



CENTER FOR  
FOOD SAFETY

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SUBMITTED VIA E-MAIL

U.S. Army Corps of Engineers  
Attn: Pamela Sanguinetti  
441 G Street NW  
Washington, DC 20314-1000  
pamela.sanguinetti@usace.army.mil

### COMMENTS ON PROPOSED REGIONAL CONDITIONS FOR NWP 48

The Center for Food Safety (CFS) is a nonprofit public interest organization that works to protect public health and the environment by curbing the proliferation of harmful food production technologies and by promoting sustainable agriculture.<sup>1</sup> In furtherance of this mission, CFS uses legal actions, groundbreaking scientific and policy reports, books and other educational materials, and grassroots campaigns on behalf of its more than 750,000 farmer and consumer members across the country, including over 25,000 members in Washington. CFS has worked on aquaculture and pesticide issues for years and has commented on the proposed NWP 48 for 2017.

CFS submits the following comments on U.S. Army Corps of Engineers (Army Corps) Seattle District's proposed regional conditions specific to Nationwide Permit 48, for Commercial Shellfish Aquaculture Activities in Washington State. These comments include by reference (and attachment) CFS's past comments to Army Corps Headquarters on NWP 48 and to the Seattle District on adoption of a nationwide permit for shellfish aquaculture in Washington, including all attachments.<sup>2</sup> Because the concerns expressed in these comments have not been addressed, Army Corps should not move forward with NWP 48 without full environmental analysis and public participation.

Given the past problems with NWP 48 in Washington state, *see* Exhibit B at 6-10, Army Corps should not use NWP 48 in Washington State at all, and instead issue regional general permits based on unique water bodies (Willapa Bay; South and North Puget Sound), and individual permits for new operations. A nationwide permit is only appropriate if the cumulative impact of all activities permitted will have only minimal

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<sup>1</sup> *See generally* The Center for Food Safety, <http://www.centerforfoodsafety.org>.

<sup>2</sup> <sup>2</sup> CFS Comments on Proposal to Reissue and Modify Nationwide Permits; Docket Number COE-2015-0017 / RIN 0710-AA73 (August 1, 2016), submitted via Regulations.gov, Tracking No. 1k0-8r3f-2q1x (Attached as Exhibit A); CFS Comments on Nationwide Permit 48 (Commercial Shellfish Activities) Regional Issues (August 19, 2016) (attached as Exhibit B).

**NATIONAL HEADQUARTERS**

660 Pennsylvania Avenue, SE, Suite 302  
Washington, D.C. 20003  
T: 202-547-9359 F: 202-547-9429

**CALIFORNIA OFFICE**

303 Sacramento Street, 2nd Floor  
San Francisco, CA 94111  
T: 415-826-2770 F: 415-826-0507

**PACIFIC NORTHWEST OFFICE**

917 SW Oak Street, Suite 300  
Portland, OR 97205  
T: 971-271-7372 F: 971-271-7374

**HAWAII OFFICE**

1132 Bishop Street, Suite 2107  
Honolulu, Hawaii 96813  
T: 808-681-7688

[office@centerforfoodsafety.org](mailto:office@centerforfoodsafety.org)

[centerforfoodsafety.org](http://centerforfoodsafety.org)

adverse impacts to the environment. 33 U.S.C. § 1344(e)(1). As written, the proposed NWP 48 and regional conditions will likely have more than “minimal” adverse impacts cumulatively. The terms adopted for the 2017 version of NWP 48 are even more lax than prior versions (*See* Exhibit A), and Army Corps has completely failed to disclose to the public how adverse cumulative impacts from an even more permissive NWP 48 will be only “minimal.” For NWP 48 to be lawful under the Clean Water Act (33 U.S.C. § 1344(e)(1)), Army Corps must go back to the drawing board and create regional conditions for NWP 48 that will mitigate the negative impacts of intensive, industrial commercial shellfish aquaculture in Washington’s unique and vital nearshore and tidal ecosystems. Further, Army Corps must comply with the National Environmental Policy Act (NEPA) and fully evaluate the environmental impacts of implementing NWP 48 as proposed in Washington, as well as a reasonable range of alternative options. Finally, Army Corps must ensure that any general commercial shellfish permitting complies with its duties under the Endangered Species Act (ESA) and Magnuson-Stevens Act (MSA) to protect sensitive and listed species. After completing a programmatic consultation for shellfish permitting, Army Corps has a set of conditions and recommendations from the expert wildlife services and it is legally required to ensure its permitting follows these conditions to protect threatened and endangered species and Essential Fish Habitat.

While shellfish aquaculture is a valuable industry, it is in the public interest to ensure that this industry does not cause harm to the environment. Clean water and healthy balanced ecosystems are *also* essential to the shellfish industry. Even faced with industry pressure, the Army Corps has a duty to protect the public interest, which includes a healthy shoreline and ecosystem for all life, including humans and native species. Indeed, one of Army Corps’ primary missions is environmental protection.<sup>3</sup> The regional conditions proposed for NWP 48, especially given the removal of Regional General Conditions 10 and 14, will not mitigate adverse environmental impacts or result in only minimal adverse effects and must be significantly strengthened.

## **I. Impacts from Intensive Commercial Shellfish Aquaculture.**

Many of the impacts of shellfish aquaculture are outlined in past comments from CFS (*see* Exhibits A and B) and other groups.<sup>4</sup> Expert wildlife agency U.S. Fish & Wildlife Service has also expressed grave concerns with NWP 48 as currently proposed, and the cumulative impacts it would allow without adequate mitigation or information collection.<sup>5</sup>

In the recent Programmatic Biological Opinion from the National Marine Fisheries Service (NMFS), NMFS found that shellfish activities in Washington were likely to adversely

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<sup>3</sup> *See* <http://www.nws.usace.army.mil/Missions/Environmental/>.

<sup>4</sup> *See e.g.* Coalition to Protect Puget Sound Habitat Comments on NWP48 Shellfish Aquaculture Regional Conditions (August 18, 2016); Wash. Dept. of Ecology Comments on Regional Conditions for the 2017 Reissuance and Modifications of Nationwide Permits (August 19, 2016) at 4-5; Northwest Indian Fisheries Commission Comments re: Proposal to Reissue and Modify Nationwide Permits, Docket No. COE-2015-0017 and RIN 0710-AA73 (August 1, 2016) at 1-6.

<sup>5</sup> U.S. Fish & Wildlife Service Comments for the Proposed 2017 Nationwide Permits and Seattle District Regional Conditions (Aug. 18, 2016) at 11.

affect four listed species: canary rockfish; Puget Sound Chinook salmon; Hood Canal summer-run chum salmon; and Southern DPS green sturgeon.<sup>6</sup> The Biological Opinion listed the ways in which commercial shellfish activities can adversely impact these species directly and indirectly, and harm the habitat that they rely on. *Id.* at 62-90. This includes impacts from the use of pesticides on shellfish beds, specifically the currently permitted herbicide imazamox to kill non-native eelgrass in Willapa Bay/Grays Harbor. *Id.* at 81-83. This Biological Opinion did not analyze potential impacts from the proposed use of imidacloprid (a neonicotinoid insecticide) on shellfish beds to kill native burrowing shrimp, but a discharge permit for this pesticide is currently pending before Dept. of Ecology, and if granted add significantly to the environmental impacts associated with commercial shellfish aquaculture. Even if commercial shellfish aquaculture does not directly jeopardize the continued existence of ESA-protected species, it has serious impacts to both those species and other native wildlife, including on Essential Fish Habitat protected by the MSA. U.S. Fish & Wildlife (FWS) also issued a Biological Opinion for bull trout and marbled murrelet, including an Incidental Take Statement for bull trout.<sup>7</sup> Like the NMFS Biological Opinion, although FWS found that shellfish activities as proposed would not jeopardize the continued existence of the bull trout or marbled murrelet, it did outline the potential adverse impacts to these species. Army Corps must take these impacts into account because a nationwide permit cannot be issued if there would be more than minimal cumulative adverse environmental impacts, and the fact that the shellfish permitting contemplated by Army Corps over the next 20 years is likely to adversely affect listed species and Essential Fish Habitat negates this requirement of only minimal adverse impacts.

To the extent the Seattle District analyzed the cumulative impacts of commercial shellfish aquaculture in Washington as to listed species as part of its consultation with the Services, this information must be used to analyze the overall impacts to the environment and public interest from issuing NWP 48 with basically no regional conditions. This must include public participation, unlike the ESA consultation process. The impacts of allowing new operations under NWP 48 in 2012 (resulting in nearly 1000 approvals) have never been fully analyzed, and this lack of information does not allow the public to make meaningful comment potential regional conditions for a 2017 NWP 48. The Seattle District has completed no NEPA analysis of its proposal to adopt the 2017 NWP 48 in Washington with the proposed regional conditions, and the NEPA documentation from Army Corps Headquarters is woefully adequate, failing to even address the impacts specific to shellfish aquaculture to the nation's tidelands. *See* Exhibit A. This lack of information about possible regional conditions and alternatives and the environmental impacts from each option leaves the public hamstrung to assess potential regional conditions that might mitigate the cumulative harms from a 2017 NWP 48.

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<sup>6</sup> NMFS, *Endangered Species Act Section 7 Formal Biological Programmatic Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Shellfish Aquaculture Activities in Washington State* (COE Reference Number NWS-2014-12) (Sept. 2, 2016).

<sup>7</sup> FWS, *Endangered Species Act Section 7 Consultation: Biological Opinion Programmatic Consultation for Shellfish Activities in Washington State Inland Marine Waters* (Aug. 26, 2016).

## II. Army Corps Must Comply with NEPA and Prepare an Environmental Impact Statement for 2017 NWP 48 in Washington.

The National Environmental Policy Act (NEPA) is “our basic national charter for protection of the environment.”<sup>8</sup> NEPA emphasizes the importance of comprehensive environmental analysis to ensure that federal agencies make informed decisions and requires federal agencies to assess the environmental consequences of their actions before those actions are undertaken. NEPA “ensures that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience.”<sup>9</sup> NEPA also established the Council on Environmental Quality (CEQ).<sup>10</sup> The regulations subsequently promulgated by CEQ, 40 C.F.R. §§ 1500-1508, implement the directives and purpose of NEPA, and “[t]he provisions of [NEPA] and [CEQ] regulations must be read together as a whole in order to comply with the spirit and letter of the law.”<sup>11</sup> CEQ’s regulations are applicable to and binding on all federal agencies.<sup>12</sup> Among other requirements, CEQ’s regulations mandate that federal agencies address all “reasonably foreseeable” environmental impacts of their proposed programs, projects, and regulations.<sup>13</sup> This must include analyses of direct, indirect, and cumulative effects.<sup>14</sup> The assessment must be a “hard look” at the potential environmental impacts of its action.<sup>15</sup>

Army Corps must prepare an Environmental Impact Statement (EIS) for all major federal actions significantly affecting the environment. 42 U.S.C. § 4332(C). Agencies may prepare an Environmental Assessment (EA) (§ 1508.9) to determine whether the action will or will not significantly affect the environment (*see* significance factors at § 1508.27) and whether an EIS is needed, and then may prepare a finding of no significant impact (§ 1508.13) if the agency determines on the basis of the environmental assessment not to prepare an EIS. 40 C.F.R. § 1501.4(b), (e).

The Seattle District has not even attempted to follow NEPA’s procedures and mandates here. Instead, the Seattle District proposes to adopt 2017 NWP 48 in Washington with only 2 regional conditions specific to NWP 48 and without completing any NEPA analysis of the impacts of this proposal or any alternatives. NEPA requires federal agencies, including Army Corps, to prepare an environmental impact statement (EIS) for all “major Federal actions significantly affecting the quality of the human environment.”<sup>16</sup> In other words, if the action may significantly affect the environment, Army Corps must

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<sup>8</sup> 40 C.F.R. § 1500.1(a).

<sup>9</sup> *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349(1989).

<sup>10</sup> *See* 42 U.S.C. §§ 4321, 4344.

<sup>11</sup> 40 C.F.R. § 1500.3.

<sup>12</sup> 40 C.F.R. §§ 1500.3, 1507.1; *see, e.g., Hodges v. Abraham*, 300 F.3d 432, 438 (4th Cir. 2002).

<sup>13</sup> *See* 40 C.F.R. §§ 1502.4, 1508.8, 1508.18, & 1508.25.

<sup>14</sup> *See* 40 C.F.R. §§ 1508.8, .9, .13, .18.

<sup>15</sup> *Blue Mountains Biodiversity v. Blackwood*, 161 F.3d 1208, 1211 (9th Cir. 1998); *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 731 (9th Cir. 2001) (quoting 40 C.F.R. § 1508.27).

