitigation plan is used to compensate for the unavoidable loss of waters of the U.S. (wetlands, streams, rivers, etc) and to ensure those losses minimize adverse effects to the aquatic environment. Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland mitigation plans are designed appropriately so wetland impacts are fully mitigated.

(f) Historic properties: Refer to Section 6.1 of this document for Seattle District's Local Operating Procedures for compliance with the NHPA.

(g) Fish and wildlife values: Certain aquatic systems which support unique species composition, such as vernal pools, aspen forested wetlands, vernal pools, and camas prairie wetlands, have been protected. Systems like bogs, bog-like wetlands and mature forested wetlands have been further protected because they support a larger variety of wildlife species. Minimization of impacts to all shorelines is supported with the regional conditions requiring incorporation of structures and/or modifications beneficial to fish and wildlife habitat in bank stabilization proposals and minimization of impacts to native vegetation in riparian corridors. RGC 5 (Crossings of Waters of the U.S.) will reduce the adverse effects to fish and other aquatic species

on projects involving crossings of waters of the U.S. by requiring information to more effectively assess if the proposed crossing is designed correctly to facilitate the movement of flood flows and debris, allow passage of nearly all fish and aquatic organisms and allow many natural stream processes to continue to function. Compliance with RGC 5 (Crossings of Waters of the U.S.) will ensure that the authorized activity has minimal adverse effects on fish and wildlife values. Seattle District has added a regional condition to prohibit the loss of greater than 300 linear feet of intermittent and ephemeral stream beds to ensure impacts to fish and wildlife values are minimized.

(h) Flood hazards: Same as discussed in the National decision document.

(i) Floodplain values: Same as discussed in the National decision document.

(j) Land use: Same as discussed in the National decision document.

(k) Navigation: Same as discussed in the National decision document.

(l) Shore erosion and accretion: Same as discussed in the National decision document.

(m) Recreation: Same as discussed in the National decision document.

(n) Water supply and conservation: Same as discussed in the National decision document.

(o) Water quality: Same as discussed in the National decision document.

(p) Energy needs: Same as discussed in the National decision document.

(q) Safety: Same as discussed in the National decision document.

(r) Food and fiber production: Same as discussed in the National decision document.

(s) Mineral needs: Same as discussed in the National decision document.

(t) Considerations of property ownership: Same as discussed in the National decision document.

9.2 National Environmental Policy Act Cumulative Effects Analysis (40 CFR 1508.7)

9.2.1 Cumulative Effects Analysis for NWP 52

NWPs issued in Washington State authorize a range of activities in differing types of waters of the U.S., including special aquatic sites. The NWP program is designed at a national level to authorize only those activities having minimal individual and cumulative adverse effects on the aquatic environment and satisfy other public interest factors. Activities authorized by NWPs have minimal adverse effects and are limited, within each permit, to narrowly defined categories of similar activities. Activities authorized under this NWP can occur throughout Washington State.

This analysis considers the historical conditions and trends since the 1800s, the current conditions, and the reasonably foreseeable future trends through the NWP reauthorization cycle ending in 2017. Present effects are established from the previous NWP cycle and used to determine the baseline for this analysis.

Historical Conditions: Washington State was occupied by many Indian Tribes, formerly very populous, particularly those along the coast. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as dam building, hydropower development, timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the wetlands and waterways across the State.

Affected Environment: Washington State has a tremendous diversity of ecosystems: marine waters, tidepools, estuaries, rainforests, dry coniferous forests, subalpine and alpine meadows and parklands, shrub-steppe, grasslands, prairies, sand dunes, riparian areas, and a variety of freshwater wetland types. These ecosystems and the biological diversity they support range across a landscape that extends from the Pacific Northwest Coast and Puget Sound in the west to the Columbia Plateau and Northern Rocky Mountains in the east.

On a broad geospatial level, Washington State is divided into six regions, starting on the west coast with the Olympic Mountains and Willapa Hills along the coast, the Puget Sound lowlands, the Cascades, the Okanogan Highlands, and the Columbia Basin. Within these regions are 70 distinct watersheds, as defined by the U.S. Geological Service's 8-digit Hydrologic Unit Codes. Each region supports different ecosystems and hydrologic regimes influencing human settlement and development.

Historical and Current Stressors: Historical and current stressors on the aquatic environment from the increased developmental activities across Washington State described above include bank armoring; increase stormwater runoff; loss of upland forest cover; agricultural activities such as farming and plowing; installation of drainage tiles, ditches and levees; modification of natural drainages; upland development for residential, commercial and industrial purposes; stormwater management; aquaculture; utility line activities; boat moorage; dredging and dredge disposal; installation and continued use of outfall structures; construction and maintenance of marine facilities such as boat ramp, piers, marine rails, and access stairs. The Seattle District recognizes all development, including upland construction, have the potential to impact the aquatic environment across Washington State.

Many streams within urban areas or developing watersheds suffer from water quality problems. Major causes include excessive sedimentation, channel alterations, and pollutants associated with urban runoff and atmospheric sources. Urban point source and non-point source pollutants dominate the 303(d) list for impaired waterways in these developing watersheds. Soil loss and

channel erosion is common. Sediment losses from eroding streambanks and streambeds, and runoff from construction sites and developed lands are an on-going concern. Degradation of natural stream channel morphology alters sustainability of stable habitat for aquatic species, in particular fish. Erosion and sedimentation can affect riffle and pool complexes that are important stream features for spawning and shelter for juvenile fish. Impervious surface cover exacerbates overland flow hydrology, so overland flow often dominates stream hydrographs and further increases erosion potential and adversely affects the temperature gradient. Elevating the temperature of waterbodies can result in increased mortality of aquatic species and can indirectly adversely affect species by impacting food resources. Increased temperature could result in algal blooms or mortality of vegetation such as SAV. Loss of riparian habitat occurs in upper tributaries as well as tidal water and is impacted by the water crossings, and shoreline, residential, commercial, and institutional developments. Riparian habitat is important for providing complex shade for the protection of migrating fish and provides important organic detritus essential for supporting the food chain which includes ESA-listed species.

In tidal systems, impacts to the natural substrate result in adverse affects to benthic macroinvertebrates and SAV. Macroinvertebrates provide important detritus essential for supporting the food chain which includes ESA-listed species. SAV is the spawning habitat for forage fish for ESA-listed species. Adverse impacts to these species which are prey to ESA-listed species adversely affects the populations of ESA-listed species.

Wetlands have been identified as a resource of concern through the loss of their functions. Wetlands are important as a filter to improve water quality, as a “sponge” for flood flow attention, and provide important and unique habitat for those species relying on the transition zone between the terrestrial and aquatic environments. Wetland losses are attributed to fill activities for development activities.

For NWP 52 – Projects involving water-based renewable energy generation result in water quality and substrate impacts, as described above.

Current Conditions: The cumulative impacts of this NWP on the aquatic environment are dependent upon the number of times the NWP is used, the amount and type of compensatory mitigation required, and the quantity and quality of waters of the United States lost or otherwise impacted as a result of activities authorized by this NWP. This is a new NWP for 2012; therefore, there is no permitting data to utilize for this analysis.

