



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
West Coast Region  
1201 NE Lloyd Blvd, Suite 1100  
Portland OR, 97232

Refer to NMFS No.:  
WCR-2014-1502

September 30, 2016

Michelle Walker  
U.S. Army Corps of Engineers, Seattle District  
Regulatory Branch CENWS-OD-RG  
P.O. Box 3755  
Seattle, Washington 98124-3755

Re: 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) **Revised ITS and Biological Opinion Errata**

Dear Ms. Walker,

On September 2, 2016, NMFS issued a programmatic biological Opinion (Opinion) for Shellfish aquaculture activities in Washington State. Since the Opinion was issued, errors have been discovered in the opinion and the incidental take statement (ITS). Attached to this letter are (1) an erratum sheet correcting the errors in the Opinion; and (2) a revised ITS. These changes are fully consistent with the analysis in the Opinion, and thus do not require reinitiation of consultation. The attached revised ITS replaces the ITS in the September 2, 2016 Opinion.

Corrections to the Opinion are as follows:

- 1) The Opinion currently references Point Wilson as the demarcation between North and mid Puget Sound. There is no mid Puget Sound region and Point Wilson is not a relevant landmark to the geographic boundaries. Thus this reference is deleted.
- 2) The Opinion references critical habitat for HCSR chum salmon at 1,887 acres. The correct acreage is 2,412.
- 3) The Opinion references fallow areas with eelgrass in Puget Sound and Hood Canal at 2,464 acres. The correct acreage is 2,628.
- 4) The Opinion currently references a Washington Department of Natural Resources (WDNR) document regarding delineation of an eelgrass bed. It should reference a Corps document that incorporates the methodology described in the WDNR document.



WCR-2014-1502 (Prog)

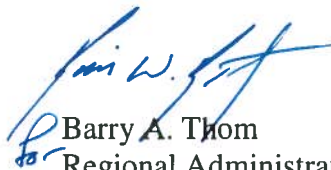
Corrections to the ITS are as follows:

That Opinion included 7 non-discretionary terms and conditions meant to minimize effects to listed species and their habitats. It has come to our attention that Term and Conditions (T&C) No. 1, No. 2, No. 4, and No. 5 either contain an error or are confusing. As currently written, T&C No. 4 mistakenly omits that this T&C is only applicable in critical habitat for Puget Sound Chinook Salmon in Hood Canal and Puget Sound. Further, T&C No. 4 is intended to prohibit mechanical work associated with longlines. T&C No.1 and 2 limits mechanical oyster harvest in North Puget Sound to certain time periods, and limits such harvest in Willapa Bay, and Grays Harbor to specific acreages. These T&Cs should include harrowing in addition to mechanical oyster harvest. The revised ITS with corrected terms and conditions is attached.

We will add this letter, the Errata Sheet, and the revised ITS to the consultation file and to PCTS.

Please direct questions regarding this revised ITS to Scott E. Anderson at the Oregon/Washington Area Office in Lacey, Washington at (360) 753-5828, by e-mail at [scott.anderson@noaa.gov](mailto:scott.anderson@noaa.gov), or by mail at the letterhead address.

Sincerely,



Barry A. Thom  
Regional Administrator

cc: Pam Sanguinetti

## **ERRATA SHEET**

### **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)**

September 30, 2016

#### **Page 11. Conservation Measures.**

The Opinion identifies the WDNR tech memo “Operational Definition of an Eelgrass Bed?” as the appropriate reference for defining and identifying eelgrass. The COE adopted the WDNR methodology as described in a technical document developed by eelgrass experts at the COE that is referenced below. The COE prefers to reference the COE technical document with regards to eelgrass identification when implementing the COE Regulatory Program and the NOAA Opinion. USFWS has adopted this document in its Opinion - see page 34 of the USFWS biop that states under Conservation Measure 3: “[\*Note: Where the conservation measures refer to native eelgrass, they refer to and use the definition, description, and methods of delineation that have been endorsed and adopted by the Corps’ Seattle District (Corps 2016).]”.

Citation:

U.S. Army Corps of Engineers – Seattle District (Corps). 2016. Components of a complete eelgrass delineation and characterization report. Regulatory Program, Seattle, Washington. May 27, 2016. 24pp. Available On-Line at <<http://www.nws.usace.army.mil/Portals/27/docs/regulatory/Forms/Components%20of%20Eelgrass%20Delineation%205-27-16.pdf?ver=2016-05-27-131522-740>> (Accessed June 5, 2016).