<sup>16</sup> 42 U.S.C. § 4332(2)(C).

prepare an EIS.<sup>17</sup> Here, the Seattle District has not prepared even an EA to determine whether an EIS is needed, nor any finding of no significant impact. The “Decision Document” from Army Corps Headquarters for NWP 48, obstensibly the NEPA analysis for NWP 48, is extremely lacking in any information pertaining to *shellfish aquaculture* and does not explain how the action is insignificant, and therefore not requiring an EIS.<sup>18</sup> Given the reality that 92% of the authorizations under the 2012 NWP 48 were in Washington, it is necessary that Army Corps consider the impacts of NWP 48 in Washington State specifically, but here Army Corps has not even completed an Environmental Assessment, much less an EIS. This is particularly problematic when the national Decision Document clearly contemplates that additional analysis will be completed at the regional or district level. In the Decision Document for NWP 48, Army Corps HQ stated:

An important aspect for the NWPs is the emphasis on regional conditions to address differences in aquatic resource functions, services, and values across the nation. All Corps divisions and districts are expected to add regional conditions to the NWPs to enhance protection of the aquatic environment and address local concerns. Division engineers can also revoke an NWP if the use of that NWP results in more than minimal individual and cumulative adverse environmental effects, especially in high value or rare wetlands and other waters. **When an NWP is issued or reissued by the Corps, division engineers issue supplemental decision documents that evaluate potential impacts of the NWP at a regional level, and include regional cumulative effects assessments.**

Army Corps Draft Decision Document Nationwide Permit 48, at 7 (emphasis added). Indeed, Army Corps relies entirely on regional conditions and regional analysis to ensure that the adverse environmental impacts of NWPs will be no more than minimal. *Id. and see generally* Decision Document NWP 48. Now that the Army Corps has adopted the 2017 NWP 48,<sup>19</sup> the Seattle Division must complete NEPA analysis with public participation before adopting 2017 NWP 48 (including any regional conditions) for Washington State. Army Corps disregards the significant environmental harms of commercial shellfish aquaculture in Washington and has violated NEPA by completely failing to follow even its most basic requirements.

### III. Army Corps Must Comply with ESA and Incidental Take Statement.

While the Army Corps has failed at the national level to consult with the Services under the ESA or MSA, the Seattle District just completed programmatic consultation for shellfish permitting over the next 20 years under the ESA and MSA. As discussed above, that process indicated adverse impacts to at least 6 listed species and Essential Fish Habitat. Importantly, the Incidental Take Statements issued by NMFS and FWS include specific mandatory requirements that Army Corps must ensure are followed in all

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<sup>17</sup> *Steamboaters v. FERC*, 759 F.2d 1382, 1392 (9th Cir. 1985); *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998) (citation omitted).

<sup>18</sup> Exhibit A at 9-12.

<sup>19</sup> Issuance and Reissuance of Nationwide Permits, 82 Fed. Reg. 1860, 1922-1931 (Jan. 6, 2017) (adopting proposed NWP 48 without change).

commercial shellfish aquaculture permitting. NMFS BiOp at 96-98 (listing non-discretionary Reasonable and Prudent Measures and Terms and Conditions of the Incidental Take Statement); FWS BiOp at 205-207 (same). Army Corps must follow the terms and conditions of its Incidental Take Statements when fashioning regional conditions to the NWP 48. 50 CFR §§ 402.02, 402.12. This includes both conditions like “mechanical dredge harvest shall not be conducted in [North Puget Sound] between April 1 through August 31,” and requirements for information gathering and reporting. NMFS BiOp at 97. At a minimum, Seattle District must include as regional conditions to NWP 48 anything necessary to comply with all terms and conditions in the Incidental Take Statements.

More generally, the Seattle District provided 28 “Conservation Measures” in its biological assessment that formed the basis for the proposed action that NMFS and FWS consulted on and analyzed. *See* Army Corps Biological Assessment 2015 at 49-53. In its 2015 biological assessment, Army Corps stated that these “Conservation Measures will be Permit Conditions that are tied to individual permits or NWP verifications issued by the Corps authorizing shellfish activity.” *Id.* at 49. These conservation measures should be included as regional condition for NWP 48 to make it clear that they are required.

#### **IV. Regional Conditions to NWP 48**

As stated above, at minimum Army Corps must include all “conservation measures” listed in its biological assessment and all terms and conditions identified in the Incidental Take Statements as regional conditions to NWP 48.

In addition to these, Army Corps should apply Regional General Conditions 10 and 14 to NWP 48, as originally proposed in the Army Corps’ November 23, 2016 Special Public Notice. Army Corps provided no reasoning behind its decision to go back on this proposal when it announced the revocation of Regional General Conditions 10 and 14 for NWP 48. *See* Clarification to November 23 Special Public Notice (November 20, 2016).<sup>20</sup> Condition 10 requires avoidance of submerged aquatic vegetation, and a delineation of the same with a PCN. Condition 14 requires that temporary impacts to national waters not extend past 6 months without a waiver and includes revegetation requirements and monitoring of the recovery of submerged aquatic vegetation. Both of these conditions are necessary to ensure that impacts to eelgrass from shellfish aquaculture are not more than minimal. Eelgrass provides crucial habitat and should be protected. The Clarification directs users of NWP 48 instead to national General Conditions 23 and 32. General Condition 23 requires the avoidance of temporary and permanent impacts to waters to the extent practicable,<sup>21</sup> which is not the same as Regional Condition 14’s requirement that temporary impacts not exceed

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<sup>20</sup> While CFS appreciates the extended comment period, it is unclear where Army Corps posted this “Clarification” notice, as it does not appear on the Seattle District website under Public Notices, News and Updates, or anywhere else discernable, while the Nov. 23 notice is easily found under “2017 NWP Reissuance Process” at <http://www.nws.usace.army.mil/Missions/Civil-Works/Regulatory/News-and-Updates/>. CFS hopes that any stakeholders who commented by the Dec. 23, 2016 deadline as to the proposed regional conditions as of Nov. 23 were provided the new “Clarification” and the opportunity to comment on the new proposed regional conditions.

<sup>21</sup> Issuance and Reissuance of Nationwide Permits, 82 Fed. Reg. 1860, 2001 (Jan. 6, 2017).

6 months unless a waiver is granted, nor does General Condition 23 address monitoring of submerged aquatic vegetation. General Condition 23 is not a substitute for Regional General Condition 14 and Army Corps should not excuse shellfish aquaculture from compliance with Regional General Condition 14. General Condition 32<sup>22</sup> lists requirements for timing and contents of PCNs, but it does not require avoidance of submerged aquatic vegetation like Regional General Condition 10, nor does it specifically require delineation of submerged aquatic vegetation like eelgrass. Thus, General Condition 32 is not a substitute for Regional General Condition 10 and Army Corps should not excuse shellfish activities from compliance with Regional General Condition 10's requirement that eelgrass be avoided to the maximum extent possible. Delineation of eelgrass must be required for each approval under NWP 48 to ensure that Army Corps has enough information to first assess potential impacts to eelgrass habitat from a proposed activity, to monitor/require monitoring of impacts to eelgrass, and to assess the cumulative impact of all shellfish aquaculture on eelgrass in Washington during the life of the permit. Without individual submerged aquatic vegetation delineations there is no way Army Corps will be able to prevent and mitigation impacts from shellfish in the first instance, and assess cumulative impacts over 5 years of NWP 48.

Further, Army Corps should include a regional condition for NWP 48 that requires a PCN for *all* activities/operations seeking coverage under NWP 48. This is the only way for Seattle District to properly assess the potential impact of each operation, and collect this information to effectively assess cumulative impacts. As adopted, NWP 48 will only require PCNs in very limited circumstances that do not apply to most shellfish aquaculture in Washington. Despite the egregious PCN requirements in the national 2017 NWP 48, the national General Condition 18 requires a PCN whenever the activity "might affect" protected species, and given the recent ESA consultation with NMFS and FWS, it is clear that *all* shellfish aquaculture in Washington "might affect" listed species (especially given Army Corps' definition of "might affect" as a lower threshold than "may affect" under the ESA regulations). Given the unique situation in Washington, Army Corps knows ahead of time that all approvals under NWP 48 "might affect" protected species, so Seattle District should just require PCNs for all approvals as a specific regional condition to NWP 48 to make this clear to applicants. Not only is the "might affect" standard likely to be confusing to applicants, it is the Army Corps that has the duty to make the "effects" determinations for ESA consultation, as the federal agency with a duty to protect and not jeopardize listed species. Requiring a PCN at the outset will also allow Seattle District to determine whether a given operation/activity is covered under the programmatic consultation with NMFS and FWS, or whether additional ESA consultation is required.

Finally, because operations that conduct certain activities have more environmental impacts than others, the NWP 48 in Washington should only cover certain types of operations that use low-impact methods. For example, Seattle District should make it a condition of the NWP 48 that no pesticide (herbicide, insecticides, etc) applications are allowed in operations covered by NWP 48. Pesticide application to shellfish beds has the potential to have far more than minimal environmental impacts. Further, these operations were not covered under Seattle District's programmatic consultations. *See* NMFS BiOp at 10; FWS BiOp at 32. Additionally, because anti-predator plastic netting has a high

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<sup>22</sup> *Id.* at 2003.

potential to trap and injure wildlife, and to become dislodged and/or break down and contaminate the environment, Seattle District should include a specific regional condition to NWP 48 prohibiting the use of plastic anti-predator netting. The Seattle District should include other options like these two examples in its NEPA documentation, when it assesses alternatives (both to NWP 48 at all, and to different regional conditions that might mitigate the impacts of shellfish aquaculture allowed under NWP 48).

CFS has no problem with the two currently proposed regional conditions, but they are far from what is necessary to mitigate the impacts of NWP 48 to keep cumulative impacts no more than minimally adverse.

## **Conclusion**

The newly adopted 2017 NWP 48 is even more lax than the 2012 version, which was heavily used in Washington without any analysis of the impacts of allowing such an increase in shellfish aquaculture. While shellfish farming can be practiced in a way that has low impact, the intensive and constant aquaculture being practiced by most operators in Washington has real cumulative impacts to the environment, which are more than minimal. Army Corps Seattle District cannot adopt 2017 NWP 48 if it will have more than minimal cumulative adverse impacts to the environment. Seattle District should go back to the drawing board and instead of adopting the highly flawed NWP 48, instead adopt regional general permits specific to each area (e.g. Willapa Bay, South Puget Sound, North Puget Sound, Hood Canal) in Washington. If Seattle District does propose to use NWP 48, it must first comply with NEPA and analyze the direct, indirect, and cumulative impacts of a reasonable range of alternatives. Further, any NWP 48 in Washington must have regional conditions that comply with the requirements in both NMFS and FWS Incidental Take Statements, the conservation measures identified by Seattle District in its biological assessment, Regional General Conditions 10 and 14, and any other conditions necessary to ensure that the cumulative impact of NWP 48 in Washington will not be more than minimally adverse to the environment. The regional conditions currently proposed by Seattle District was woefully inadequate to meet these requirements.

Respectfully Submitted,



Amy van Saun  
Legal Fellow  
Center for Food Safety  
917 SW Oak St. Suite 300  
Portland, OR 97205  
(971) 271-7372  
[avansaun@centerforfoodsafety.org](mailto:avansaun@centerforfoodsafety.org)





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SUBMITTED VIA REGULATIONS.GOV

U.S. Army Corps of Engineers  
Attn: CECW-CO-R  
441 G Street NW  
Washington, DC 20314-1000  
NWP2017@usace.army.mil

Re: Comments on Proposal to Reissue and Modify Nationwide Permits; Docket Number  
COE-2015-0017 / RIN 0710-AA73

Thank you for the opportunity to comment on the U.S. Army Corps of Engineers' (USACE or Corps) proposed reissuance of existing nationwide permits (NWP). These comments are submitted on behalf of Center for Food Safety (CFS). CFS also joins the comments of Center for Biological Diversity (dated July 28, 2016), and provides this additional comment regarding NWP 48, for commercial shellfish aquaculture activities.

Center for Food Safety is a nationwide nonprofit membership organization that works to protect human health and the environment by curbing harmful food production technologies and by promoting organic and sustainable agriculture. Our membership includes over 750,000 farmers and consumers across the country, who support truly sustainable food and care about the impact of our food production system on our environment and public health.