Future Trends: In Washington State, development in and around the aquatic environment is expected to continue, especially in highly populated areas. Based on previously issued permits for similar activities, the Seattle District estimates it will be used 5 times per year with each projected project impact to be no more than 0.5 of an acre of impacts to waters of the U.S. This NWP has one RC which will help ensure that the net effects to the aquatic environment, specifically impacts to streams will be minimal for activities authorized by this NWP. Compensatory mitigation would likely be required as part of any proposal under this NWP. The required compensatory mitigation will attenuate cumulative impacts in Washington State, so the net effects to the aquatic environment will be minimal for activities authorized by this NWP. The Seattle District anticipates the convenience and time savings associated with the use of this

NWP will encourage applicants to design their projects within the scope of the NWP rather than request an individual permit for projects which could result in greater adverse impacts to aquatic resources.

Conclusions: The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to the NWP authorization on a case-by-case basis to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer can exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

9.2.2 Cumulative Effects Analysis for Bank Armoring in Tidal Waters of Puget Sound

Through the 2012 NWP reissuance process, comments and concerns from many resource agencies and Tribes have centered on bank armoring in Puget Sound. Puget Sound is one of the largest estuaries in the United States having over 4,000 kilometers (2400 miles) of shoreline, more than 8,000 square kilometers (2 million acres) of marine waters and estuarine environment, and a watershed of more than 33,000 square kilometers (8.3 million acres). In 1987, Puget Sound was given priority status in the National Estuary Program. This established it as an estuary of national significance under an amendment to the Clean Water Act. In 2005, the Center for Biological Diversity recognized about 7,000 species of organisms in the Puget Sound Basin, including 4,248 animals, 1,504 plants, 851 fungi, and 392 algae, which rely on the wide variety of habitats provided by Puget Sound. Many studies have identified substantial changes to Puget Sound's nearshore ecosystem as a result of shoreline armoring and other changes. Therefore, because of the importance of Puget Sound and comments received from numerous agencies and Tribes concerning the impact of bank stabilization on Puget Sound, the Corps believes it was appropriate to develop a more detailed cumulative effect analysis on the impacts of bank armoring in Puget Sound for Nationwide Permits. For this portion of the cumulative effects analysis, the Seattle District reviewed the historical conditions and trends since the 1800s, the current conditions and trends, the reasonably foreseeable future trends, and conditions of Puget Sound in light of the specific resource of concern, the Puget Sound nearshore environment.

Historical Conditions: Puget Sound shorelines consisted of gravel and sand beaches, shallow shorelines and vegetated wetlands bordered by steep bluffs, supporting various species of birds, animals, and plants. In 1792, George Vancouver from Great Britain landed in the inland marine waters of the Pacific Northwest. Prior to that, most if not all human inhabitants of the Puget Sound region were Native Americans who lived in villages along the coast and in major river valleys and were supported by the region's abundant natural resources. The first non-native settlements occurred in Tumwater, near Olympia, in the 1850s, and have continued to shape the sequence of development occurring in the area since that time. Over the last 200 years, human impacts have changed from dispersed influence of local native Tribes to occupation by millions

of people and diverse economic activities and developmental patterns (Shipman, 2010). Actions such as timber harvesting, commercial fishing, shipbuilding, railroad development, aircraft manufacturing, and other heavy industry, as well as the development and expansion of the state and federal highway systems and urban residential communities with their supporting infrastructure, have transformed the shorelines across Puget Sound.

Traditionally, most shoreline armoring was associated with the construction of railroad and roads along the shore and the reclamation of intertidal and low-lying areas for industrial development (Shipman, 2010). Beginning in about 1970, Puget Sound started to see a new round of shoreline development from residential property owners who started upgrading small shoreline vacation cabins and summer homes to larger homes and structures requiring longer lengths of bank armoring to protect the developed upland property. This change over time has resulted in longer lengths of total shoreline being armored throughout Puget Sound.

Historically, the Puget Sound nearshore environment consisted of many different types of ecosystems and habitat types such as mudflats, eelgrass and macroalgae beds, wetlands and marshes, upper beach, feeder bluffs, and vegetated uplands. These nearshore habitats work to support an array of aquatic plant and animal species.

Affected Environment: Due to the high-energy tidal environment and wide tidal fluctuations in Puget Sound, many shorelines consist of unvegetated beaches and rocky shores. Marine wetlands are concentrated in estuarine areas on deltas and in the lower reaches of most rivers emptying into Puget Sound. Estuarine wetlands are highly rich in organic matter as they support a diversity of invertebrates, macro invertebrates, and terrestrial and aquatic plants, including eelgrass. Eelgrass is an underwater grass found in the shallow sub-tidal area. Aquatic microorganisms collect on eelgrass leaves and as the leaves decay, the detritus provides food for many marine invertebrates resulting in large concentrations of invertebrates. Consequently, eelgrass beds provide rich feeding and spawning areas for fish and marine birds. In particular, Pacific herring, a major food source for many salmonid species, seabirds and marine mammals, spawn on eelgrass.

The shallow nearshore area provides suitable substrate such as sand and small cobbles for spawning forage fish such as surf smelt, Pacific herring and Pacific sand lance. A critical element of spawning habitat is the availability of a suitable amount of appropriately textured spawning substrate at a certain tidal elevation along the shoreline. If the substrate is too large, such as riprap or hardpan, spawning may not occur as it would in areas with more suitable substrate.

The shallow nearshore area also provides protected rearing areas and migration corridors for juvenile salmonids. Shoreline vegetation provides complex shade, protective cover, detrital input, and terrestrial prey (e.g., insects) to young salmonids moving close inshore (Thom, 1994). In addition to providing a migration corridor for juvenile salmonids, the nearshore habitat of Puget Sound provides a transportation corridor for sediment and inorganic and organic nutrients and detritus.

In 1999, the Puget Sound Chinook salmon was listed as threatened under ESA. Since that time

more species including steelhead, bull trout, Stellar sea lion, marbled murrelet, three species of rockfish, and killer whales have been listed as either threatened or endangered under the Endangered Species Act. The nearshore environment of Puget Sound including eelgrass beds, mudflats, wetlands and shoreline riparian vegetation, currently supports the spawning, rearing and migratory habitat and food web of these ESA-listed species and others. Because ESA-listed species are an important indicator of the health of the ecosystem, it is important to focus on resources directly affecting ESA-listed species. This includes the rearing and migratory pathways of the species themselves as well as the abundance of their prey species. Forage fish (Pacific herring, surf smelt and sand lance) comprise a majority of ESA-listed salmonids' prey species and in turn salmonids comprise a majority of the prey for other ESA-listed and non-listed species, including the Southern Resident Killer Whale. The abundance and sustainability of these species is dependent upon the amount of appropriate spawning areas which are directly located in the nearshore tidal areas.