#### **Page 64. 2<sup>nd</sup> full paragraph.**

A parenthetical in this paragraph references Point Wilson as demarcation between North and mid Puget Sound. There is no mid Puget Sound region and Point Wilson is not a relevant landmark to the geographic boundaries. This is confusing and the parenthetical should be ignored. The geographic regions are based on Tidal Reference Areas defined by the State of Washington (WAC 220-660-310). The North Puget Sound Sub-Action Area is defined accurately on page 55, and is referred to subsequently in the Opinion as the NPSAA.

The WAC 220-660-310 definition of geographic marine areas on which the sub-action areas in the Opinion are based is as follows:

- a. North Puget Sound: Includes Tidal References Areas 7-10. Includes all saltwater areas in Washington State north of a line projected true east from Possession Point to Chenault Beach, north of a line projected from Tala Point to Foulweather Bluff, north of a line from Foulweather Bluff to Double Bluff, and east of a line from Cape Flattery to Carmanah Point (Vancouver Island).
- b. South Puget Sound: Includes Tidal References Areas 1-6. Includes all saltwater areas south of a line projected true east from Possession Point to Chenault Beach and south of a line from Foulweather Bluff to Double Bluff.

- c. Hood Canal: Includes Tidal References Areas 11-13. Includes all saltwater areas south of a line projected from Tala Point to Foulweather Bluff.
- d. Grays Harbor: Includes Tidal References Areas 15 and 16. Includes all saltwater area in Grays Harbor easterly of a line projected from the outermost end of the north jetty to the outermost end of the south jetty.
- e. Willapa Bay: includes Tidal References Area 17. Includes all saltwater area in Willapa Bay easterly of a line projected from Leadbetter Point to Cape Shoalwater Light.

**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)**

REVISED INCIDENTAL TAKE STATEMENT  
September 30, 2016

This Revised Incidental Take Statement (ITS) replaces the ITS contained in the Biological Opinion dated September 2, 2016.

## **2.8 Incidental Take Statement**

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. “Harm” is further defined by regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). “Incidental take” is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this incidental take statement.

We found take is reasonably certain to occur from mechanical oyster harvest and harrowing in the north Puget Sound for canary rockfish and in Grays Harbor and Willapa Bay for green sturgeon. We also found take is reasonably certain to occur for green sturgeon, PS Chinook salmon, canary rockfish, and HCSR chum salmon from entanglement with loose shellfish cover nets, as discussed in the following section. We also found take is reasonably certain to occur for a few PS Chinook salmon from loss of cover due to suppression of eelgrass in Puget Sound and Hood Canal. Finally, we found take of a few HCSR chum salmon from shellfish-related disturbance in the nearshore during the HCSR chum salmon juvenile migration.

### **2.8.1 Amount or Extent of Take**

NMFS determined that incidental take would occur as follows:

#### ***Mechanical Harvest***

##### **Canary Rockfish**

A small but undetermined number of juvenile canary rockfish is likely to be injured or killed as a result of coming into contact with a mechanical oyster harvester.

Given that a numeric estimate of larval rockfish that are likely to be affected by this project cannot be ascertained because any death or injury to this species would occur over a very large area, sporadically, over the course of many years. Also, there is no feasible monitoring protocol that would be able to detect when juvenile canary rockfish were injured or killed during mechanical oyster harvest or harrowing. In these circumstances, NMFS can rely instead on a threshold defined by a maximum area of mechanical harvest in the NPSAA as estimated by the COE (2015) of 200 acres per year. This threshold is proportional to the amount of take we expect for canary rockfish because even though the total number of fish injured or killed is expected to be low, the chance of fish being injured or killed increases as the area mechanically harvested or harrowed increases. This is because we expect canary rockfish to distribute evenly across nearshore area in the NPSAA. As such, the extent of take will be exceeded upon reaching a total of 200 mechanically harvested or harrowed acres (whichever comes first) in NPSAA in any given year. Exceedence of 200 mechanically harvested or harrowed acres will trigger reinitiation of consultation. This threshold is a valid reinitiation trigger because the COE can require monitoring and reporting that would allow them to track this threshold in any given year.