The currently proposed NWP 48 is a step backwards, and as written cannot ensure that shellfish aquaculture will be limited to only minimal adverse effects to the environment. It is true that the human population is growing and needs a reliable source of protein, and that wild fisheries are severely stressed and overexploited. However, this is all the more reason to ensure that the growing shellfish aquaculture sector is environmentally sound and sustainable. Shellfish aquaculture should not make the same mistakes that terrestrial agriculture has made, like the destruction of habitat and pollution of waterways. Intensive shellfish aquaculture in the U.S. is threatening to do just that, and so it is of utmost importance that the permitting of these activities prevents shellfish growing from having adverse impacts to the aquatic environment. It is even more important that the Corps take the lead in protecting the waterways of the U.S. from poorly-managed intensive shellfish production, as there may be no state environmental permitting requirements for many of

**NATIONAL HEADQUARTERS**  
660 Pennsylvania Avenue, SE, Suite 302  
Washington, D.C. 20003  
T: 202-547-9359 F: 202-547-9429

**CALIFORNIA OFFICE**  
303 Sacramento Street, 2nd Floor  
San Francisco, CA 94111  
T: 415-826-2770 F: 415-826-0507

**PACIFIC NORTHWEST OFFICE**  
917 SW Oak Street, Suite 300  
Portland, OR 97205  
T: 971-271-7372 F: 971-271-7374

**HAWAII OFFICE**  
1132 Bishop Street, Suite 2107  
Honolulu, Hawaii 96813  
T: 808-681-7688

these operations. The Corps must protect the public interest and the environment, by conditioning any general permit (nationwide or regional) to protect clean water and wildlife habitat, especially for threatened and endangered species. These waters, after all, are a public resource and the intertidal ecosystems where shellfish are commercially raised are essential habitat for wildlife. As written, the Corps' analysis is inadequate under National Environmental Policy Act (NEPA), and the Corps has failed to consult with the National Marine Fisheries Service (NMFS) or the U.S. Fish and Wildlife Service (FWS) as required under the Endangered Species Act (ESA).

Thus, USACE should not re-issue NWP 48 due to the possibility of negative cumulative impacts which will go unmonitored, instead leaving it to Division and District engineers to issue individual permits or regional general permits where appropriate. If USACE decides to continue forward with a NWP for commercial shellfish aquaculture, it must first complete an environmental impact statement and consultation with the Services as to impacts on threatened and endangered species. Even then, CFS urges USACE to limit the nationwide general permit to only those shellfish aquaculture activities known to have limited negative impacts to the environment.

## **I. Legal Obligations**

### **A. National Environmental Policy Act**

The National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment. 40 C.F.R. § 1500.1. NEPA requires a federal agency to prepare a detailed environmental impact statement (EIS) for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). NEPA "ensures that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

If the federal action *may* significantly affect the environment, APHIS *must* prepare an EIS. *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998) (citation omitted); *Steamboaters v. U.S. Fed. Energy Regulatory Comm.*, 759 F.2d 1382, 1392 (9th Cir. 1985). To determine if an action may significantly affect the environment, an agency may prepare an environmental assessment (EA). 40 C.F.R. § 1508.9. If the agency determines that the action will not have a significant impact, the agency must supply a "convincing statement of reasons" to explain the action's impacts are insignificant. *Save the Yaak v. Block*, 840 F.2d 714, 717 (9th Cir. 1988). The EA must "provide sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact." *Id.* NEPA regulations require the agency to analyze (take a hard look at) all direct, indirect, and cumulative impacts. *See* 40 C.F.R. §§ 1508.8, 1508.9, 1508.13, 1508.18, 1508.27. Cumulative impacts include the incremental impact of the proposed action when added to all past, present, and reasonably foreseeable actions, taken not just by the agency, but by any entity. *Id.* § 1508.7. A thorough consideration of cumulative impacts is required in the preparation of an EA. *See, e.g., Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002).

Whether an action is significant requires consideration of the “context” and “intensity” factors, and an action may be “significant” if even one of the factors is present. *Id.* § 1508.27; *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 361 F.3d 1108, 1125 (9th Cir. 2004); *see Nat’l Parks & Conservation Ass’n*, 241 F.3d at 731 (either degree of uncertainty or controversy “may be sufficient to require preparation of an EIS in appropriate circumstances”).

## **B. Endangered Species Act**

As recognized by the U.S. Supreme Court, the Endangered Species Act (ESA) is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation” and “reveals a conscious decision by Congress to give endangered species priority over the ‘primary missions’ of federal agencies.” *Tenn. Valley Authority v. Hill*, 437 U.S. 153, 180, 185 (1978).

Section 7(a)(2) of the ESA requires every federal agency to consult the appropriate federal fish and wildlife agency (the Services, NMFS or FWS) to “insure” that the agency’s actions are not likely “to jeopardize the continued existence” of any listed species or “result in the destruction or adverse modification” of critical habitat. 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.01(b).

To facilitate compliance with section 7(a)(2)’s prohibitions on jeopardy and adverse modification, the ESA requires each federal agency that plans to undertake an action to request information from the Services regarding “whether any species which is listed or proposed to be listed [as an endangered species or a threatened species] may be present in the area of such proposed action.” 16 U.S.C. § 1536(c)(1). If the Services advise the agency that listed species or species proposed to be listed may be present, the agency must then prepare a biological assessment for the purpose of identifying any such species that are likely to be affected by the proposed agency action. *Id.* If an agency determines that its proposed action “may affect” any listed species and/or their critical habitat, the agency generally must engage in formal consultation with FWS. 50 C.F.R. § 402.14. The only way to forego formal consultation is a written concurrence from the Services with a “not likely to adversely affect” determination by the action agency, after informal consultation. *Id.* and § 402.13. At the end of the formal consultation, the Services must provide the agency with a “biological opinion” detailing how the proposed action will affect the threatened or endangered species and/or critical habitats, including a jeopardy opinion and any conservation or mitigation measures and an incidental take statement. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

## **C. Magnuson-Stevens Act**

The Magnuson-Stevens Act (MSA) established procedures to identify, conserve, and enhance Essential Fish Habitat (EFH) for species regulated under a federal Fisheries Management Plan. 16 U.S.C. §§ 1801 *et seq.* The MSA requires consultation with NMFS on all actions, including proposed actions, which may adversely affect EFH. 16 U.S.C.A. § 1855(b)(2). To “adversely affect” means any impact that reduces the quality and/or quantity of EFH, and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts,

including individual, cumulative, or synergistic consequences of actions. 50 C.F.R. § 600.810. When NMFS is consulted on impacts to EFH under this act, it must “recommend to such agency measures that can be taken by such agency to conserve such habitat,” and should the action agency fail to adopt those measures it must explain its reasons for not following those measures. 16 U.S.C. § 1855(4).

## **II. Impacts of Shellfish Aquaculture in the Northwest**

Shellfish aquaculture is not only practiced in the Pacific Northwest, but it has been practiced in Washington State for over 100 years. Recently, this shellfish cultivation has expanded, in both intensity and in geographic scope (particularly in areas like Puget Sound). Thus, the experiences in Washington are both instructive as a cautionary tale for the rest of the nation, and also indicate that a nationwide permit should not cover Washington.

### **A. NWP 48 Overuse in Washington**

When the NWP 48 was re-issued in 2012, it included not just existing shellfish operations (as in the 2007 permit), but also new operations. The Seattle District engineer required a pre-construction notification (PCN) for all new/expanding NWP 48 activities in Washington (or ones that may affect ESA-listed species, per General Condition 18), but predicted that the permit would only be used around 50 times a year, or 250 times over the 5-year life of the permit.<sup>1</sup> The Corps’ analysis was thus limited to this predicted cumulative impact. However, in reality NWP 48 was used over 920 times from 2012 to 2016, affecting approximately 37,000 acres. The Seattle District issued 92% of all NWP authorizations in the nation during the 2012 NWP period, so when the Corps evaluates the NWP 48 now, it should concede that it is primarily evaluating these commercial shellfish activities as they will be conducted in Washington State. The overuse of NWP 48 to cover new and expanding operations in Washington has covered the expansion of intense shellfish aquaculture operations from the historically cultivated Willapa Bay into previously undisturbed areas in Puget Sound.<sup>2</sup>

### **B. Conversation of Natural Intertidal Ecosystems**

The intertidal areas where shellfish are grown are essential habitats for many species, including invertebrates (such as commercially important Dungeness crab), finfish (including herring and salmon), and birds (migratory and shorebirds). This includes species listed as threatened and endangered and protected under the ESA. In particular, Willapa Bay serves as critical habitat for green sturgeon (feeding) and many listed salmon populations rear and feed in Washington’s coastal waters (Puget Sound and Willapa Bay). These areas are habitat for many varieties of wildlife, serve

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<sup>1</sup> See USACE Seattle District, *Supplement to the National Decision Document for 2012 Nationwide Permit 48 and Regional General Conditions*, 31 (March 19, 2012).

<sup>2</sup> See e.g. Coastal Geologic Services, *Map of Known Existing and Proposed Shellfish Farm Locations in South Puget Sound*, from 2012-2014, attached as Exhibit A.

as nurseries, and have important roles in cycling nutrients.<sup>3</sup> Much of the intertidal areas in Washington still support eelgrass, which is declining in the rest of the world. Eelgrass or seagrass is a highly valued and protected native habitat for many species of fish, invertebrates, and birds, including migratory and shorebirds.<sup>4</sup> Eelgrass is known as an “ecosystem engineer” because it can partially create its own habitat by slowing down water flow, while its roots and rhizomes bind and stabilize sediments. Although it was introduced, Japanese eelgrass (*Z. japonica*) provides many of the same food, shelter, and habitat functions as native *marina* eelgrass in Washington (and now grows along the entire Pacific coast from Humboldt, California to British Columbia).<sup>5</sup>

As the production of shellfish in Washington intensifies, more of the natural tidelands are being converted to shellfish production. While *wild* bivalves are known to clean water, the water quality impacts of intensive shellfish aquaculture may not always be beneficial; to the contrary, many aquaculture activities negatively affect water quality by the removal of eelgrass, the increase of wastes from concentrated production, and the disruption of sediments. There are no studies, and none described by the Corps, to verify the claim that shellfish clean the water. One of the most significant potential environmental impacts from dense shellfish aquaculture is a reduction in shoreline biodiversity. Monocultures of shellfish can fundamentally alter ecosystems by consuming nutrients previously relied on by native species, depositing waste on the seabed, and changing the physical dynamics of an environment.<sup>6</sup>

The various activities associated with shellfish aquaculture change the intertidal area, and do so perennially (oysters, for example, are grown out for 3-4 years), with impacts of the different stages of shellfish culture continuing year after year. These include bed preparation (or “cleaning,” which entails removal of native species, like sand dollars), seeding, grow out, and harvest. Bed preparation and harvest activities can temporarily increase turbidity and total suspended solids.<sup>7</sup> Some

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<sup>3</sup> Bendell-Young, L.I., *Contrasting the community structure and select geographical characteristics of three intertidal regions in relation to shellfish farming*, Environmental Conservation (2006).

<sup>4</sup> NMFS, *Endangered Species Act – Section 7 Programmatic Consultation Biological and Conference Opinion And Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Nationwide Permit 48 Washington*, 36-37 (Apr. 28, 2009) (NMFS 2009 BiOp).

<sup>5</sup> Mach, M.E., S.W. Wyllie-Echeverria, and J. R. Ward. 2010. *Distribution and potential effects of a non-native seagrass in Washington State. Zostera japonica* Workshop, Friday Harbor Laboratories, San Juan Island, WA. Report prepared for Washington State Department of Natural Resources and Washington Sea Grant, available at [http://file.dnr.wa.gov/publications/aqr\\_zostera\\_study.pdf](http://file.dnr.wa.gov/publications/aqr_zostera_study.pdf).

<sup>6</sup> See *id.*; Bouwman, L., A. Beusen P. M Glibert, C Overbeek, M Pawlowski, J. Herrera S. Mulsow, R. Yu, and M. Zhou, *Mariculture: significant and expanding cause of coastal nutrient enrichment*, Environ. Res. Lett. 8 (2013); DeFur, P. and D.N. Rader, *Aquaculture in estuaries: Feast or famine?* Estuaries Vol. 18, No. 1A (1995); Hastings, R.W. and D.R. Heinle, *The effects of aquaculture in estuarine environments: Introduction to the dedicated issue*, Estuaries Vol. 18, No. 1A (1995); Dethier, M., *Native shellfish in nearshore ecosystems of Puget Sound*, Puget Sound Nearshore Partnership Report No. 2006-04, Published by Seattle District, U.S. Army Corps of Engineers, Seattle, Washington (2006); Diana, J.S., H. S. Egna, T. Chopin, M.S. Peterson, L. Cao, R. Pomeroy, M. Verdegem, W.T. Slack, M.G. Bondad-Reantaso, and F. Cabello, *Responsible Aquaculture in 2050: Valuing Local Conditions and Human Innovations Will Be Key to Success*, Bioscience, Vol. 63(4) (2013); Bendell, L.I. and P.C.Y. Wan, *Application of aerial photography in combination with GIS for coastal management at small spatial scales; a case study of shellfish aquaculture* (2013).