Historical and Current Stressors: Historical and current stressors on the nearshore environment from the increased activities described above include bank armoring, increased stormwater runoff, loss of upland forest cover, modification of natural drainages, upland development, dredging and dredge disposal, and construction of marine facilities such as boat ramps, piers, marine rails, access stairs and outfalls. While the Seattle District recognize all marine and upland construction and development have the potential to impact the nearshore environment of Puget Sound, the specific focus of this analysis is on the direct and indirect effects of bank armoring (seawalls, bulkheads, riprap revetments, retaining walls, etc) on the nearshore environment including forage fish spawning areas and rearing areas and migration corridors for juvenile salmonids.

To date there have been many studies on the impact of armoring on Puget Sound and nearshore processes. These studies suggest a broad range of potential localized and regional effects of erosion control structures (bank armoring) on Puget Sound shorelines such as the direct loss of upper beach, loss of aquatic-terrestrial interaction, localized erosion, interruption of sediment delivery and transport, and altered wave action (Shipman, 2010). These physical effects are believed to cause beach narrowing, sediment coarsening, and a decrease in the natural sediment supply from eroding bluffs (Ruggiero, 2010).

The following is a specific discussion on each of the potential effects of shoreline armoring on the nearshore environment and the subsequent effects on forage fish spawning areas and rearing areas, food chain, and migration corridors for juvenile salmonids:

1. Direct loss of upper beach. Shoreline armoring is typically installed in upper beach areas, often directly filling the nearshore environment. Even when built high on the beach profile, seawalls typically eliminate a narrow zone of the high tide beach. On Puget Sound, this would result in the direct loss of dry beach at high tides, which may in turn reduce the actual area available for forage fish spawning (Penttila, 2007). The destruction or alteration of nearshore habitat may result in direct burial and isolation of spawning habitat for forage fish, a prey species of ESA-listed salmonids. As shoreline modifications encroach into intertidal beach elevations, invertebrate assemblages are negatively affected by the amount of seaward armoring (Sobocinski and others, 2010). Additionally, bank armoring can interrupt important migratory pathways for salmonids

by cutting off the important upper tidal, shallow water areas.

2. Loss of aquatic-terrestrial interaction. The installation of shoreline armoring directly cuts off the natural transition between the aquatic and terrestrial ecosystems, eliminating the input of organic material, shading and other important functions. This disruption affects movement of materials and organisms between aquatic and terrestrial systems which results in a reduced quality of riparian functions and nearshore habitat (Shipman, 2010). Shoreline vegetation provides shade, protective cover, detrital input, and terrestrial prey. The removal of riparian, shoreline vegetation is a typical side effect of shoreline armoring, which in turn directly affects the nearshore habitat by creating hotter, drier habitats and removing vegetation-dependent organisms, such as insects contribute to aquatic organisms' food supply (Sobocinski, 2003). Rossell (2006) and Rice (2006) found modified, unvegetated beaches had substantially lower surf smelt egg survival than did naturally shaded beaches. In another study, Penttila (2001) found shading provided by terrestrial vegetation of the marine riparian corridor has a positive effect on the survival of surf smelt. Therefore, by removing the interaction between the aquatic and terrestrial environment, the survivability of forage fish is directly affected.

3. Localized erosion. Review of studies show a seawall or revetment may effectively stabilize the area landward of the structure, but does nothing to address the continued erosion and retreat of the beach face or shoreline on the seaward side of the structure which, with time, results in the narrowing of the remaining beach, the loss of the upper beach and increased interaction of the structure with waves (Shipman, 2010). This then results in a change of beach elevation adjacent to the armoring as well as alterations of the beach material available for forage fish spawning and rearing. Mechanisms causing negative effects to nearshore habitats are often related to the physical alterations surrounding bank armoring, such as creating a steeper physical profile, limiting the sediment supply, and reflecting wave energy (Toft and others, 2010).

4. Sediment delivery and transport. Bank armoring on coastal bluffs stop the natural erosion of the bluffs, thereby reducing the delivery of sediment to the system and reducing the overall budget of the local littoral cell. Armoring can cut off sediment supply from upper beaches and can cause direct onsite impacts to habitat features (e.g., the shift of the beach to a lower elevation, localized higher energy, and harder substrate shoreline), as well as indirect impacts within the drift cell (Williams and others, 2001). Increased wave energy and action and loss of sediment supplies can lead to coarsening of the beach as sand and small gravel are progressively winnowed from the beach. The result is a shift to a coarser gravel and cobble beach and more frequent exposure of underlying hardpan or bedrock. Additionally, loss of sediment supply can lead to erosion of beach profiles and the lowering of the beach gradient. This change results in the loss or impairment of species and communities adapted for utilizing higher elevations and particular substrates (Williams and others, 2001). Likewise, when the supply of sediment is blocked, the survival of specific biota depending on a certain amount and type of substrate, specifically forage fish and invertebrates, is impacted, degrading the larger shoreline ecosystem (Zelo, Shipman, Brennan, 2000). Specifically, Thom and others (1994) suggest shoreline armoring may be the primary threat to surf smelt and sand lance

spawning habitat. Shoreline armoring blocks, delays, or eliminates the natural erosion of material onto the beach and its subsequent transport (Johannessen and MacLennan 2007). These processes under natural conditions maintain forage fish spawning substrate on the upper beach (Williams and Thom, 2001).

5. Altered wave action. Waves can reflect off structures in some instances increasing erosion and scour and in some cases influencing longshore sediment transport patterns (Shipman, 2010). Bank armoring extending further into the nearshore may act as a groin, impeding longshore transport of sediments, by directly interrupting or changing wave action at the armored and adjacent sites. By changing erosional patterns and sediment distribution, the substrate of spawning habitats (pea gravel to fine grain sand) may be lost or altered, adversely affecting the amount of suitable spawning habitat.

6. Loss of species diversity. Specific studies have looked at the direct effect of bank armoring on species richness and abundance in response to the changes in physical processes described above. Sobocinski and others (2010) found species richness and absolute abundance in supratidal invertebrates (compared between paired beaches) in central Puget Sound tended to be lower at the base of armored sites than on natural substrates. Ongoing monitoring at two beach restoration sites (Olympic Sculpture Park in WRIA 8 and Seahurst Park inWRIA 9) in central Puget Sound has documented increased taxa richness after removal of the shoreline armoring (Rice, 2010).

In summary, scientific research and review of the impacts of bank armoring has found that shoreline armoring in Puget Sound over the last 200 years, through the alteration of physical processes, has a direct and indirect effect on nearshore fish abundance, distribution, and behavior patterns (Toft and others, 2007), as well as survival of eggs in beach spawning surf smelt and forage fish (Rice, 2006), which are important to the survivability of ESA-listed predator species and the overall health of the Puget Sound ecosystem.