#### Green Sturgeon

A small but undetermined number of adult and subadult green sturgeon are likely to be injured or killed as a result of coming into contact with a mechanical oyster harvester or harrow in Grays Harbor and Willapa Bay.

Given that a numeric estimate of sub adult and adult green sturgeon that are likely to be affected by this project cannot be ascertained because any death or injury to this species would occur over a very large area, sporadically, over the course of many years. Also, there is no feasible monitoring protocol that would be able to detect when green sturgeon were injured or killed during mechanical oyster harvest or harrowing. In these circumstances, NMFS can rely instead on a threshold defined by a maximum area of mechanical harvest or harrowing in Willapa Bay of 18,367 acres per year, and 2,763 acres per year in Grays Harbor as estimated by COE (2015). These thresholds are proportional to the amount of take we expect for green sturgeon because even though the total number of fish injured or killed is expected to be low, the chance of fish being injured or killed increases as the area harvested mechanically or harrowed increases. This is because we expect green sturgeon to distribute evenly across harvested area in both embayments. As such, the extent of take will be exceeded upon reaching a total of 18,367 mechanically harvested or harrowed acres (whichever comes first) in Willapa Bay in any given year, and 2,763 in Grays Harbor. Exceedence of these mechanically harvested or harrowed acres will trigger reinitiation of consultation. This threshold is a valid reinitiation trigger because the COE can require monitoring and reporting that would allow them to track this threshold in any given year.

#### *Suppression of Eelgrass*

##### Puget Sound Chinook Salmon

A small but undetermined number of juvenile PS Chinook salmon are likely to be harmed by future suppression and preclusion of eelgrass in new culture areas and in fallow areas of Hood Canal and Puget Sound. While it is impossible to predict the exact number of fish to be affected, NMFS relies on the number proposed acres of new farms and of fallow acres of eelgrass in Hood Canal and Puget Sound that could be brought into shellfish production as the extent of take. We estimate take will occur when effects of continuing active sites are combined with cumulative,

widespread reductions in eelgrass densities from shellfish culture moving into fallow areas colonized by eelgrass. The COE estimates approximately 2,628 acres of fallow lands in Puget Sound potentially contain eelgrass. New farms will be required to observe a 16-foot buffer from eelgrass. As such, maximum take will be reached upon full development of 2,628 acres of fallow culture area for shellfish. Exceedance of 2,628 acres will trigger reinitiation. This threshold is proportional to the amount of take we expect for PS Chinook salmon because the number of fish that would be harmed through the loss of eelgrass density would increase with the number of eelgrass acres where suppression occurs. This threshold is a valid reinitiation trigger because the

COE can require monitoring and reporting that would allow them to track this threshold in any given year.

### *Cover Nets*

Additionally, a few PS Chinook, HCSR chum salmon, green sturgeon, and canary rockfish are likely to be injured or killed by entanglement in cover nets. As noted in the effects section, this source of take is only documented to have happened one time, killing surf smelt. For this reason we reasonably expect this type of injury or death to happen no more than 5 times over the life of the permit. As such, five reported entanglements of PS Chinook, HCSR chum salmon, green sturgeon, or canary rockfish are the limit of take, and any visually confirmed entanglements beyond five will trigger reinitiation.

### *General Disturbance*

A few HCSR chum salmon are likely to be injured or killed from striking or being crushed by equipment, crushing, predation, or other effects as a result of shellfish activities in the shallow nearshore during the migration of juvenile HCSR chum salmon from approximately February through April. Because not all fish affected by this form of take will die at the site of the effect, and because numerous juveniles are passing through the area at the time period in question, it is not possible to estimate or monitor the number of fish affected. Therefore we are using a surrogate for the extent of take.

Continuing active, continuing fallow, and new shellfish activities located in and around river mouths are the most likely places for these effects to occur. However, because these fish can migrate several miles per day, we expect this effect could occur anywhere on the shoreline in critical habitat for HCSR chum where shellfish aquaculture occurs, totaling 2,412 acres. As such, maximum take will be reached upon full development of 2,412 acres of culture area for shellfish in HCSR chum critical habitat. Exceedance of 2,412 acres will trigger reinitiation. This threshold is proportional to the amount of take we expect for HCSR chum salmon because the number of fish that would be harmed through disturbance would increase with the number of acres in shellfish production.