<sup>7</sup> See *id.* and NMFS 2009 BiOp at 39.

activities, e.g. tilling, harrowing, dredge harvest and geoduck harvest, can remove submerged aquatic grass, i.e. eelgrass.<sup>8</sup> Shellfish growing activities can thus cause benthic disturbance.<sup>9</sup>

### C. Plastics

Another extremely disturbing aspect of commercial shellfish aquaculture in Washington, in particular, is the use of plastic gear, including PVC geoduck tubes (using over 43k tubes/acre), plastic anti-predator netting (high-density polyethylene), and plastic ropes for oyster long-lines (polyolefin). This gear adds plastic pollution to the intertidal waters and beaches, with grave impacts to wildlife, aesthetics, and food safety.



Figure 1 Left: Geoduck PVC tubes stuck into tidebed in Totten Inlet, WA. Right: Aerial shot of PVC tubes and oyster bags in WA.

Anti-predator netting traps wildlife, excludes wildlife from its habitat, and may become dislodged and transported. This netting actually provides little benefit to the industry despite its cost in terms of nearshore impacts and plastics pollution.<sup>10</sup>

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<sup>8</sup> *Id.* at 39; see also Dumbauld, Brett & McCoy, Lee M., *Effect of oyster aquaculture on seagrass Zostera marina at the estuarine landscape scale in Willapa Bay, Washington (USA)*, *Aquaculture Environment Interactions* Vol. 7 (2015) (finding that mechanical harvesting of oysters in Willapa Bay caused significant decrease in *z. marina* eelgrass).

<sup>9</sup> NMFS 2009 BiOp at 40.

<sup>10</sup> Bendell, L.I., *Favored use of anti-predator netting (APN) applied for the farming of clams leads to little benefits to industry while increasing nearshore impacts and plastics pollution*, *Marine Pollution Bulletin* (2015).





**Figure 2: Left: A juvenile bald eagle is caught in an aquaculture net on Harstine Island, WA. Right: Remains of bird caught beneath anti-predator net**

This plastic gear also breaks down into microplastics, and act as an additional source of plastic contamination in the ocean.<sup>11</sup> Microplastics absorb toxic pollutants already present in the water, and are being ingested by the very bivalves being cultivated.<sup>12</sup> These microplastics act like a poison pill to aquatic life that consume them, and have been shown to reduce oyster's reproductive ability.<sup>13</sup>



**Figure 3 Left: Yellow rope used in long-line culture growing through oyster shell. Right: PVC tube degrading**

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*; Kieran Mulvey, *Oysters Are Munching Our Microplastics*, Discovery News, <http://goo.gl/hJn5Ov>.

<sup>13</sup> Chelsea Harvey, *All the plastic that we're throwing in the oceans could be hurting baby oysters*, Washington Post (Feb. 2, 2016); Rossana Sussarellu, *et al.*, *Oyster reproduction is affected by exposure to polystyrene microplastics*, PNAS 2016 113 (9) 2430-2435 (February 1, 2016); Oona M. Lönnstedt\* and Peter Eklöv, *Environmentally relevant concentrations of microplastic particles influence larval fish ecology*, Science (June 3, 2016); Lisbeth Van Cauwenberghe, Colin R. Janssen, *Microplastics in bivalves cultured for human consumption*, Environmental Pollution (2014).

## D. Pesticides

Finally, Washington State is the only state that allows pesticide use with shellfish aquaculture. Pesticides are meant to harm or kill living organisms, so their use has a high potential for adverse effects to non-target wildlife. Some pesticides, like carbaryl, were insecticides used to kill burrowing shrimp, and others are herbicides to kill non-native grasses, such as non-native eelgrass.

Since 1963, Washington State allowed shellfish growers in Willapa Bay to use carbaryl to control native burrowing shrimp, which loosen substrate and cause bivalves to sink and suffocate. *See* NMFS 2009 BiOp at 16. However, shellfish growers agreed to phase out the use of carbaryl by 2012, and its discharge permit was not renewed by Washington Department of Ecology (the state agency with authority under the CWA to administer the National Pollutant Discharge Elimination System Program). To replace carbaryl (a known carcinogen), the growers of Willapa Bay/Grays Harbor selected imidacloprid, the most widely used insecticide in the world. A neonicotinoid, imidacloprid works systemically and is neurotoxic to invertebrates. After WA Dept. of Ecology initially granted the growers a NPDES permit to spray imidacloprid on shellfish beds, the permit was revoked due to public outcry. However, the growers are back and insisting they need to spray this neonic on shellfish beds to kill native shrimp,<sup>14</sup> despite the severe impacts that use of an insecticide could have on the rest of the benthic invertebrate life, the fish that rely on them as a food source (including endangered green sturgeon), on the fish themselves (like salmon), and on birds (known to be susceptible to neonicotinoids).<sup>15</sup> Our waterways are already contaminated with neonics just from run-off and drift from terrestrial use,<sup>16</sup> and so the intentional introduction of imidacloprid into an aquatic environment has a very high potential for negative impacts to the already pollutant-burdened waters.

Shellfish growers in Willapa Bay, WA are *currently* allowed to spray the herbicide imazamox to kill non-native eelgrass, pursuant to a NPDES permit issued April 2, 2014.<sup>17</sup> While non-native eelgrass tends to grow at higher elevations than native eelgrass, Willapa Bay is so flat that there are many mixed beds, and the herbicide will kill native eelgrass

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<sup>14</sup> Jennifer Wing, *Willapa Bay Oyster Farmers Ask State Again For Permission To Use Neurotoxin*, KPLU, (Jan. 9, 2016) <http://www.kplu.org/post/willapa-bay-oyster-farmers-ask-state-again-permission-use-neurotoxin>; Wash. Dept. of Ecology, *Willapa Bay- Grays Harbor: Burrowing Shrimp Control – Imidacloprid*, <http://www.ecy.wa.gov/programs/wq/pesticides/imidacloprid/index.html> (last visited Aug. 1, 2016).

<sup>15</sup> *See e.g.* NMFS, Comments on draft NPDES permit allowing use of imidacloprid to control burrowing shrimp in Willapa Bay and Grays Harbor (Dec. 8, 2014), *available at* <http://www.ecy.wa.gov/programs/wq/pesticides/imidacloprid/docs/commentsDec2014/noaa.pdf>.

<sup>16</sup> CFS, *Water Hazard: Aquatic Contamination by Neonicotinoid Insecticides in the United States* (Sept. 16, 2015), <http://www.centerforfoodsafety.org/issues/304/pollinators-and-pesticides/reports/4048/water-hazard-aquatic-contamination-by-neonicotinoid-insecticides-in-the-united-states>.

<sup>17</sup> Wash. Dept. of Ecology, *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay General Permit, <http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass.html> (last visited Aug. 1, 2016).



just as easily as non-native.<sup>18</sup> The permit allows thousands of acres to be sprayed with the herbicide annually, and if the growers leave a 10m buffer to the next property line, they are released from monitoring requirements. This herbicide will not only kill eelgrass it is applied to (including native eelgrass in mixed beds), it will not stay where it is put, and will be instead transported to other parts of Willapa Bay

### III. USACE Should Not Re-Issue NWP 48 As Proposed

Given the impacts outlined above (and in other comments received by the Corps regarding NWP 48), the Corps should not re-issue NWP 48. Before the Corps considers re-issuing this permit, it must fully comply with NEPA (which means analyzing the impacts of shellfish aquaculture) and the ESA and MSA, which means consultation with NMFS and FWS *before* issuing the permit. Rather than use a nationwide permit, CFS urges the Corps to issue individual permits, or potentially regional permits, that will take the unique characteristics of each intertidal ecosystem into account, as well as the type of shellfish aquaculture contemplated.

#### A. USACE Fails to Comply with NEPA

The Corps drafted the Decision Document as its purported EA. However, this document falls far short of the Corps' NEPA duties, in the following ways:

- **No purpose and need statement.** EAs must include a discussion of the need for the proposal. 40 C.F.R. § 1508.9(b). Without this discussion, the public cannot know the scope of potentially reasonable alternatives.
- **Inadequate alternatives.** The alternatives are the “heart” of the NEPA analysis, and they are required in an EA, including a “no action” alternative and other reasonable alternatives. *Id.*, § 1508.25(b). USACE only listed a “no action” alternative and its proposed NWP 48, which would cover both existing and new (no shellfish grown for 100 years) operations, and would not require PCNs for any operations except those introducing a new species or “new” (in last 100 years) operations. USACE did not consider any other alternatives, and this is not a reasonable range. *See Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 812 (9th Cir. 1999) (evaluation of “no action” and just two nearly identical alternatives was NEPA violation); *Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1101 (9th Cir. 2006) (Army's consideration of just “no action” and one other alternative violated NEPA, where purpose and need could have been fulfilled by other alternatives and these were not considered, nor explanation given of why other alternatives would not be feasible). Further, USACE's discussion of the alternatives it did have was wholly inadequate. The Decision Documents merely discusses the downsides of the “no action” alternative while listing potential alternatives that might come from regional conditions or individual conditions. USACE has no way to evaluate the impacts of these potentially different sets of conditions. Instead,

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<sup>18</sup> U.S. FWS, Comments to Wash. Dept. of Ecology on NPDES permit for control of non-native eelgrass, (Feb. 14, 2014) <http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass/docs/commentsFeb2014/usfws.pdf>.

USACE should consider the differences between its proposed NWP and other NWPs (with a known set of conditions), and other types of permits (regional general permits and individual permits). The NWP 48 as currently conditions is only *one* alternative, and CFS suggests the following additional alternatives:

- **NWP with more restrictive conditions** – this NWP would not include any operations that are new, which “new” defined as not actively in operation for 5 years or more, including expansion into fallow areas. Based on the findings of the study USACE relies on, Dumbauld & McCoy, 2015, recovery time for eelgrass beds after various shellfish activities (i.e. mechanical harvest, shading from suspended culture) is between 1 and 4 years. If beds do recover this quickly, then beds left unused for 5 years would presumably be returned to their natural state (or nearly natural) and so any new activities here should be considered “new” based on the available science. If USACE finds that beds require *more time* to recover to a relatively undisturbed state, then that amount of time should be used to define “new.” This alternative would also prohibit the use pesticides, plastics, and mechanical harvesting, as all of these activities have the potential for more than minimal adverse impacts to the environment.
- **No NWP** – this alternative should include discussion of possibility of Regional General Permits or individual permits (some combination to be determined by Divisions and Districts). Not all regions would need permits because shellfish do not grow in all parts of the county, *see e.g.* [http://www.nmfs.noaa.gov/aquaculture/homepage\\_stories/18\\_marine\\_aquaculture\\_infographic.html](http://www.nmfs.noaa.gov/aquaculture/homepage_stories/18_marine_aquaculture_infographic.html). Because USACE relies so heavily on mitigation to be determined by District Engineers, this alternative should be considered.
- **Mitigation of Impacts.** Any mitigation measures used to show that an activity will not be “significant” (and thus require an EIS) must be adequately explained in detail and be enforceable. USACE relies so heavily on mitigation at the District level, but it fails to actually describe the possible effects (direct, indirect and cumulative) from shellfish aquaculture activities or how these unknown mitigation measures will actually avoid more than minimal adverse impacts. These shellfish activities have been permitted through NWPs since 2007, but USACE makes no effort to provide information to the public of the impacts from these past permitted activities, possibly because USACE did not have any system in place to actually monitor and evaluate these impacts. While USACE relies on to-be-determined regional conditions to mitigate any impacts and therefore make the NWP impacts minimal, it does not explain what kind of conditions might mitigate the potential adverse impacts. Nor does it provide any baseline that is relevant to commercial shellfish aquaculture as opposed to the general loss of wetland habitat nationwide (while shellfish will be grown in marine intertidal areas). While the regional conditions that may or may not be added are to-be-determined, USACE also relies on the general conditions attached to the NWP to minimize impacts. However, many of these general conditions are so vague as to be basically useless (i.e. general condition 23 requiring permittees to minimize and avoid impacts). How will USACE ensure that permittees using NWP 48 for shellfish aquaculture activities will follow this

condition? What ways can those growers minimize their impacts? USACE provides little in the way of concrete guidelines for how permittees can actually achieve the general conditions on which it relies to mitigate any more-than-minimal adverse impacts. Further, any individual mitigation measures will only be attached if a permittee is required to submit a PCN, and given the proposed conditions, that will likely be few and far between. The Corps is not proposing to require a PCN for any activities that are not “new” (in the last 100 years), or for disturbance of aquatic vegetation, or for a change from bottom to off-bottom culture. This effectively removes almost all PCN requirements and so it is very unlikely that District Engineers will be able to effectively attach any individual mitigation measures under the proposed NWP 48.