Current Conditions and Trends: The Puget Sound Nearshore Ecosystem Restoration Project (PSNERP), a general investigation project between the Corps and the State of Washington, reviewed the historical changes to Puget Sound's shoreline environment between 1850-1880 and 2000-2006 found the most pervasive change to Puget Sound to be the simplification of the shoreline and reduction in natural shoreline length. The assessment found the total natural shoreline length of all shoreforms combined including deltas within Puget Sound declined by approximately 15% since the 1800s (Simenstad, 2011). The same data shows only 6.5% of areas around Puget Sound lack any modification today. Additionally, shoreline armoring was found to cover approximately 27% (666 miles) of the Puget Sound Basin shoreline (Simenstad, 2011). Armoring is most extensive on the heavily developed eastern shore between Everett and Tacoma and generally less pervasive along portions of northern and western Puget Sound, where development levels are lower and bedrock shorelines are more common. Based on the PSNRP inventory of existing shoreline conditions, it appears the majority of these armoring structures were built using traditional bank armoring methods with the use of timbers, rock, and/or concrete. Armoring projects reviewed by the Seattle District in Puget Sound currently and in recent years are primarily ongoing repair and replacement of older bank stabilization structures, with few new bulkheads.

The South Central Puget Sound sub-basin contains the most developed region of the Puget Sound, stretching from Everett to Tacoma. Puget Sound has lost considerable proportions of its barrier estuary, barrier lagoon, closed lagoon/marsh and open coastal inlet shoreline length and virtually 100% of its delta (Duwamish and Puyallup rivers) shoreline (Simenstad, 2011). Upland development in this area is high, resulting in natural land cover converted to moderate to high intensity residential, commercial and industrial development.

Current Washington State Fish and Wildlife permitting data suggests 233 new bulkheads were constructed on Puget Sound shorelines between January 2005 and December 2007 (Carmen and others, 2010). Additionally, in a review of six years of bank armoring projects on Puget Sound from 2005 to 2010, WDFW found bank armoring projects resulted in 6.5 miles of new armoring, 14.5 miles of replacement armoring and 0.61 miles of removed armoring. Because the Seattle District did not review this number of projects over the same time period, projects may have been performed without a Department of the Army permit or projects were completed landward of the Corps' jurisdiction, not requiring a DA permit. Under the 2007 NWPs, RGC 4 (Bank Stabilization) requires applicants submit detailed information on proposed bank stabilization activities. Because of this information requirement and the requirement for compensatory mitigation, many applicants design their projects to be landward of the Corps' jurisdiction. The regulated public is well aware of the Seattle District's high level of scrutiny and lengthy time period to review applications for IPs. Therefore, the evidence suggests many structures authorized by WDFW were constructed landward of the Corps' jurisdiction. Regulations exist at the local and state level to control the construction, replacement, modification and maintenance of these structures so it is presumed existing bank armoring structures received authorization at some level, depending on the location of the structure within local and state jurisdiction.

Washington State has divided the State's watersheds into 62 "Water Resource Inventory Areas" or "WRIAs." There are 19 WRIAs in Puget Sound. By using the inventory of shorelines conducted by the Puget Sound Nearshore Restoration Partnership in 2010, the Seattle District conducted an independent analysis of the data on the current amount of shoreline armoring across Puget Sound by WRIA. This data shows the current state of the shoreline across Puget Sound in terms of bank armoring. The data ranges from as high as 91.2% of shorelines armored in WRIA 10 to 4.0% of shorelines armored in WRIA 2.

According to the Corps ' permit database, since 19 March 2007 (effective date of the current NWPs), approximately 75 projects involving maintenance of existing bank stabilization in Puget Sound were authorized by NWP 3 (Maintenance) and approximately 41 projects involving bank stabilization were authorized by NWP 13 in Puget Sound. Forty-three additional projects under other NWPs (7, 12, 14, 18, 23, 27, 29, 31, 32, 39, 40, 43 and 45) were used to authorize some type of bank stabilization within Puget Sound. Additionally, eight projects involving bank stabilization were authorized by standard Individual Permits in the same time period and areas.

<u>Future Trends</u>: The need for ongoing bank armoring activities appears to primarily occur within highly residential and industrialized areas. This suggests the greatest quantity of bank armoring has and will continue to occur within the most heavily populated areas of Puget Sound. In 1900, the population of the 12 counties around Puget Sound was just over a quarter of a million people.

In more recent times, human population growth in the Puget Sound region has increased from about 1.29 million people in 1950 to about 4.22 million in 2005, and is expected to reach 5.36 million by 2025 (Quinn, 2010). With the anticipated population and permitting trends, it can be projected shoreline armoring within Puget Sound will continue through the maintenance of existing structures and the construction of new structures. However, existing Puget Sound initiatives and efforts including restoration projects and the removal of hardened shoreline armoring, are anticipated to increase over the coming years. For example the PSNRP team is in the process of identifying areas throughout Puget Sound providing the highest benefit for shoreline restoration. Other private and public restoration projects have also been occurring or are anticipated to occur such as creating off-channel habitat on the tidally influenced portion of the Duwamish Waterway, creation and reconnection of new estuaries, removal of levees at tributaries and floodplain restoration projects.

Conclusions: Based on the above described impact of bank armoring on the aquatic environment, the Seattle District has proposed two RGCs regarding bank stabilization activities. One increases the rigor of the review for all bank stabilization structures and one restricts the use of NWPs for new bank stabilization structures in certain WRIAs.

The Seattle District proposes to modify RGC 4 (Bank Stabilization) for all bank stabilization activities. Compliance with this RGC will be required for any project including new or maintenance bank stabilization activities including those proposed in Puget Sound. To ensure bank stabilization projects are minimally impacting, the Seattle District will require submittal of information on the need for the work, causes of erosion, and threats to structures or safety; sediment and deposition patterns; habitat conditions; a planting plan using native riparian plant species and incorporation of the least environmentally damaging practicable bank protection methods including bioengineering techniques.

For example, Part “f” of RGC 4 (Bank Stabilization) requires the applicant demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, the applicant must explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines the applicant has not incorporated the least environmentally damaging practicable bank protection methods and/or has not fully compensated for impacts to aquatic resources, the applicant must submit a compensatory mitigation plan to compensate for impacts to aquatic resources. Incorporating the least environmentally damaging practicable bank protection methods and implementing compensatory mitigation will further result in minimal direct impacts.

Once the Corps has this information, the Seattle District can assess whether or not the project has minimal direct impacts on the aquatic environment based on the avoidance and minimization of impacts and provision of compensatory mitigation for unavoidable impacts. For example, by requiring the avoidance of any identified forage fish spawning habitat and incorporating large woody material in the bank stabilization structure, the direct impacts of the project may be determined to be minimal. Further discussion on Regional General Condition 4 (Bank

Stabilization) can be found in Section 2.2.4 of this document.

Based on the inventory of the current condition of the shoreline, the Corps has identified a region in Puget Sound, which includes five WRIAs, requiring particular attention and analysis. The five WRIAs are 8 (Cedar/Sammamish), 9 (Duwamish/Green), 10 (Puyallup/White), 11 (Nisqually), and 12 (Chambers/Clover). High levels of armoring are present throughout this region, which extends along the eastern Puget Sound shoreline, south into WRIA 11 and north up to Everett in WRIA 8. In this region, the shorelines have historically been heavily altered resulting in adverse effects on the nearshore aquatic environment.

