

## DRAFT INCIDENTAL TAKE STATEMENT FOR EULACHON

AUGUST 8, 2018

### Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response and Fish and Wildlife Coordination Act Recommendations

#### Continuing Operation of the Pacific Coast Groundfish Fishery (Reinitiation 2018)

NMFS Consultation Number: WCR-2018-8635

ARN: 151422WCR2018PR00004

Action Agency: NOAA's National Marine Fisheries Service (NMFS)

#### Affected Species and NMFS' Determinations:

ESA- Listed Species	Status	Is Action Likely to Adversely Affect Species/?	Is Action Likely to Jeopardize the Species?	Is Action Likely to Adversely Affect Critical Habitat?	Is Action Likely to Destroy or Adversely Modify Critical Habitat?
Eulachon ( <i>Thaleichthys pacificus</i> )	Threatened	Yes	No	No	No

Consultation conducted by National Marine Fisheries Service, West Coast Region.

Issued by: \_\_\_\_\_  
Barry A. Thom  
Regional Administrator

Date: \_\_\_\_\_

## 2.9

### 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.

### 2.9.1

#### Amount or Extent of Take

In the biological opinion, NMFS determined that incidental take is reasonably certain to occur as follows:

The proposed groundfish fisheries would result in the capture and mortality of juvenile and adult eulachon. Eulachon will enter groundfish trawl nets during fishing operations and can affect eulachon via one of two take pathways. The first take pathway is a result of an unknown number of eulachon escaping the trawl nets after capture, but there is no way to ascertain whether or how many will suffer minor, sublethal, or lethal effects. The second take pathway involves the remaining eulachon being retained as bycatch in groundfish trawl nets. These fish are expected to die due to crushing and descaling injuries.

To assess the impacts of the proposed action on the southern distinct population segment (SDPS) of eulachon, NMFS has chosen to use the Columbia River population to represent the entire distinct population segment (DPS). The DPS, as described in section 2.3 above, established by the Biological Review Team, encompasses all subpopulations of eulachon within the states Washington, Oregon, and California, extending from the Skeena River in British Columbia south to the Mad River in Northern California. It is not possible to quantify the number of eulachon incidentally taken (lethally or otherwise) as a result of the proposed action for eulachon runs below the DPS because population estimates are not calculated annually in a consistent manner, with the best population estimates coming from the Columbia and Fraser Rivers. The Columbia River eulachon run is the largest contributor to the DPS and representative of the overall abundance of the DPS:

1. The Columbia River has the largest eulachon spawning run within the ESA-threatened DPS range. A recent study (2002 to 2015) estimated that 66.8 percent of the eulachon captured off the west coast of Vancouver Island, north of grounds of the Pacific Coast Groundfish Fishery (PCGF), were of Columbia River origin (Gustafson et al. 2016).

2. The PCGF is in closest proximity to the Columbia River spawning run. There are no current major eulachon runs south of the Columbia River, and the nearest major spawning run to the north would be in the Fraser River (which is north of the PCGF) (Gustafson et al. 2010).
3. The Columbia River has a regular eulachon spawning run. No matter how low or high eulachon abundance is, the Columbia River has been observed to have a eulachon spawning run historically (Gustafson et al. 2010). Smaller eulachon spawning runs often do not occur annually when eulachon abundance is low (Gustafson et al. 2010).
4. The Columbia River is one of only two watersheds with major eulachon spawning runs within the DPS that are estimated annually (the other being the Fraser River, British Columbia, Canada).

NMFS will use a surrogate to express the amount of incidental take from the combined bycatch and unobserved take. The surrogate is the bycatch, as a proportion of the abundance, to account for the non-bycatch injury/mortality effects that we cannot measure. The surrogate is measured as a 5-year geometric mean. This will be compared to the abundance of the Columbia River eulachon run, also measured as a 5-year geometric mean.