- **Direct, Indirect, and Cumulative Impacts.** First, the baseline USACE uses includes the activities authorized under the previous 2012 NWP 48, but as noted above, the number of activities and affected acres was many times larger than previously evaluated. Making the current landscape part of the baseline ignores the effects of the greatly expanded commercial shellfish aquaculture permitted, but never evaluated, under the 2012 permit. USACE’s description of the Affected Environment does not focus on the estuarine/marine environment that is going to be affected by this permit; instead the section seems to be general to all NWPs. Under the Environmental Consequences section, USACE fails to actually describe *any* direct or indirect effects from allowing all existing and “new” commercial shellfish aquaculture activities under a nationwide permit. Again, the Corps merely refers to future regional conditions to mitigate any impacts, but that is not what NEPA requires. While there may not be *extensive* data on the ecological impact of shellfish aquaculture in the U.S., studies do indicate that intensive shellfish farming is associated with a decrease in species richness, altered species abundance and distribution, changes in community intertidal structure from surface species, subsurface species, and bivalves to just bivalves, and greater accumulations of surface sediment silt and organic matter. *See supra* n.3, 6. Dumbauld and McCoy 2015, cited by the Corps to indicate that PCNs are somehow not required because eelgrass can recover after being disturbed, found that mechanical harvest of oysters has a significant negative impact on eelgrass. Other studies show that equipment regularly used for oyster and clam culture, especially anti-predator nets, are both ineffective and damaging to the nearshore environment, as well as a source of plastic pollution to the marine environment. *Supra* n.10. None of these impacts are discussed in the Corps’ environmental analysis, but under NEPA the environmental impact of the proposed action is required. 40 C.F.R. § 1508.9(b). USACE also wrongly assumes there will be no cumulative impacts (again based on regional conditions) despite its estimate that NWP 48 would impact over 56,000 acres of intertidal habitat. How many of those acres are relatively undisturbed tidebeds, which will converted to intensive shellfish aquaculture (beach stripped of native species, PVC tubes stuck into beds at density of 43k/acre, anti-predator plastic netting laid over top, or sprayed with herbicides to kill eelgrass)? The Corps acknowledges that the impact and tradeoffs of shellfish culture should be examined at the landscape scale, (Decision Doc. at 52), but does not do this, instead leaving cumulative effects analysis for District Engineers on an individual PCN basis. The Corps further states that without the data, it is hard to assess the cumulative

impacts (Decision Doc. at 30), but without compiling information on the impact of the NWP, the public and the Corps will never be able to assess the overall impacts that commercial shellfish aquaculture is having. The Corps must evaluate cumulative impacts of adding tens of thousands of acres of shellfish farms to the nation's shorelines and estuaries, and collect the data to do so.

- **Significance Factors.** USACE did not at all discuss the context and intensity factors that might indicate that this proposed NWP will have a “significant impact to the human environment” and thus require an EIS. Shellfish aquaculture is controversial in Washington, and as acknowledged by the Corps, there are possible effects on the human environment that are highly uncertain or involve unique or unknown risks. Because this permit would affect tens of thousands of acres of shoreline and estuarine aquatic environments, it has the potential to be cumulatively significant, particular when added to the other impacts and stressors to these regions. This is enough to establish significant impact and require an EIS.

## **B. USACE Fails to Comply with ESA and MSA**

As stated in the comments submitted by Center for Biological Diversity (and joined by CFS), the Corps cannot avoid its consultation duties by waiting for individual permittees to report that their activities “might” affect listed species. While individual evaluation is important (because different types of aquaculture have different impacts), this does not relieve the Corps of the requirement to consult where the nationwide permit “may affect” listed species. Given the intertidal and estuarine areas that will be impacted by these activities are home to many listed species (fish, birds, etc.), this NWP definitely “may affect” those species (including pacific salmon populations and green sturgeon in Washington). Programmatic consultation is required to determine as to the cumulative effect of permitting essentially all shellfish aquaculture in every region of the country (where hundreds of protected species may overlap with these activities). The Decision Document does not provide any analysis of which species overlap with shellfish aquaculture. Further, it seems there is a good chance that, because PCNs are not otherwise required for most shellfish aquaculture under the proposed NWP 48 conditions, that growers will simply not provide PCNs, despite general condition 18, to avoid consultation. Permittees are not the appropriate parties to determine whether an activity may (or “might”) affect listed species; the “effects” determination should be made by the Corps, the federal agency permitting the activity. 50 C.F.R. § 402.14. The Seattle District is now in programmatic consultation with NMFS and FWS regarding its shellfish permitting, and the Corps should await that analysis and include its findings in this NWP, and do its own consultation before moving forward.

The MSA also requires consultation where EFH may be adversely affected. As noted above, shellfish aquaculture can have negative impacts to the ecosystem and thus EFH consultation is also required before the Corps can re-issue this permit. In past consultations, NMFS included consideration of EFH and issued conservation measures. *See* NMFS 2009 BiOp.

### **C. Individual or Regional General Permits Would Be More Appropriate**

Given USACE's plan to do individual ESA consultations for every shellfish aquaculture activity that "might" affect listed species, it may as well just require individual permits (using a set of conditions that could be altered for each permittee according to need). It is known that different types of shellfish farming have different impacts (bottom v. off-bottom culture, mechanical v. hand harvesting, use of pesticides v. none, the use of anti-predator nets, PVC tubes, etc.) and different areas have different ecological considerations. Even within Washington State, Willapa Bay is different from the Puget Sound. Regional areas are very different as well. Washington is not the same as Oregon, and even the Pacific Northwest is unique from California, or the Gulf (i.e. BP oil spill), or the Northeast (Chesapeake Bay). Individual or possibly regional general permits are therefore better suited to addressing the needs of each area, and actually evaluating impacts from potential alternative permits, unlike the NWP where no analysis has been done at all.

Regional general permits, like NWPs, may only be granted if activities are similar and will only have minimal individual and cumulative adverse effects to the environment. 33 U.S.C. § 1344(e)(1); 33 C.F.R. § 323.2 (h) (general permit may be granted on nationwide or regional basis only if "activities it covers are substantially similar in nature and cause only minimal individual and cumulative environmental impacts"). District (or Division) Engineers are in best position to determine what types of aquaculture activities are appropriate for their shorelines, near shore environments, and estuaries. Regional general permits would also be more clear and easy to follow than NWPs, which have general conditions, then regional general conditions, and regional conditions specific to the NWP. Since USACE relies entirely on regional conditions to minimize adverse impacts from this permit, it should not have a NWP at all, and rely instead on regional and individual permits as necessary.

### **D. If USACE Does Re-Issue NWP 48, It Must Be Limited to Types of Shellfish Farming that Actually Only Have Minimal Adverse Impacts to Environment**

USACE must comply with NEPA (complete an EIS) and ESA/MSA (consultation with NMFS and FWS) before going forward with reissuance of NWP 48. However, if USACE does this, it must also ensure that the NWP would only have minimal adverse impacts, both individually and cumulatively. To do that the new NWP 48 should only cover shellfish farming practices that have minimal impact to the intertidal/estuarine environment. No shellfish operations that use plastics or pesticides should be included, or techniques that perennially alter essential these habitats (in particular anti-predator nets, and mechanical or hydraulic harvest). On-bottom oyster and clam culture, without the use of plastics or pesticides, and only hand harvest is likely the most ecologically sound culture. Bendell 2015 also suggests "clam gardens," an ancient method of clam culture that involves stone walls set at low tide to retain sediment and nutrients and provide an environment conducive to bivalve growth. *Supra* n.10 at 26-27.



Figure 4: Healthy shellfish beds in Grays Harbor without use of plastics or pesticides, FMO Aquaculture



Figure 5: Heavy machinery, pesticide injection and aerial spraying on Willapa Bay shellfish beds

**Conclusion:**

USACE must fully comply with NEPA, ESA, and MSA prior to re-issuing the NWP 48. Instead, CFS urges USACE to forgo a NWP for these activities and instead do regional evaluations of need and set regional conditions or issue individual permits (with programmatic consultation under the ESA to determine cumulative impacts).

Sincerely,

Amy van Saun

Legal Fellow  
Center for Food Safety  
917 S.W. Oak St. Suite 300  
Portland, Oregon 97205  
(971) 271-7372  
[avansaun@centerforfoodsafety.org](mailto:avansaun@centerforfoodsafety.org)





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SUBMITTED VIA E-MAIL

U.S. Army Corps of Engineers  
Attn: Karen Urelius  
441 G Street NW  
Washington, DC 20314-1000  
karen.m.urelius@usace.army.mil

**Re: Comments on Nationwide Permit 48 (Commercial Shellfish Activities)  
Regional Issues**

Thank you for the opportunity to comment on the regional issues surrounding the proposed reissuance of Nationwide Permit (NWP) 48 in Washington State. The Seattle District of the U.S. Army Corps of Engineers (Seattle District) should **not adopt** NWP 48 in Washington for commercial shellfish aquaculture activities. As currently proposed, NWP 48 would be a disaster for Washington, and would not prevent more than minimal individual or cumulative adverse impacts to the environment. Instead, Seattle District should choose a regional general permit for specific water bodies in Washington and only include those operations that truly have only minimal adverse impacts to the environment, using individual permits for the remaining operations.

These comments are submitted on behalf of Center for Food Safety (CFS). CFS is a nationwide nonprofit membership organization that works to protect human health and the environment by curbing harmful food production technologies and by promoting organic and sustainable agriculture and aquaculture. Our membership includes over 750,000 farmers and consumers across the county, including over 25,000 members in Washington, who support truly sustainable food and care about the impact of our food production system on our environment and public health.

Washington is unique when it comes to shellfish farming. First, Washington is the biggest producer of shellfish in the United States, and has been growing shellfish commercially for over 150 years. Because of this, shellfish farming in Washington looks very different than it does elsewhere, and is being increasingly industrialized, relying heavily on plastic gear and pesticides, while expanding to cover every inch of natural tidelands. Historically, most of the shellfish aquaculture took place in Willapa Bay/Grays Harbor, but recently shellfish farming has expanded significantly in Puget Sound. However, Willapa Bay/Grays Harbor are not the same as Puget Sound, both in ecology and in shellfish farming practices. For

**NATIONAL HEADQUARTERS**  
660 Pennsylvania Avenue, SE, Suite 302  
Washington, D.C. 20003  
T: 202-547-9359 F: 202-547-9429

**CALIFORNIA OFFICE**  
303 Sacramento Street, 2nd Floor  
San Francisco, CA 94111  
T: 415-826-2770 F: 415-826-0507

**PACIFIC NORTHWEST OFFICE**  
917 SW Oak Street, Suite 300  
Portland, OR 97205  
T: 971-271-7372 F: 971-271-7374

**HAWAII OFFICE**  
1132 Bishop Street, Suite 2107  
Honolulu, Hawaii 96813  
T: 808-681-7688



example, while oyster and clam is predominant in Willapa Bay, geoduck farming is predominant in Puget Sound, each using different types of equipment. While growers in Willapa Bay/Grays Harbor have an NPDES permit to spray herbicide (imazamox) onto tidebeds to kill Japanese eelgrass, no such pesticide spraying is allowed in Puget Sound. These same growers are currently seeking a second NPDES discharge permit for the use of imidacloprid, a neonicotinoid insecticide, in Willapa Bay/Grays Harbor to kill native burrowing and ghost shrimp. Thus, while Washington is unique from the rest of the country, its own regions are unique from one another. Not only is a nationwide permit inappropriate to cover Washington, even a regional general permit should concentrate on the specific bodies of water in Washington to reflect their unique qualities and the type of farming that predominates. Seattle District should forego the NWP 48 for Washington State, and instead issue either individual permits, or regional permits tailored to the unique intra-state region being covered. While Seattle District *could* add its regional conditions for NWP 48, this results in a confusing set of national general conditions, regional general conditions, and regional specific conditions that begs the question of whether permittees will truly follow these requirements. Instead, due to the large number of operations in Washington (and the over 1000 activities authorized under the 2012 NWP 48), to avoid cumulative impacts that are more than minimally adverse to the environment, Seattle District should use either several regional general permits, or just individual permits.

Type of permit aside, the currently proposed NWP 48 is a huge step backwards, and as written cannot ensure that shellfish aquaculture will be limited to only minimal adverse effects to the environment. Any general permit that Seattle District may choose to promulgate must have far more stringent conditions to ensure that the large cumulative impact of all the past, continuing, and future shellfish operations in Washington, covering tens of thousands of acres, is environmentally sound and sustainable. Shellfish aquaculture, practiced in waters held in public trust, should not be allowed to make the same mistakes that terrestrial agriculture has made, like the destruction of habitat and pollution of waterways. Intensive shellfish aquaculture in Washington is threatening to do just that, and so it is of utmost importance that the permitting of these activities prevents shellfish growing from having adverse impacts to the aquatic environment. It is even more important that the Corps take the lead in protecting the waterways of the U.S. from poorly-managed intensive shellfish production, as Washington State seems to lack any environmental review of the cumulative effect of these operations. This is particularly disturbing given the unique ecological and cultural importance of Washington's coast line, and in particular, Puget Sound. The Corps must protect the public interest and the environment, by conditioning any general permit to protect clean water and wildlife habitat, especially for threatened and endangered species. These intertidal waters, after all, are a public resource and the intertidal ecosystems where shellfish are commercially raised are essential habitat for wildlife.