Studies have been conducted across these WRIAs identifying the localized adverse effects of bank armoring on the nearshore environment and disruption of processes as described above. Sobocinski (2010) studied paired beach sites with natural shorelines versus armored shorelines across WRIAs 8 and 9 and found the overall beach substrate grain size was smaller and the overall organic debris was observed in greater abundance at natural beach sites versus armored sites. These localized results at four different beaches in these WRIAs indicate there is a direct effect from bank armoring in these areas on the physical character of the nearshore environment where armoring is present versus areas where the shoreline is natural.

A change analysis conducted by PSNRP found in the South Central Puget Sound Sub-Basin (containing all five of the above described WRIAs), 34% of the original bluff-back beaches are now impaired by artificial landforms (structures, roads, railroads, etc) with the highest level of impairment in bluff-backed beach landform occurring from Elliott Bay south to Seahurst and along the southern margin of Commencement Bay in Tacoma (Simenstad, 2011). This leads to a disruption of the sediment and debris transport process feeding these and nearby down-drift beaches. As previously discussed, the blocking of sediment supply to the beach and nearshore environment, impacts the physical habitat of the nearshore. This habitat is used for spawning, rearing and foraging of many species within the food chain of Puget Sound, from invertebrates through ESA-listed salmonids and fish, and on up the food chain to the Southern Resident Killer Whale.

Additionally, ongoing monitoring is occurring at two beach restoration sites on Puget Sound – Seahurst Park in WRIA 9 and Olympic Sculpture Park in WRIA 8. The monitoring looked at conditions prior to bulkhead/seawall removal and is comparing it to ongoing monitoring of conditions after the natural beach was restored. During this monitoring, Rice (2010) has documented an increase in taxa richness after removal of the shoreline armoring.

These three localized studies indicate an overall decrease in taxa richness, increased grain size of beach substrate and decrease in organic debris in the marine areas of these WRIAs due to the high level of bank armoring. The direct environmental effects of bank armoring on the nearshore environment and the documented subsequent effects on forage fish spawning and rearing areas, food chain, and migration corridors for juvenile salmonids, would be compounded in this region (WRIAs 8, 9, 10, 11, and 12) due to the high level of existing shoreline armoring.

Considering the scientific data and studies showing the impact of bank armoring on the physical processes in the nearshore and the subsequent impact to species utilizing the nearshore for

rearing, spawning, migration, and food web inputs, the cumulative impact of new bank stabilization on this large contiguous watershed scale is considered to have more than minimal effects on the nearshore environment and the detailed analysis provided by the Standard Individual Permit review process is warranted for new bank stabilization activities in the tidal waters of these five WRIAs.

Therefore, the Seattle District has added Regional General Condition 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) to prohibit authorization by NWP for any work resulting in new bank stabilization in the Puget Sound marine areas of WRIAs 8, 9, 10, 11, and 12 (see Figure 2). This regional general condition will require any project involving new bank stabilization within the marine areas of WRIAs 8, 9, 10, 11, and 12 to go through the Standard Individual Permit process including a public notice and a comprehensive review of alternatives and public interest factors. This prohibition for WRIAs 8, 9, 10, 11, and 12 does not apply to the maintenance of existing bank stabilization structures, as construction impacts will typically be within the existing footprint of the structures and will not result in additional permanent impacts to the nearshore environment beyond what currently exists.

This prohibition will not apply to other WRIAs in Puget Sound where the shorelines have been less altered by development and armoring and the impacts to the physical and biological processes have not been compounded to the same level as those in WRIAs 8, 9, 10, 11, and 12. However, to ensure the individual and cumulative impacts of bank stabilization in other WRIAs are minimal, all projects involving bank stabilization (new and maintenance) in these other areas of Puget Sound will be reviewed by a PCN with increased rigor because of the information required in RGC 4 (Bank Stabilization), as described above. If it is determined any project would result in more than minimal impacts, the project will be reviewed under the standard Individual Permit process.

If, at a later time, there is clear, unequivocal evidence the use of certain NWPs for new bank stabilization activities would have more than a minimal adverse effect on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

9.3 Section 404(b)(1) Guidelines Impact Analysis (Subparts C-F) for NWP 52

In addition to the discussion in the national decision document for this NWP, the Seattle District has considered the local impacts expected to result from the activities authorized by this NWP, as described below.

(a) Substrate: Same as discussed in the National decision document.

(b) Suspended particulates/turbidity: Same as discussed in the National decision document.

(c) Water: Same as discussed in the National decision document.

(d) Current patterns and water circulation: Through RGC 3 (New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound) and 4 (Bank Stabilization) the Seattle District will be able

to fully assess impacts to current patterns and water circulation.

(e) Normal water level fluctuations: Same as discussed in the National decision document.

(f) Salinity gradients: Same as discussed in the National decision document.

(g) Threatened and endangered species: Refer to Section 5 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web: Same as discussed in the National decision document.

(i) Other wildlife: Same as discussed in the National decision document.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: Same as discussed in the National decision document.

(2) Wetlands: Refer to Section 9.1(e) (Wetlands) of this document.

(3) Mud flats: Same as discussed in the National decision document

(4) Vegetated shallows: Because of the abundance of ESA-listed species in tidal waters, a PCN is required for work in tidal waters per National General Condition 18 (Endangered Species). Work in or affecting submerged aquatic vegetation (SAV) in marine areas will be fully assessed through the PCN process and ESA consultation. Additionally, Regional General Condition 8 (Vegetation Protection and Restoration) requires the avoidance and minimization of SAV to the maximum extent practicable. This regional general condition will ensure impacts to vegetated shallows are minimized.

(5) Coral reefs: Not applicable, no coral reefs are located in Washington State.

(6) Riffle and pool complexes: While impacts to riffle and pool complexes are not specifically restricted by any regional condition, potential adverse impacts to these special aquatic sites receive additional review and are restricted for the protection of the species listed as threatened or endangered under the ESA (National General Condition 18 – Endangered Species). These systems are very important for all life stages of the fish protected under the ESA. These systems are especially important because they are typically located near or within spawning areas for the fish. Also, the waiver for stream impacts over 300 linear feet has been removed for a number of NWPs to further ensure impacts to these special aquatic sites are minimized.

(k) Municipal and private water supplies: Same as discussed in the National decision document.

(l) Recreational and commercial fisheries: Same as discussed in the National decision document.

(m) Water-related recreation: Same as discussed in the National decision document.

(n) Aesthetics: Same as discussed in the National decision document.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: Same as discussed in the National decision document.

9.4 Section 404(b)(1) Guidelines Cumulative Effects Analysis (40 CFR 230.7(b)(3))

The cumulative effects of this NWP on the aquatic environment are dependent upon the number of times the NWP is used and the quantity and quality of waters of the United States lost due to the activities authorized by this NWP. This is discussed in Section 9.2 of this document. To ensure these activities result in minimal adverse effects on the aquatic environment, individually and cumulatively, the Seattle District may require compensatory mitigation to offset the authorized losses of waters of the U.S. and ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment.