This surrogate is causally linked to the expected amount of incidental take because NMFS expects that unobserved catch (and therefore total eulachon take) will vary proportionally with observed bycatch. Two incidental take thresholds will be used in this Opinion.

The higher threshold is 0.02 percent of the five-year geometric mean of the minimum estimate for the Columbia River eulachon spawner run; this is the maximum amount being analyzed for this Opinion. This threshold is based on bycatch levels that (1) would neither negatively impact nor jeopardize the existence of the SDPS of eulachon, while still (2) providing the groundfish fishery with ample eulachon bycatch levels for the fishery to continue. If eulachon bycatch (measured as a 5-year mean) exceeds 0.02 percent of the calculated minimum Columbia River eulachon run abundance (also measured as a 5-year geometric mean), then the take limit will be considered to have been exceeded and reinitiation will be triggered.

The lower threshold (0.01 percent), or half of the maximum trigger in this Opinion, will be used as a precautionary threshold.

NMFS will provide annual updates of five-year geometric means from the most recent available data for both eulachon bycatch in the PCGF fishery and the minimum abundance estimate from the annual Columbia River eulachon run. A five-year time-frame will be used for the following reasons:

- (1) Eulachon can live up to five years, so this timeframe reasonably reflects one generation.
- (2) Longer data sets can more accurately depict abundance and bycatch trends, and provide for the opportunity to consider adjustments to the PCGF, if necessary, in response to a robust data set.

On an annual basis, NMFS would calculate the eulachon bycatch thresholds from the current year's Columbia River eulachon run and the preceding four years to create the five-year geometric mean. Further, the most recent year's groundfish fishery eulachon bycatch numbers (eulachon bycatch estimates from the PCGF take approximately 9-12 months to obtain following each fishing season) would be combined with the bycatch of the four preceding years to calculate a five-year geometric mean. For example, the 2016 groundfish fishery eulachon bycatch numbers would be calculated in the following ways (Figure 2.1):

- First threshold = 4,580 eulachon (0.01 percent of the SDPS surrogate of the geometric mean from 2012 to 2016).
- Final threshold = 9,159 eulachon (0.02 percent of the SDPS surrogate of the geometric mean from 2012 to 2016).
- 2016 PCGF bycatch = 2,139.8 eulachon (geometric mean 2011 to 2015).

For 2016, the PCGF eulachon bycatch calculation (2,139.8 eulachon) was well below the thresholds in this Opinion (Table 2-4). When analyzing eulachon bycatch and abundance data from 2011 through 2016, the PCGF was less than half of the first threshold and less than a quarter of the final threshold every year.

Table 2-4. Pacific Coast groundfish fishery (PCGF) eulachon bycatch totals and calculated thresholds (number of individual eulachon) from 2011 to 2017.

Year	Annual Eulachon Estimate Columbia River (minimum)	Annual PCGF Eulachon Bycatch	Five-year geometric means			Calculated bycatch as a percentage of	
			Eulachon bycatch	First threshold 0.01%	Final threshold 0.02%	First threshold	Final threshold
2011	17,860,400	1,621	85.8	1,786	3,572	4.80%	2.40%
2012	20,008,600	191	380.6	1,893	3,787	20.10%	10.05%
2013	45,546,700	5,113	402.4	2,781	5,561	14.47%	7.24%
2014	84,243,100	3,075	1,416.4	4,191	8,383	33.79%	16.90%
2015	57,525,700	699	2,004.4	4,504	9,007	44.51%	22.25%
2016	21,654,800	--	2,139.8	4,580	9,159	46.72%	23.36%
2017	8,148,600	--	--	4,342	8,685	--	--