As CFS commented<sup>1</sup> to the national Army Corps, the Corps' analysis of the impacts of NWP 48 is inadequate under National Environmental Policy Act (NEPA), and the Corps has

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<sup>1</sup> CFS Comments on Proposal to Reissue and Modify Nationwide Permits; Docket Number COE-2015-0017 / RIN 0710-AA73 (August 1, 2016), submitted via Regulations.gov, Tracking No. 1k0-8r3f-2q1x.

failed to consult with the National Marine Fisheries Service (NMFS) or the U.S. Fish and Wildlife Service (FWS) as required under the Endangered Species Act (ESA). Those comments are incorporated here in their entirety. However, CFS is aware that the Seattle District is currently engaged in programmatic consultation with NMFS and FWS regarding all shellfish permitting in Washington, and is expecting both biological opinions shortly. CFS looks forward to seeing these biological opinions. It is unclear to CFS whether this consultation will cover any proposed NWP 48 use in Washington, seeing as the Seattle District has not yet decided what it will do in that regard. However, it is CFS's understanding that the programmatic consultation purports to cover most shellfish permitting activities for multiple NWP cycles. Given the impacts of expanded shellfish production in Washington, particularly in Puget Sound, Seattle District must consider the cumulative impact of all these new (now existing) operations as well as operations on never-before cultivated acreage. As part of considering the now-existing operations, fallow areas must be included, especially if eelgrass can recover from cyclical disturbance associated with shellfish farming in a matter of years. CFS is gravely concerned that the shellfish growers have overstated the acreage that is really actively farmed, making the impacts of all existing and new operations seem far more minimal than they would if fallow land was properly considered. Further, Seattle District, in its consultation with the Services, must consider the interrelated/interdependent actions of pesticide spraying that go along with some shellfish growing operations in Willapa Bay/Grays Harbor. As these NPDES permits are granted by the *State* Department of Ecology, no ESA consultation or analysis is happening at all, despite the grave danger that pesticides pose to listed species, including green sturgeon and salmon. Not only does Seattle District have a duty under the ESA to ensure that its shellfish permitting action do not jeopardize ESA-protected species or their critical habitat, it also has a duty under the CWA not to permit activities that have more than minimal adverse effects on the environment.

As written, the 2017 NWP 48 includes all continuing and new operations, and allows even new operations to avoid pre-construction notices (PCNs) as long as shellfish were grown in the last **100 years**, and removes the PCN requirement for disturbance to aquatic vegetation, or for a change from on-bottom culture (planting directly into the tidebed) to off-bottom culture (usually involving plastic gear). Basically, under this permit, very if any PCNs will ever be required, and Army Corps and the Seattle District more importantly, will have no way of knowing the true cumulative impact of these operations, or be able to mitigate those impacts with individual conditions for an operation. Given the failures under 2012 NWP 48 (no biological opinion covered the new operations, and it had much higher use than expected), Seattle District should not make the same mistakes and forego the NWP 48 in Washington. If Seattle District decides to issue regional general permits instead, they must be geared to the unique regions (Willapa Bay v. Puget Sound, and even different parts of Puget Sound), and it must complete environmental assessment under NEPA, as well as consultation with the Services (to the extent the proposed regional general permits are not the same as the actions currently being evaluated). Even then, CFS urges Seattle District to limit the regional general permits to **only** those shellfish aquaculture activities known to have limited negative impacts to the environment, specifically not including operations that use pesticides.

## I. Legal Obligations

### A. Division and District Engineers Have Authority to Issue Regional General Permits With Only Minimal Adverse Effects to Environment

Under the Clean Water Act, in carrying out its functions relating to the discharge of dredged or fill materials, the Army Corps:

may, after notice and opportunity for public hearing, issue general permits on a State, regional, or nationwide basis for any category of activities involving discharges of dredged or fill material if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment.

33 U.S.C. § 1344(e)(1). Thus, regional permits have the same requirement that nationwide general permits, namely that the activities are “similar in nature” and will only cause *minimal* adverse effects to the environment, either separately or cumulatively. *See also* 33 C.F.R. § 323.2 (h) (general permit may be granted on nationwide or regional basis only if “activities it covers are substantially similar in nature and cause only minimal individual and cumulative environmental impacts”).

In issuing a general permit, either regional or nationwide, the Army Corps *must* properly consider the separate and cumulative impacts from the permit on the environment, and make a finding that the permit will not have more than minimal adverse impacts before granting any general permits under CWA § 1344(e)(1). *See e.g. Wyoming Outdoor Council Powder River Basin Resources Council v. U.S. Army Corps of Engineers*, 351 F. Supp. 2d 1232 (D. Wyo. 2005) (finding Corps’ was arbitrary and capricious when it issued a general permit for discharge of dredge and fill materials associated with coalbed methane gas in Wyoming, because it failed to consider cumulative impacts, relied on mitigation measures that were wholly unsupported and unmonitored, and failing to make a finding under the CWA that the cumulative impacts to the aquatic environment would be minimal, remanding to Corps); *Maryland Native Plant Socy. v. U.S. Army Corps of Engineers*, 332 F. Supp. 2d 845, 862 (D. Md. 2004) (finding Army Corps’ decision to allow construction of housing developments involving dredging and/or filling of wetlands, to proceed under general statewide permit as having minimal adverse environmental impact was arbitrary, capricious, and an abuse of discretion under the Administrative Procedures Act, where Corps failed to provide sufficient reasoning for its conclusion that project would have minimal adverse environmental impact).

### B. National Environmental Policy Act

The National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment. 40 C.F.R. § 1500.1. NEPA requires a federal agency to prepare a detailed environmental impact statement (EIS) for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). NEPA “ensures that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant

information will be made available to the larger [public] audience.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

If the federal action *may* significantly affect the environment, APHIS *must* prepare an EIS. *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998) (citation omitted); *Steamboaters v. U.S. Fed. Energy Regulatory Comm.*, 759 F.2d 1382, 1392 (9th Cir. 1985). To determine if an action may significantly affect the environment, an agency may prepare an environmental assessment (EA). 40 C.F.R. § 1508.9. If the agency determines that the action will not have a significant impact, the agency must supply a “convincing statement of reasons” to explain the action’s impacts are insignificant. *Save the Yaak v. Block*, 840 F.2d 714, 717 (9th Cir. 1988). The EA must “provide sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact.” *Id.* NEPA regulations require the agency to analyze (take a hard look at) all direct, indirect, and cumulative impacts. *See* 40 C.F.R. §§ 1508.8, 1508.9, 1508.13, 1508.18, 1508.27. Cumulative impacts include the incremental impact of the proposed action when added to all past, present, and reasonably foreseeable actions, taken not just by the agency, but by any entity. *Id.* § 1508.7. A thorough consideration of cumulative impacts is required in the preparation of an EA. *See, e.g., Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002).

Whether an action is significant requires consideration of the “context” and “intensity” factors, and an action may be “significant” if even one of the factors is present. *Id.* § 1508.27; *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 361 F.3d 1108, 1125 (9th Cir. 2004); *see Nat’l Parks & Conservation Ass’n*, 241 F.3d at 731 (either degree of uncertainty or controversy “may be sufficient to require preparation of an EIS in appropriate circumstances”).

### **C. Endangered Species Act**

As recognized by the U.S. Supreme Court, the Endangered Species Act (ESA) is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation” and “reveals a conscious decision by Congress to give endangered species priority over the ‘primary missions’ of federal agencies.” *Tenn. Valley Authority v. Hill*, 437 U.S. 153, 180, 185 (1978).

Section 7(a)(2) of the ESA requires every federal agency to consult the appropriate federal fish and wildlife agency (the Services, NMFS or FWS) to “insure” that the agency’s actions are not likely “to jeopardize the continued existence” of any listed species or “result in the destruction or adverse modification” of critical habitat. 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.01(b).

To facilitate compliance with section 7(a)(2)’s prohibitions on jeopardy and adverse modification, the ESA requires each federal agency that plans to undertake an action to request information from the Services regarding “whether any species which is listed or proposed to be listed [as an endangered species or a threatened species] may be present in the area of such proposed action.” 16 U.S.C. § 1536(c)(1). If the Services advise the agency that listed species or species proposed to be listed may be present, the agency must then prepare a biological assessment for the purpose of identifying any such species that are likely to be affected by the proposed agency action. *Id.* If an agency determines that its

proposed action “may affect” any listed species and/or their critical habitat, the agency generally must engage in formal consultation with FWS. 50 C.F.R. § 402.14. The only way to forego formal consultation is a written concurrence from the Services with a “not likely to adversely affect” determination by the action agency, after informal consultation. *Id.* and § 402.13. At the end of the formal consultation, the Services must provide the agency with a “biological opinion” detailing how the proposed action will affect the threatened or endangered species and/or critical habitats, including a jeopardy opinion and any conservation or mitigation measures and an incidental take statement. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

#### **D. Magnuson-Stevens Act**

The Magnuson-Stevens Act (MSA) established procedures to identify, conserve, and enhance Essential Fish Habitat (EFH) for species regulated under a federal Fisheries Management Plan. 16 U.S.C. §§ 1801 *et seq.* The MSA requires consultation with NMFS on all actions, including proposed actions, which may adversely affect EFH. 16 U.S.C.A. § 1855(b)(2). To “adversely affect” means any impact that reduces the quality and/or quantity of EFH, and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. 50 C.F.R. § 600.810. When NMFS is consulted on impacts to EFH under this act, it must “recommend to such agency measures that can be taken by such agency to conserve such habitat,” and should the action agency fail to adopt those measures it must explain its reasons for not following those measures. 16 U.S.C. § 1855(4).

## **II. Impacts of Shellfish Aquaculture in the Northwest**

Shellfish aquaculture is not only practiced in the Pacific Northwest, but it has been practiced in Washington State for over 100 years. Recently, this shellfish cultivation has expanded, in both intensity and in geographic scope (particularly in areas like Puget Sound). The experiences with a NWP 48 in Washington indicate that a nationwide permit should not be used in Washington.

#### **A. NWP 48 Overuse in Washington**

When the NWP 48 was re-issued in 2012, it included not just existing shellfish operations (as in the 2007 permit), but also new operations. The Seattle District required a pre-construction notification (PCN) for all new/expanding NWP 48 activities in Washington (a regional condition that CFS supports), but predicted that the permit would only be used around 50 times a year, or 250 times over the 5-year life of the permit.<sup>2</sup> The Corps’ analysis was thus limited to this predicted cumulative impact. However, in reality NWP 48 was used over 1000 times from 2012 to 2016, affecting approximately 37,000 acres. The Seattle District issued 92% of all NWP authorizations in the nation during the 2012 NWP period, indicating that any general permit should just be a Washington-specific permit. The

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<sup>2</sup> See USACE Seattle District, *Supplement to the National Decision Document for 2012 Nationwide Permit 48 and Regional General Conditions*, 31 (March 19, 2012).

overuse of NWP 48 to cover new and expanding operations in Washington has covered the expansion of intense shellfish aquaculture operations from the historically cultivated Willapa Bay into previously undisturbed areas in Puget Sound.<sup>3</sup>

## **B. Conversation of Natural Intertidal Ecosystems**

The intertidal areas where shellfish are grown are essential habitats for many species, including invertebrates (such as commercially important Dungeness crab), finfish (including herring and salmon), and birds (migratory and shorebirds). This includes species listed as threatened and endangered and protected under the ESA. In particular, Willapa Bay serves as critical habitat for green sturgeon (feeding) and many listed salmon populations rear and feed in Washington's coastal waters (Puget Sound and Willapa Bay). These areas are habitat for many varieties of wildlife, serve as nurseries, and have important roles in cycling nutrients.<sup>4</sup> Much of the intertidal areas in Washington still support eelgrass, which is declining in the rest of the world. Eelgrass or seagrass is a highly valued and protected native habitat for many species of fish, invertebrates, and birds, including migratory and shorebirds.<sup>5</sup> Eelgrass is known as an "ecosystem engineer" because it can partially create its own habitat by slowing down water flow, while its roots and rhizomes bind and stabilize sediments. Although it was introduced, Japanese eelgrass (*Z. japonica*) provides many of the same food, shelter, and habitat functions as native *marina* eelgrass in Washington (and now grows along the entire Pacific coast from Humboldt, California to British Columbia).<sup>6</sup>

As the production of shellfish in Washington intensifies, more of the natural tidelands are being converted to shellfish production. While *wild* bivalves are known to clean water, the water quality impacts of intensive shellfish aquaculture may not always be beneficial; to the contrary, many aquaculture activities negatively affect water quality by the removal of eelgrass, the increase of wastes from concentrated production, and the disruption of sediments. There are no studies, and none described by the Corps in its Decision Document

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<sup>3</sup> See e.g. Coastal Geologic Services, Map of Known Existing and Proposed Shellfish Farm Locations in South Puget Sound, from 2012-2014, attached as Exhibit A.