10.0 List of Final Seattle District Regional Conditions

10.1 Regional General Conditions

10.1.1 Regional General Condition 1

Aquatic Resources Requiring Special Protection.

Activities resulting in a loss of waters of the United States in a mature forested wetland, bog, bog-like wetland, aspen-dominated wetland, alkali wetland wetlands in a dunal system along the Washington coast, vernal pools, camas prairie wetlands, estuarine wetlands, and wetlands in coastal lagoons cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Oil Spill Cleanup
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, you must submit a pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 (Pre-Construction Notification) and obtain written approval before commencing work.

10.1.2 Regional General Condition 2

Commencement Bay. The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 1) requiring Department of the Army authorization:

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater Management Facilities

10.1.3 Regional General Condition 3

New Bank Stabilization Prohibition Areas in Tidal Waters of Puget Sound. Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the specific area identified on Figure 2) cannot be authorized by a NWP.

10.1.4 Regional General Condition 4

Bank Stabilization. Any project including new or maintenance bank stabilization activities requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the work, including the cause of the erosion and the threat posed to structures, infrastructure, and/or public safety. The notification must also include a justification for the need to place fill or structures waterward of the line of the Corps' jurisdiction (typically, the ordinary high water mark or mean higher high water mark).

b. Current and expected post-project sediment movement and deposition patterns in and near the project area. In tidal waters, describe the location and size of the nearest bluff sediment sources (feeder bluffs) to the project area and current and expected post-project nearshore drift patterns in the project area.

c. Current and expected post-project habitat conditions, including the presence of fish, wildlife and plant species, submerged aquatic vegetation, spawning habitat, and special aquatic sites (e.g., vegetated shallows, riffle and pool complexes, or mudflats) in the project area.

d. In rivers and streams, an assessment of the likely impact of the proposed work on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Discuss the methodology used for determining effects. The Corps reserves the right to request an increase in the reach assessment area to fully address the relevant ecological reach and associated habitat.

e. For new bank stabilization activities in rivers and streams, describe the type and length of existing bank stabilization within 300 feet up and downstream of the project area. In tidal areas, describe the type and length of existing bank stabilization within 300 feet along the shoreline on both sides of the project area.

f. Demonstrate the proposed project incorporates the least environmentally damaging practicable bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody material, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to fish. If the Corps determines you have not incorporated the least environmentally damaging practicable bank protection methods and/or have not fully compensated for impacts to aquatic resources, you must submit a compensatory mitigation plan to compensate for impacts to aquatic resources.

g. A planting plan using native riparian plant species unless the applicant demonstrates a planting plan is not appropriate or not practicable.

10.1.5 Regional General Condition 5

Crossings of Waters of the United States. Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts, requires pre-construction notification to the District Engineer in accordance with Nationwide Permit General Condition 31 for Pre-Construction Notification. This requirement does not apply to maintenance work exempt by 33 CFR 323.4 (a)(2). Each notification must also include the following information:

a. Need for the crossing.

b. Crossing design criteria and design methodology.

c. Rationale behind using the specific design method for the crossing.

10.1.6 Regional General Condition 6

Cultural Resources and Human Burials. Permittees must immediately stop work and notify the District Engineer within 24 hours if, during the course of conducting authorized work, human burials, cultural resources, or historic properties, as identified by the National Historic Preservation Act, are discovered. Failure to stop work in the area of discovery until the Corps can comply with the provisions of 33 CFR 325 Appendix C, the National Historic Preservation Act, and other pertinent laws and regulations could result in a violation of state and federal laws. Violators are subject to civil and criminal penalties.

10.1.7 Regional General Condition 7

Essential Fish Habitat. An activity which may adversely affect essential fish habitat, as identified under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), may not be authorized by NWP until essential fish habitat requirements have been met by the

applicant and the Corps. Non-federal permittees shall notify the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific salmon, groundfish, and/or coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at http://www.nwr.noaa.gov/.

10.1.8 Regional General Condition 8

Vegetation Protection and Restoration. Permittees must clearly mark all construction area boundaries before beginning work. The removal of native vegetation in riparian areas and wetlands, and the removal of submerged aquatic vegetation in estuarine and tidal areas must be avoided and minimized to the maximum extent practicable. Areas subject to temporary vegetation removal shall be replanted with appropriate native species by the end of the first planting season following the disturbance except as waived by the District Engineer. If an aquaculture area is permitted to impact submerged aquatic vegetation under NWP 48, the aquaculture area does not need to be replanted with submerged aquatic vegetation.

10.1.9 Regional General Condition 9

Access. You must allow representatives of this office to inspect the authorized activity at any time deemed necessary to ensure the work is being, or has been, accomplished in accordance with the terms and conditions of your permit.

10.1.10 Regional General Condition 10

Contractor Notification of Permit Requirements. The permittee must provide a copy of the nationwide permit verification letter, conditions, and permit drawings to all contractors involved with the authorized work, prior to the commencement of any work in waters of the U.S.

10.2 Nationwide Permit 52 Specific Regional Conditions.

1. No activity can result in the loss of greater than 300 linear feet of intermittent and ephemeral stream beds.

11.0 Water Quality Certification and Coastal Zone Management Act Consistency Determinations

In Washington State, two agencies and nine Tribes currently have 401 certification authority. The EPA has 401 certification authority in Indian Country. Indian County includes reservation lands, trust lands, and Dependent Indian Communities. Dependent Indian Communities refers to a limited category of Indian lands that are neither reservation or trust lands that satisfy the following two requirements, (1) they are set aside by the Federal government for the use as Indian land and (2) they must be under federal superintendence. To date, the EPA has granted nine Tribes (the Chehalis, Lummi Nation, Port Gamble S'Klallum, Kalispel, Makah, Puyallup,

Spokane, Swinomish and Tulalip Tribes) 401 certification authority over activities on their respective tribal lands. Ecology is authorized to make 401 certification decisions for activities on all other Federal, public, and private lands in the State. Ecology is responsible for making all Coastal Zone Management Act (CZM) consistency determinations in Washington State.

These agencies were contacted and their decision is still pending. When these agencies have made their final determinations, if 401/CZM conditions are required, an addendum to this document will be prepared and sent to the Division Engineer for approval.

12.0 Measures to Ensure Minimal Adverse Environmental Effects

The Seattle District, Regulatory Branch has local procedures for projects involving excavation and dredging activities. If the projects involve excavation or dredging in open water, the Seattle District Dredged Material Management Office is contacted to determine if there is a potential to encounter contaminated sediments. If there is the potential, the Seattle District would require the appropriate testing and would coordinate with the DMMO to ensure the appropriate dredging and disposal methods are implemented.

The Seattle District has local procedures for projects in or affecting designated Superfund sites. If the project in within Superfund boundaries or has the potential to impact a Superfund site, the Seattle District has a standard operating procedure outlining requirements to coordinate with EPA. This process ensures the Superfund site and any past, present, or future clean up action is not adversely impacted by the project, as well as ensuring the project does not result in more than minimal impacts due to contaminated sediment release and disturbance.