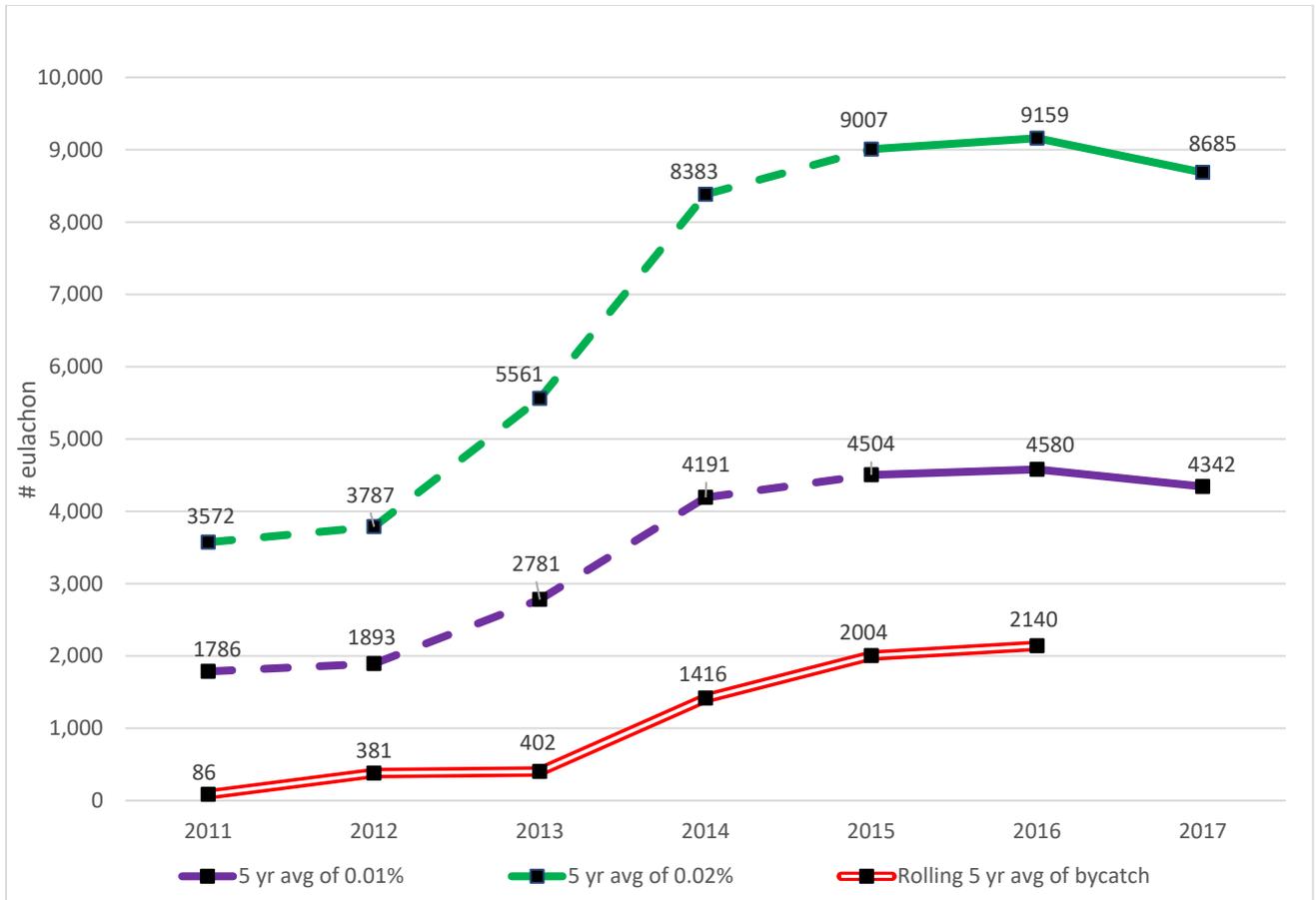


Figure 2-1. Proposed Pacific Coast groundfish fishery eulachon bycatch thresholds (0.01 and 0.020 percent) compared with the five-year geometric mean for PCGF eulachon bycatch (no. individuals).

### 2.9.2 Effect of the Take

In the Opinion, 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.