<sup>4</sup> Bendell-Young, L.I., *Contrasting the community structure and select geographical characteristics of three intertidal regions in relation to shellfish farming*, Environmental Conservation (2006), attached as Exhibit B.

<sup>5</sup> NMFS, *Endangered Species Act – Section 7 Programmatic Consultation Biological and Conference Opinion And Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Nationwide Permit 48 Washington*, 36-37 (Apr. 28, 2009) (NMFS 2009 BiOp).

<sup>6</sup> Mach, M.E., S.W. Wyllie-Echeverria, and J. R. Ward. 2010. *Distribution and potential effects of a non-native seagrass in Washington State. Zostera japonica* Workshop, Friday Harbor Laboratories, San Juan Island, WA. Report prepared for Washington State Department of Natural Resources and Washington Sea Grant, *available at* [http://file.dnr.wa.gov/publications/aqr\\_zostera\\_study.pdf](http://file.dnr.wa.gov/publications/aqr_zostera_study.pdf).

for NWP 48, to verify the claim that shellfish clean the water. One of the most significant potential environmental impacts from dense shellfish aquaculture is a reduction in shoreline biodiversity. Monocultures of shellfish can fundamentally alter ecosystems by consuming nutrients previously relied on by native species, depositing waste on the seabed, and changing the physical dynamics of an environment.<sup>7</sup>

The various activities associated with shellfish aquaculture change the intertidal area, and do so perennially (oysters, for example, are grown out for 3-4 years), with impacts of the different stages of shellfish culture continuing year after year. These include bed preparation (or “cleaning,” which entails removal of native species, like sand dollars), seeding, grow out, and harvest. Bed preparation and harvest activities can temporarily increase turbidity and total suspended solids.<sup>8</sup> Some activities, e.g. tilling, harrowing, dredge harvest and geoduck harvest, can remove submerged aquatic grass, i.e. eelgrass.<sup>9</sup> Shellfish growing activities can thus cause benthic disturbance.<sup>10</sup>

### C. Plastics

Another extremely disturbing aspect of commercial shellfish aquaculture in Washington, in particular, is the use of plastic gear, including PVC geoduck tubes (using over 43k tubes/acre), plastic anti-predator netting (high-density polyethylene), and plastic ropes for oyster long-lines (polyolefin). This gear adds plastic pollution to the intertidal waters and beaches, with grave impacts to wildlife, aesthetics, and food safety.

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<sup>7</sup> See *id.*; Bouwman, L., A. Beusen P. M Glibert, C Overbeek, M Pawlowski, J. Herrera S. Mulow, R. Yu, and M. Zhou, *Mariculture: significant and expanding cause of coastal nutrient enrichment*, Environ. Res. Lett. 8 (2013); DeFur, P. and D.N. Rader, *Aquaculture in estuaries: Feast or famine?* Estuaries Vol. 18, No. 1A (1995); Hastings, R.W. and D.R. Heinle, *The effects of aquaculture in estuarine environments: Introduction to the dedicated issue*, Estuaries Vol. 18, No. 1A (1995); Dethier, M., *Native shellfish in nearshore ecosystems of Puget Sound*, Puget Sound Nearshore Partnership Report No. 2006-04, Published by Seattle District, U.S. Army Corps of Engineers, Seattle, Washington (2006); Diana, J.S., H. S. Eгна, T. Chopin, M.S. Peterson, L. Cao, R. Pomeroy, M. Verdegem, W.T. Slack, M.G. Bondad-Reantaso, and F. Cabello, *Responsible Aquaculture in 2050: Valuing Local Conditions and Human Innovations Will Be Key to Success*, Bioscience, Vol. 63(4) (2013), attached as Exhibit C; Bendell, L.I. and P.C.Y. Wan, *Application of aerial photography in combination with GIS for coastal management at small spatial scales; a case study of shellfish aquaculture* (2013).

<sup>8</sup> See *id.* and NMFS 2009 BiOp at 39.

<sup>9</sup> *Id.* at 39; see also Dumbauld, Brett & McCoy, Lee M., *Effect of oyster aquaculture on seagrass Zostera marina at the estuarine landscape scale in Willapa Bay, Washington (USA)*, Aquaculture Environment Interactions Vol. 7 (2015) (finding that mechanical harvesting of oysters in Willapa Bay caused significant decrease in *z. marina* eelgrass).

<sup>10</sup> NMFS 2009 BiOp at 40.





Figure 1 Left: Geoduck PVC tubes stuck into tidebed in Totten Inlet, WA. Right: Aerial shot of PVC tubes and oyster bags in WA.

Anti-predator netting traps wildlife, excludes wildlife from its habitat, and may become dislodged and transported. This netting actually provides little benefit to the industry despite its cost in terms of nearshore impacts and plastics pollution.<sup>11</sup>



Figure 2: Left: A juvenile bald eagle is caught in an aquaculture net on Harstine Island, WA. Right: Remains of bird caught beneath anti-predator net

This plastic gear also breaks down into microplastics, and act as an additional source of plastic contamination in the ocean.<sup>12</sup> Microplastics absorb toxic pollutants already present in the water, and are being ingested by the very bivalves being cultivated.<sup>13</sup> These microplastics act like a poison pill to aquatic life that consume them, and have been shown to reduce oyster’s reproductive ability.<sup>14</sup>

<sup>11</sup> Bendell, L.I., *Favored use of anti-predator netting (APN) applied for the farming of clams leads to little benefits to industry while increasing nearshore impacts and plastics pollution*, Marine Pollution Bulletin (2015), attached as Exhibit G.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*; Kieran Mulvey, *Oysters Are Munching Our Microplastics*, Discovery News, <http://goo.gl/hJn5Ov>.

<sup>14</sup> Chelsea Harvey, *All the plastic that we’re throwing in the oceans could be hurting baby oysters*, Washington Post (Feb. 2, 2016); Rossana Sussarellu, *et al.*, *Oyster reproduction is*





Figure 3 Left: Yellow rope used in long-line culture growing through oyster shell. Right: PVC tube degrading

#### D. Pesticides

Finally, Washington State is the only state that allows pesticide use with shellfish aquaculture. Pesticides are meant to harm or kill living organisms, so their use has a high potential for adverse effects to non-target wildlife. Some pesticides, like carbaryl, were insecticides used to kill burrowing shrimp, and others are herbicides to kill non-native grasses, such as non-native eelgrass.

Since 1963, Washington State allowed shellfish growers in Willapa Bay to use carbaryl to control native burrowing shrimp, which loosen substrate and cause bivalves to sink and suffocate. See NMFS 2009 BiOp at 16. However, shellfish growers agreed to phase out the use of carbaryl by 2012, and its discharge permit was not renewed by Washington Department of Ecology (the state agency with authority under the CWA to administer the National Pollutant Discharge Elimination System Program). To replace carbaryl (a known carcinogen), the growers of Willapa Bay/Grays Harbor selected imidacloprid, the most widely used insecticide in the world. A neonicotinoid, imidacloprid works systemically and is neurotoxic to invertebrates. After WA Dept. of Ecology initially granted the growers a NPDES permit to spray imidacloprid on shellfish beds, the permit was revoked due to public outcry. However, the growers are back and insisting they need to spray this neonic on shellfish beds to kill native shrimp,<sup>15</sup> despite the severe impacts that use of an

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*affected by exposure to polystyrene microplastics*, PNAS 2016 113 (9) 2430-2435 (February 1, 2016), attached as Exhibit F; Oona M. Lönnstedt\* and Peter Eklöv, *Environmentally relevant concentrations of microplastic particles influence larval fish ecology*, Science (June 3, 2016), attached as Exhibit E; Lisbeth Van Cauwenberghe, Colin R. Janssen, *Microplastics in bivalves cultured for human consumption*, Environmental Pollution (2014), attached as Exhibit D.

<sup>15</sup> Jennifer Wing, *Willapa Bay Oyster Farmers Ask State Again For Permission To Use Neurotoxin*, KPLU, (Jan. 9, 2016) <http://www.kplu.org/post/willapa-bay-oyster-farmers-ask-state-again-permission-use-neurotoxin>; Wash. Dept. of Ecology, Willapa Bay- Grays Harbor: Burrowing Shrimp Control – Imidacloprid,

insecticide could have on the rest of the benthic invertebrate life, the fish that rely on them as a food source (including endangered green sturgeon), on the fish themselves (like salmon), and on birds (known to be susceptible to neonicotinoids).<sup>16</sup> Our waterways are already contaminated with neonics just from run-off and drift from terrestrial use,<sup>17</sup> and so the intentional introduction of imidacloprid into an aquatic environment has a very high potential for negative impacts to the already pollutant-burdened waters.

Shellfish growers in Willapa Bay, WA are *currently* allowed to spray the herbicide imazamox to kill non-native eelgrass, pursuant to a NPDES permit issued April 2, 2014.<sup>18</sup> While non-native eelgrass tends to grow at higher elevations than native eelgrass, Willapa Bay is so flat that there are many mixed beds, and the herbicide will kill native eelgrass just as easily as non-native.<sup>19</sup> The permit allows thousands of acres to be sprayed with the herbicide annually, and if the growers leave a 10m buffer to the next property line, they are released from monitoring requirements. This herbicide will not only kill eelgrass it is applied to (including native eelgrass in mixed beds), it will not stay where it is put, and will be instead transported to other parts of Willapa Bay

### III. USACE Should Not Re-Issue NWP 48 As Proposed

Given the impacts outlined above (and in other comments received by the Corps regarding NWP 48), the Seattle District should not re-issue NWP 48 in Washington. Before the Seattle District considers issuing any general permit, it must fully comply with NEPA (which means analyzing the impacts of shellfish aquaculture) and the ESA and MSA, which means consultation with NMFS and FWS *before* issuing the permit. Rather than use a nationwide permit, CFS urges the Seattle District to issue individual permits, or potentially regional permits, that will take the unique characteristics of each intertidal ecosystem into account, as well as the type of shellfish aquaculture contemplated.

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<http://www.ecy.wa.gov/programs/wq/pesticides/imidacloprid/index.html> (last visited Aug. 1, 2016).

<sup>16</sup> See e.g. NMFS, Comments on draft NPDES permit allowing use of imidacloprid to control burrowing shrimp in Willapa Bay and Grays Harbor (Dec. 8, 2014), *available at* <http://www.ecy.wa.gov/programs/wq/pesticides/imidacloprid/docs/commentsDec2014/noaa.pdf>.

<sup>17</sup> CFS, *Water Hazard: Aquatic Contamination by Neonicotinoid Insecticides in the United States* (Sept. 16, 2015), <http://www.centerforfoodsafety.org/issues/304/pollinators-and-pesticides/reports/4048/water-hazard-aquatic-contamination-by-neonicotinoid-insecticides-in-the-united-states>.

<sup>18</sup> Wash. Dept. of Ecology, *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay General Permit, <http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass.html> (last visited Aug. 1, 2016).

<sup>19</sup> U.S. FWS, Comments to Wash. Dept. of Ecology on NPDES permit for control of non-native eelgrass, (Feb. 14, 2014) <http://www.ecy.wa.gov/programs/wq/pesticides/eelgrass/docs/commentsFeb2014/usfws.pdf>.

## A. USACE Fails to Comply with NEPA

The Corps drafted the Decision Document as its purported EA. However, this document falls far short of the Corps' NEPA duties, and therefore, if the Seattle District were to adopt NWP 48 (which it should not), it will need to address these issues in its own NEPA analysis before going forward:

- **No purpose and need statement.** EAs must include a discussion of the need for the proposal. 40 C.F.R. § 1508.9(b). Without this discussion, the public cannot know the scope of potentially reasonable alternatives.
- **Inadequate alternatives.** The alternatives are the “heart” of the NEPA analysis, and they are required in an EA, including a “no action” alternative and other reasonable alternatives. *Id.*, § 1508.25(b). USACE only listed a “no action” alternative and its proposed NWP 48, which would cover both existing and new (no shellfish grown for 100 years) operations, and would not require PCNs for any operations except those introducing a new species or “new” (in last 100 years) operations. USACE did not consider any other alternatives, and this is not a reasonable range. *See Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 812 (9th Cir. 1999) (evaluation of “no action” and just two nearly identical alternatives was NEPA violation); *Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1101 (9th Cir. 2006) (Army's consideration of just “no action” and one other alternative violated NEPA, where purpose and need could have been fulfilled by other alternatives and these were not considered, nor explanation given of why other alternatives would not be feasible). Further, USACE's discussion of the alternatives it did have was wholly inadequate. The Decision Documents merely discusses the downsides of the “no action” alternative while listing potential alternatives that might come from regional conditions or individual conditions. USACE has no way to evaluate the impacts of these potentially different sets of conditions. Instead, USACE should consider the differences between its proposed NWP and other NWPs (with a known set of conditions), and other types of permits (regional general permits and individual permits). The NWP 48 as currently conditions is only *one* alternative, and CFS suggests the following additional alternatives:
  - **NWP with more restrictive conditions** – this NWP would not include any operations that are new, which “new” defined as not actively in operation for 5 years or more, including expansion into fallow areas. Based on the findings of the study USACE relies on, Dumbauld & McCoy, 2015, recovery time for eelgrass beds after various shellfish activities (i.e. mechanical harvest, shading from suspended culture) is between 1 and 4 years. If beds do recover this quickly, then beds left unused for 5 years would presumably be returned to their natural state (or nearly natural) and so any new activities here should be considered “new” based on the available science. If USACE finds that beds require *more time* to recover to a relatively undisturbed state, then that amount of time should be used to define “new.” This alternative would also prohibit the use pesticides, plastics, and mechanical harvesting, as all of

these activities have the potential for more than minimal adverse impacts to the environment.