In the Seattle District, to complete ESA consultation, they have standard requirements to specifically minimize the leaching of chemicals. For example, the Seattle District has a standard special condition which states:

> "The use of wood treated with creosote, pentachlorophenol, copper naphthalene, or other comparably toxic compounds is prohibited for in-water components of a structure. Treated wood may only be used for above water structural framing and may not be used as decking, piling, or for any other uses. Alternative materials such as untreated wood, steel, concrete, recycled plastic and fiberglass should be used. No paint, stain, preservative or other protective coating application shall be applied to below-water parts of the structure or shall occur while the structure is in or over the water body."

And another standard special condition which states:

> "Flotation for the float shall be fully enclosed and contained in a shell (e.g., polystyrene tubs not shrink wrapped or sprayed coatings) that prevents breakup or loss of the floatation material into the water and is not readily subject to damage by ultraviolet radiation or abrasion caused by rubbing against piling or waterborne debris."

Mitigation plans must be prepared in accordance with the Federal Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 325 and 332, April 10, 2008). In the Seattle District, applicants can meet this requirement for wetland compensatory mitigation by

preparing a mitigation plan in accordance with the Washington State Department of Ecology Publication #06-06-011a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1), dated March 2006. The Seattle District worked in conjunction with the State and the Environmental Protection Agency to develop this document to ensure wetland impacts are fully mitigated.

Work authorized by any permit has special conditions added to restrict work to the authorized work windows.

The terms and conditions of the NWP, including the PCN requirements and the regional conditions listed in this document, will ensure this NWP authorizes only activities with minimal individual and cumulative adverse effects on the aquatic environment. Through the PCN process, the Seattle District will review certain activities on a case-by-case basis to ensure those activities result in minimal adverse effects on the aquatic environment, individually and cumulatively. As a result of this review, the district engineer can add special conditions to an NWP authorization to ensure the activity results in minimal adverse effects on the aquatic environment, individually and cumulatively. During the PCN process, the district engineer will exercise discretionary authority and require an individual permit for those activities resulting in more than minimal individual and cumulative adverse effects on the aquatic environment.

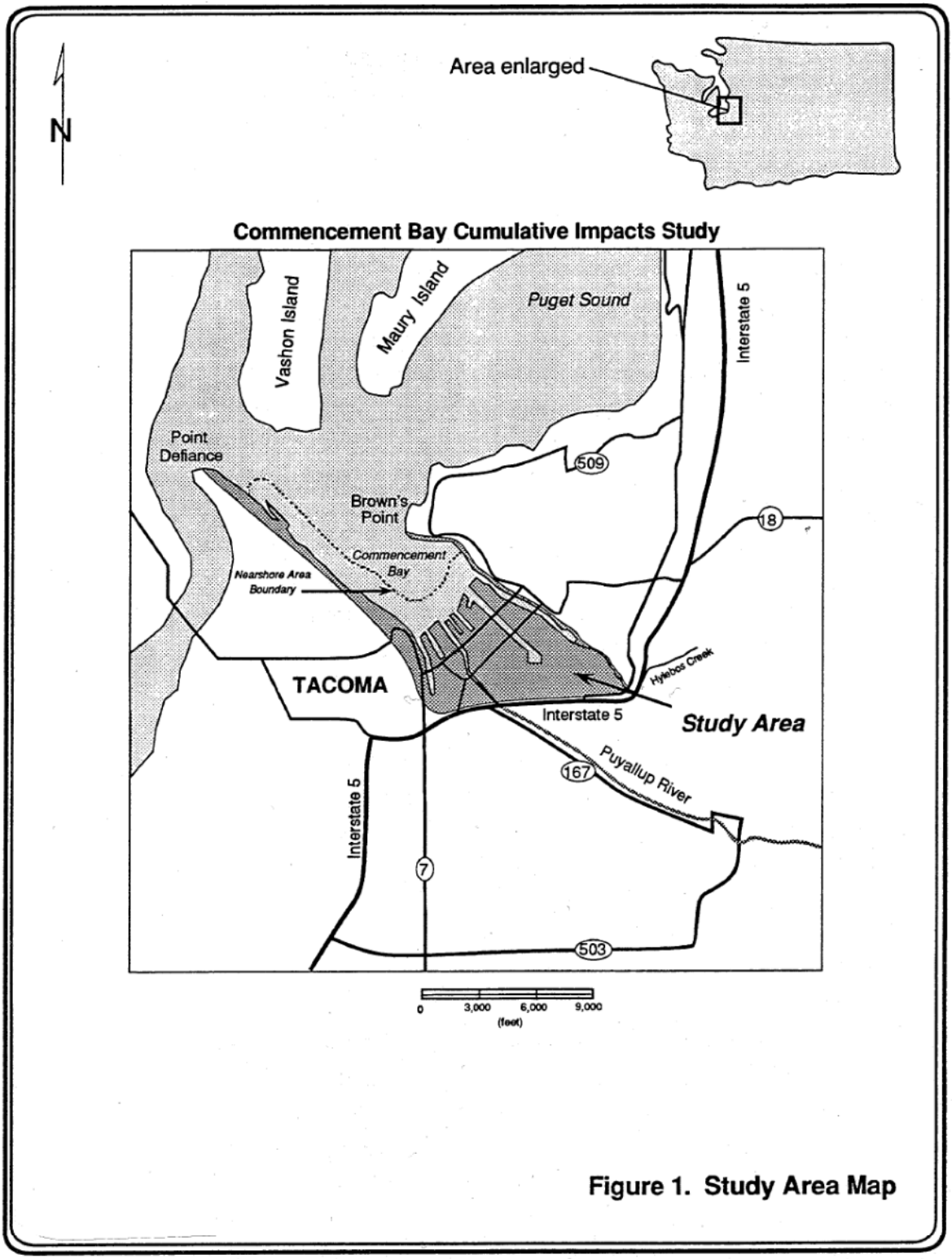
If, at a later time, there is clear, unequivocal evidence that use of certain NWP would result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, the modification, suspension, or revocation procedures at 33 CFR 330.4(e) or 33 CFR 330.5 will be used.