### **2.8.2 Effect of the Take**

In the PBO, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

### **2.8.3 Reasonable and Prudent Measures**

“Reasonable and prudent measures” are nondiscretionary measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

1. Minimize take of canary rockfish from mechanical harvest and harrowing by minimizing mechanical harvest and harrowing to the extent practicable in waters of the North Puget Sound and Hood Canal Action Areas.
2. Minimize take of green sturgeon from mechanical harvest and harrowing by minimizing mechanical harvest and harrowing to the extent practicable in the waters of the Willapa Bay and Grays Harbor.
3. Minimize take of green sturgeon, HCSR chum salmon, canary rockfish, and PS Chinook salmon from entanglement with shellfish cover nets.
4. Minimize take of PS Chinook salmon by limiting the types of culture methods in fallow areas colonized by native eelgrass (*Zostera marina*). Monitor and report annually on the acreage of shellfish aquaculture moving into fallow areas in each sub-basin with critical habitat for PS Chinook salmon.
5. Minimize take of HCSR chum salmon by limiting in-water activities in Hood Canal from February 1 through April 30.
6. Monitor and report as incidents occur, any loose nets, and any entangled fish, regardless of species, and collect specimens of the entangled fish.
7. Monitor and report real-time implementations of the proposed action.

### **2.8.4 Terms and Conditions**

The terms and conditions described below are non-discretionary, and the COE or any applicant must comply with them in order to implement the reasonable and prudent measures (50 CFR 402.14). The COE or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this incidental take statement (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

The following terms and conditions implement the reasonable and prudent measures:

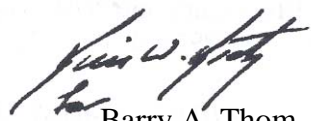
1. To implement RPM 1, mechanical dredge harvest and harrowing shall not be conducted in NPSAA between April 1 through August 31, to avoid those months when canary rockfish are known occupy nearshore areas prior to moving to deeper water towards the end of summer.



2. To implement RPM 2, limit mechanical dredge harvest and harrowing to 18,367 acres per year in Willapa Bay, and 2,763 in Grays Harbor.
3. To implement RPM 3, ensure clam and other shellfish cover nets are secured to the extent practicable. Report and loose cover nets regardless of whether fish were entangled. If fish are entangled, record and report species, time, and location of entanglement. Collected specimens of fish entangled shall be preserved in a freezer, and reporting shall be to the NMFS' Lacey Office in order to determine appropriate steps to ascertain the entangled species. Contact the NMFS Central Puget Sound Branch Chief by telephone or email
4. To implement RPM 4, only oyster long lines (with flip bags ok) spaced laterally at 10 feet intervals shall be used in fallow areas that have been colonized by eelgrass in greater Puget Sound and Hood Canal only. Flip bags must be suspended above the substrate so they do not rest on substrate at low tide. No other culture methods shall be used in fallow areas colonized by eelgrass. Further, with the exception of mechanical longline harvest, no mechanized activities shall occur in fallow areas colonized by eelgrass. This Term and Condition does not apply to fallow areas in Willapa Bay or Grays Harbor.
5. To implement RPM 5, in HCSR chum critical habitat between February 1 and April 30, shellfish planting and harvesting shall not occur within 15 feet waterward of the waterline (tideline) to protect juvenile chum salmon. In addition, shellfish activities which increase turbidity in the nearshore water (e.g., geoduck harvest) shall not occur at all during this timeframe.
6. To implement monitoring requirements of RPM 5, in its annual report, the COE should include an account of any entangled fish from any of the action areas, regardless of species. These reports should be made available to the Lacey, Washington NMFS office, attn: Matt Longenbaugh 510 Desmond Drive, Suite 103, Lacey Washington, 98503
7. Report implementations of this programmatic opinion as described in Appendix B.

Please direct questions regarding this revised ITS to Scott Anderson of my staff at the Oregon/Washington Area Office in Lacey, Washington at (360) 753-5828, by e-mail at [scott.anderson@noaa.gov](mailto:scott.anderson@noaa.gov), or by mail at the letterhead address.

Sincerely,



Barry A. Thom  
Regional Administrator

cc: Pam Sanguinetti (COE)