- **No NWP** – this alternative should include discussion of possibility of Regional General Permits or individual permits (some combination to be determined by Divisions and Districts). Not all regions would need permits because shellfish do not grow in all parts of the county, *see e.g.* [http://www.nmfs.noaa.gov/aquaculture/homepage\\_stories/18\\_marine\\_aquaculture\\_infographic.html](http://www.nmfs.noaa.gov/aquaculture/homepage_stories/18_marine_aquaculture_infographic.html). Because USACE relies so heavily on mitigation to be determined by District Engineers, this alternative should be considered.
- **Mitigation of Impacts.** Any mitigation measures used to show that an activity will not be “significant” (and thus require an EIS) must be adequately explained in detail and be enforceable. USACE relies so heavily on mitigation at the District level, but it fails to actually describe the possible effects (direct, indirect and cumulative) from shellfish aquaculture activities or how these unknown mitigation measures will actually avoid more than minimal adverse impacts. These shellfish activities have been permitted through NWPs since 2007, but USACE makes no effort to provide information to the public of the impacts from these past permitted activities, possibly because USACE did not have any system in place to actually monitor and evaluate these impacts. While USACE relies on to-be-determined regional conditions to mitigate any impacts and therefore make the NWP impacts minimal, it does not explain what kind of conditions might mitigate the potential adverse impacts. Nor does it provide any baseline that is relevant to commercial shellfish aquaculture as opposed to the general loss of wetland habitat nationwide (while shellfish will be grown in marine intertidal areas). While the regional conditions that may or may not be added are to-be-determined, USACE also relies on the general conditions attached to the NWP to minimize impacts. However, many of these general conditions are so vague as to be basically useless (i.e. general condition 23 requiring permittees to minimize and avoid impacts). How will USACE ensure that permittees using NWP 48 for shellfish aquaculture activities will follow this condition? What ways can those growers minimize their impacts? USACE provides little in the way of concrete guidelines for how permittees can actually achieve the general conditions on which it relies to mitigate any more-than-minimal adverse impacts. Further, any individual mitigation measures will only be attached if a permittee is required to submit a PCN, and given the proposed conditions, that will likely be few and far between. The Corps is not proposing to require a PCN for any activities that are not “new” (in the last 100 years), or for disturbance of aquatic vegetation, or for a change from bottom to off-bottom culture. This effectively removes almost all PCN requirements and so it is very unlikely that District Engineers will be able to effectively attach any individual mitigation measures under the proposed NWP 48.
- **Direct, Indirect, and Cumulative Impacts.** First, the baseline USACE uses includes the activities authorized under the previous 2012 NWP 48, but as noted above, the number of activities and affected acres was many times larger than previously evaluated. Making the current landscape part of the baseline ignores the effects of the greatly expanded commercial shellfish aquaculture permitted, but

never evaluated, under the 2012 permit. USACE's description of the Affected Environment does not focus on the estuarine/marine environment that is going to be affected by this permit; instead the section seems to be general to all NWP's. Under the Environmental Consequences section, USACE fails to actually describe *any* direct or indirect effects from allowing all existing and "new" commercial shellfish aquaculture activities under a nationwide permit. Again, the Corps merely refers to future regional conditions to mitigate any impacts, but that is not what NEPA requires. While there may not be *extensive* data on the ecological impact of shellfish aquaculture in the U.S., studies do indicate that intensive shellfish farming is associated with a decrease in species richness, altered species abundance and distribution, changes in community intertidal structure from surface species, subsurface species, and bivalves to just bivalves, and greater accumulations of surface sediment silt and organic matter. *See supra* n.3, 6. Dumbauld and McCoy 2015, cited by the Corps to indicate that PCNs are somehow not required because eelgrass can recover after being disturbed, found that mechanical harvest of oysters has a significant negative impact on eelgrass. Other studies show that equipment regularly used for oyster and clam culture, especially anti-predator nets, are both ineffective and damaging to the nearshore environment, as well as a source of plastic pollution to the marine environment. *Supra* n.10. None of these impacts are discussed in the Corps' environmental analysis, but under NEPA the environmental impact of the proposed action is required. 40 C.F.R. § 1508.9(b). USACE also wrongly assumes there will be no cumulative impacts (again based on regional conditions) despite its estimate that NWP 48 would impact over 56,000 acres of intertidal habitat. How many of those acres are relatively undisturbed tidebeds, which will be converted to intensive shellfish aquaculture (beach stripped of native species, PVC tubes stuck into beds at density of 43k/acre, anti-predator plastic netting laid over top, or sprayed with herbicides to kill eelgrass)? The Corps acknowledges that the impact and tradeoffs of shellfish culture should be examined at the landscape scale, (Decision Doc. at 52), but does not do this, instead leaving cumulative effects analysis for District Engineers on an individual PCN basis. The Corps further states that without the data, it is hard to assess the cumulative impacts (Decision Doc. at 30), but without compiling information on the impact of the NWP, the public and the Corps will never be able to assess the overall impacts that commercial shellfish aquaculture is having. The Corps must evaluate cumulative impacts of adding tens of thousands of acres of shellfish farms to the nation's shorelines and estuaries, and collect the data to do so.

- **Significance Factors.** USACE did not at all discuss the context and intensity factors that might indicate that this proposed NWP will have a "significant impact to the human environment" and thus require an EIS. Shellfish aquaculture is controversial in Washington, and as acknowledged by the Corps, there are possible effects on the human environment that are highly uncertain or involve unique or unknown risks. Because this permit would affect tens of thousands of acres of shoreline and estuarine aquatic environments, it has the potential to be cumulatively significant, particular when added to the other impacts and stressors to these regions. This is enough to establish significant impact and require an EIS.

## **B. USACE Fails to Comply with ESA and MSA**

As stated in the comments submitted by Center for Biological Diversity (and joined by CFS), the national Army Corps cannot avoid its consultation duties by waiting for individual permittees to report that their activities “might” affect listed species. While individual evaluation is important (because different types of aquaculture have different impacts), this does not relieve the Corps of the requirement to consult where the nationwide permit “may affect” listed species. Given the intertidal and estuarine areas that will be impacted by these activities are home to many listed species (fish, birds, etc.), this NWP definitely “may affect” those species (including pacific salmon populations and green sturgeon in Washington). Programmatic consultation is required to determine as to the cumulative effect of permitting essentially all shellfish aquaculture in every region of the country (where hundreds of protected species may overlap with these activities). The Decision Document does not provide any analysis of which species overlap with shellfish aquaculture. Further, it seems there is a good chance that, because PCNs are not otherwise required for most shellfish aquaculture under the proposed NWP 48 conditions, that growers will simply not provide PCNs, despite general condition 18, to avoid consultation. Permittees are not the appropriate parties to determine whether an activity may (or “might”) affect listed species; the “effects” determination should be made by the Corps, the federal agency permitting the activity. 50 C.F.R. § 402.14. The Seattle District is now in programmatic consultation with NMFS and FWS regarding its shellfish permitting, and the Corps should await that analysis and include its findings in this NWP, and do its own consultation before moving forward.

The MSA also requires consultation where EFH may be adversely affected. As noted above, shellfish aquaculture can have negative impacts to the ecosystem and thus EFH consultation is also required before the Corps can re-issue this permit. In past consultations, NMFS included consideration of EFH and issued conservation measures. *See* NMFS 2009 BiOp.

CFS recognizes that the Seattle District has been engaged in programmatic consultation with NMFS and FWS for several years and should be receiving and making public near final biological opinions from both shortly. Before CFS reviews these opinions, it is unclear whether they will be sufficient to address any regional general permit that the Seattle District might issue, and reminds the Seattle District that in addition to its CWA minimal impacts findings, it must ensure that any shellfish activities conducted under a general permit must not jeopardize listed species or their critical habitat. The analysis performed by NMFS and FWS must take into account the actual scope and conditions of any regional general permits for the Seattle District to be in compliance with the ESA.

## **C. Individual or Regional General Permits Would Be More Appropriate**

Given USACE’s plan to do individual ESA consultations for every shellfish aquaculture activity that “might” affect listed species, it may as well just require individual permits (using a set of conditions that could be altered for each permittee according to need). It is known that different types of shellfish farming have different impacts (bottom v. off-bottom culture, mechanical v. hand harvesting, use of pesticides v. none, the use of anti-predator nets, PVC tubes, etc.) and different areas have different ecological considerations. Even

within Washington State, Willapa Bay is different from the Puget Sound. Regional areas are very different as well. Washington is not the same as Oregon, and even the Pacific Northwest is unique from California, or the Gulf (i.e. BP oil spill), or the Northeast (Chesapeake Bay). Individual or possibly regional general permits are therefore better suited to addressing the needs of each area, and actually evaluating impacts from potential alternative permits, unlike the NWP where no analysis has been done at all.

Regional general permits, like NWPs, may only be granted if activities are similar and will only have minimal individual and cumulative adverse effects to the environment. 33 U.S.C. § 1344(e)(1); 33 C.F.R. § 323.2 (h) (general permit may be granted on nationwide or regional basis only if “activities it covers are substantially similar in nature and cause only minimal individual and cumulative environmental impacts”). The Seattle District Engineers are in best position to determine what types of aquaculture activities are appropriate for their shorelines, near shore environments, and estuaries. Regional general permits would also be more clear and easy to follow than NWPs, which have general conditions, then regional general conditions, and regional conditions specific to the NWP. Since the national Army Corps relies entirely on regional conditions to minimize adverse impacts from NWP 48, it should not be adopted in Washington at all, with regional or individual permits instead.

CFS urges the Seattle District to consider the unique ecological areas in Washington if it decides to issue regional general permits, and at minimum divide Willapa Bay/Grays Harbor and Puget Sound. Further, the District should consider whether different types of shellfish culture should really be considered “similar” activities, given the difference between on-bottom culture (shellfish planted directly in tide bed, no plastic gear) and off-bottom culture types, and different types of harvest. Most importantly, the use of pesticides by some growers is *not* a similar activity to other shellfish growers and these growers should not be covered under any general permit.

#### **D. Any General Permit Seattle District Adopts Must Be Limited to Types of Shellfish Farming that Actually Only Have Minimal Adverse Impacts to Environment**

The Seattle District must comply with NEPA, the ESA and the MSA before going forward with reissuance of any general permits. Under the CWA, the District must make a finding that the activities allow under a general permit would only have minimal adverse impacts, both individually and cumulatively. To do that the new general permits should only cover shellfish farming practices that have minimal impact to the intertidal/estuarine environment. The District should, in conjunction with NMFS and FWS, critically evaluate the impacts of operations that use plastics and/or pesticides and how various growing and harvest techniques perennially and repeatedly alter essential habitats. The District should investigate the types of growing operations that have the least environmental impact. For instance, Bendell 2015 also suggests “clam gardens,” an ancient method of clam culture that involves stone walls set at low tide to retain sediment and nutrients and provide an environment conducive to bivalve growth. *Supra* n.10 at 26-27.





Figure 4: Healthy shellfish beds in Grays Harbor without use of plastics or pesticides, FMO Aquaculture in Grays Harbor.



Figure 5: Heavy machinery, pesticide injection and aerial spraying on Willapa Bay shellfish beds

**Conclusion:**

Instead of adopting a highly flawed NWP 48 (for which the Army Corps has failed to comply with NEPA, ESA, MSA, or the CWA), CFS urges the Seattle District to forgo a NWP for commercial shellfish activities and instead issue individual permits (with programmatic consultation under the ESA to determine cumulative impacts) or regional permits for various areas and types of shellfish culture activities within Washington.

Sincerely,



Amy van Saun  
Legal Fellow  
Center for Food Safety  
917 S.W. Oak St. Suite 300  
Portland, Oregon 97205  
(971) 271-7372  
[avansaun@centerforfoodsafety.org](mailto:avansaun@centerforfoodsafety.org)