13.0 Final Determination

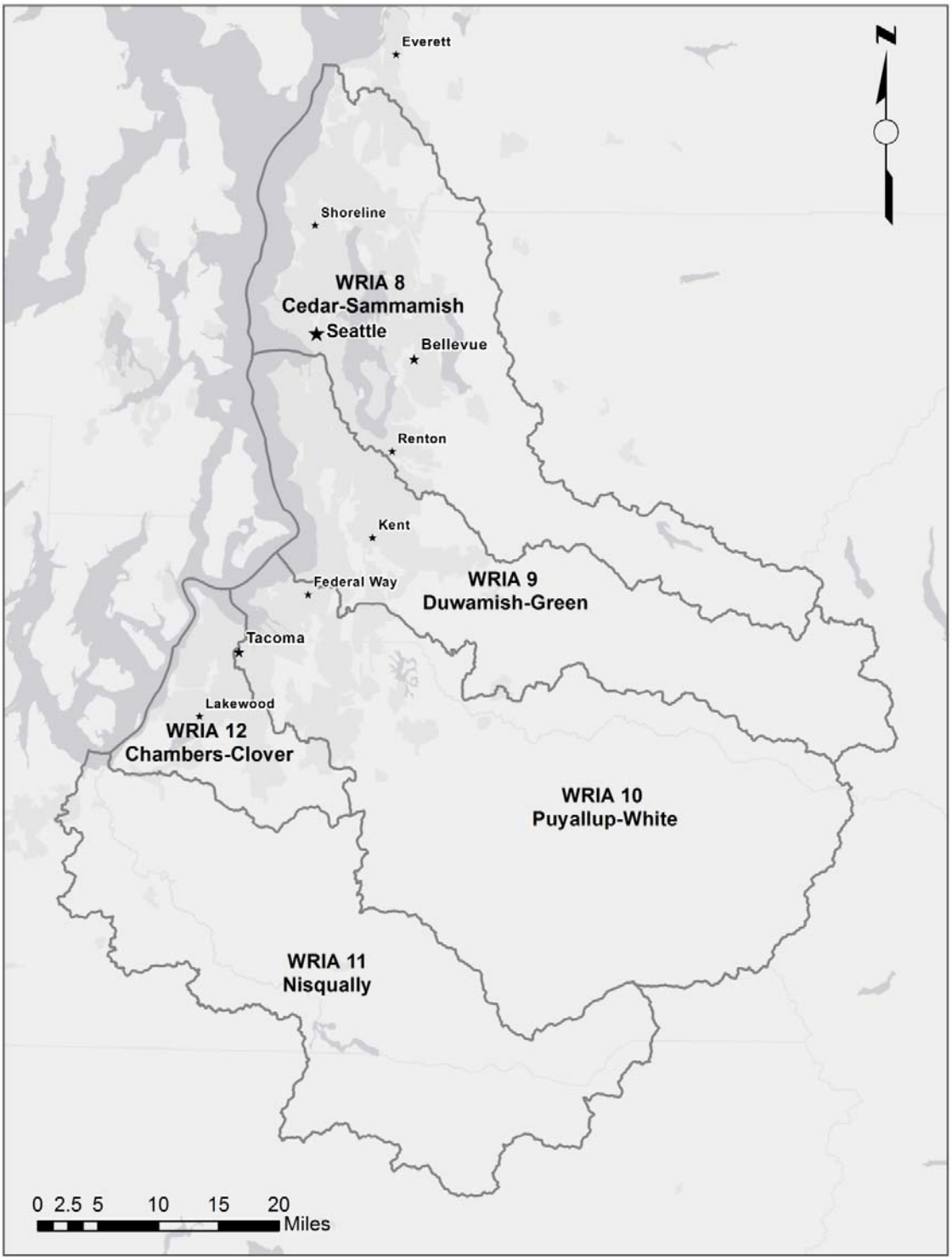
Based on the considerations discussed above, and in accordance with 33 CFR 330.4(e)(1) and 330.5(c), the Northwestern Division Engineer has determined this NWP, including its terms and conditions, all regional conditions, and limitations, will authorize only those activities with minimal adverse effects on the aquatic environment, individually or cumulatively.

14.0 Figures

14.1 Figure 1. Commencement Bay Study Area.



14.2 Figure 2. Map of Water Resource Inventory Areas (WRIAs) in Puget Sound depicting WRIAs 8, 9, 10, 11, and 12.



15.0 References

Johannessen, J., and A. MacLennan, 2007. Beaches and Bluffs of Puget Sound. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-04.

Penttila, D., 2001. Effects of shading upland vegetation on egg survival for summer-spawning surf smelt on upper intertidal beaches in Puget Sound. Proceedings of the Puget Sound Research – 2001 Conference, Puget Sound Water Quality Action Team, Olympia, Washington.

Penttila, D., 2007. Marine Forage Fishes in Puget Sound, Seattle, Washington. U.S. Army Corps of Engineers Puget Sound Nearshore Partnership Report 2007-03.

Quinn, T., 2010. An environmental and historical overview of the Puget Sound ecosystem, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 11-18.

Rice, C., 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*): Esturaries and Coasts, v. 29, p. 63-71.

Rice, C., 2010. Biological Effects of Shoreline Armoring in Puget Sound: Past Studies and Future Directions for Science, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 155-158.

Rossell, L., 2006. Temperature and Shading Effects on Surf Smelt, *Hypomesus pretiosus*, Egg Survival. REU Program, Western Washington University, Bellingham, Washington.

Ruggiero, P., 2010. Impacts of shoreline armoring on sediment dynamics, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p.179-186.

Shipman, H., 2010. The geomorphic setting of Puget Sound: Implications for Shoreline Erosion and the impacts of erosion control structures, *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 19-33.

Simenstad, C., M. Ramirez, J. Burke, M. Logsdon, H. Shipman, C. Tanner, J. Toft, B. Craig, C. Davis, J. Fung, P. Bloch, K. Fresh, D. Myers, E. Iverson, A. Bailey, P. Schlenger, C. Kiblinger, P. Myre, W. Gerstel, and A. MacLennan. 2011. Historical Change of Puget Sound Shorelines: Puget Sound Nearshore Ecosystem Project Change Analysis. Puget Sound Nearshore Report

No. 2011-01. Published by Washington Department of Fish and Wildlife, Olympia, Washington and U.S. Army Corps of Engineers, Seattle, Washington.

Sobocinski, K., 2003. The Impact of Shoreline Armoring on Supratidal Beach Fauna of Central Puget Sound, Masters of Science Thesis, University of Washington, Seattle, Washington.

Sobocinski, K., Cordell, J., and C. Simenstad, 2010. Effects of shoreline modifications on supratidal macroinvertebrate fauna on Puget Sound, Washington beaches: Estuaries and Coasts, v. 44, p. 699-711.

Thom, R., Shreffler, D., and K. Macdonald, 1994. Shoreline armoring effects on coastal ecology and biological resources in Puget Sound, Washington, Coastal Erosion Management Studies, Volume 7. Publication #94-80. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington.

Toft, J., Cordell, J., Heerhartz, S., Armbrust, E., and C. Simenstad, 2010. Fish and invertebrate response to shoreline armoring and restoration in Puget Sound *in* Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring – Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 161-170.

Toft, J., Cordell, J., Simenstad, C., and L. Stateaiou, 2007. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound: North American Journal of Fisheries Management, v. 27, p. 465-480.

Williams, G., and R. Thom, 2001. Marine and estuarine shoreline modification issues. White paper submitted to Washington Department of Fish and Wildlife, Ecology and Transportation by Battelle Marine Science Laboratory, Sequim, Washington. Available online: wdfw.wa.gov/nab/ahg/marnrsrc.htm.

Zelo, I., Shipman, H., and J. Brennan, 2000. Alternative bank protection methods for Puget Sound shorelines. Washington Department of Ecology, Shorelands and Environmental Assistance Program Publication 00-06-012, Olympia, Washington.