### 2.9.3 Reasonable and Prudent Measures

“Reasonable and prudent measures” (RPM) are nondiscretionary measures that are necessary or appropriate to minimize the amount or extent of incidental take (50 CFR 402.02). To the extent these RPMs and associated terms and conditions go beyond monitoring, they are voluntary until a 4(d) rule for eulachon goes into effect.

Section 4(d) of the ESA directs NMFS to issue regulations to conserve species listed as threatened. This applies particularly to “take,” which can include any act that kills or injures fish, and may include habitat modification. The ESA prohibits take of species listed as endangered,

bus some take of threatened species that does not interfere with survival and recovery may be allowed. To date, NMFS has not issued a 4(d) rule to prohibit eulachon take.

The RPMs described in the 2012 Biological Opinion (NMFS 2012) regarding Management Planning and Take Reporting remain appropriate and in effect, with the exception of those for eulachon. RPMs specific to eulachon are modified and updated here to reflect a new set of measures. These include the following reasonable and prudent measures to monitor and limit impact from the incidental take of eulachon associated with operation of the PCGF.

- (1) NMFS shall regularly develop and modify protocols and implement biological sampling to assess the impacts of the Groundfish FMP actions upon eulachon.
- (2) NMFS shall ensure that the PCGF is managed to minimize the take of eulachon to the maximum extent practicable, and to monitor, mitigate, and adjust the impacts of such taking.

#### **2.9.4 Terms and Conditions**

The terms and conditions described below are non-discretionary, and NMFS must comply with them to implement the reasonable and prudent measures (50 CFR 402.14). NMFS 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 following terms and conditions are not complied with, the protective coverage of section 7(a)(2) will likely lapse.

Terms and conditions described in the 2012 Biological Opinion (NMFS 2012) remain appropriate and in effect, with the exception of eulachon. Terms and conditions specific to eulachon are modified and updated here to reflect a new set of measures.

- 1.a. NMFS shall continue to monitor and report eulachon bycatch numbers and estimate fleetwide mortality incidental to the PCGF fishery.
- 1.b. By late summer/early fall of each year, the West Coast Groundfish Observer Program shall analyze the most recent year's eulachon bycatch monitoring data and provide this analysis to NMFS Protected Resources Division, NMFS Sustainable Fisheries Division, and the Northwest Fisheries Science Center.
2. If PCGF fishery catch monitoring indicates eulachon bycatch amounts that surpass 0.01 percent of the calculated minimum Columbia River eulachon run, measured as a five-year geometric mean, the Pacific Fishery Management Council's (Council) Endangered Species Work Group (Work Group) will address the issues at their next meeting. The Work Group shall: examine the PCGF to determine possible reasons for these bycatch amounts; and consider whether possible modifications to the fishery to reduce eulachon bycatch may be necessary. Findings and recommendations of the Work Group shall be reported to the Council.

## 2.10

### Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02).

Conservation recommendations included in the 2012 Biological Opinion (NMFS 2012) remain in effect for all species, with the exception of eulachon. For eulachon, the following conservation recommendations replace those in (NMFS 2012) and provide information for future consultations involving the operation of the PCGF:

- (1) NMFS should support annual in-river spawning stock biomass surveys in the Columbia River. These surveys provide the Columbia River eulachon spawning run estimates that are used to justify and set the threshold and reinitiation trigger for this Opinion.
- (2) NMFS should continue operations for the NMFS Observer Program with a level of observation adequate to provide for annual estimates of eulachon bycatch in the groundfish trawl fishery.
- (3) NMFS should retain eulachon bycatch—retaining whole-body eulachon specimens—to aid in research furthering understanding of the species. Eulachon marine life history is poorly understood; therefore, the impact of the Pacific Coast Groundfish Fishery Management Plan on eulachon is not well understood. Whole-body specimens can allow for stock identification (genetic samples), diet (stomach analysis), sex ratios (examination of gonads), age (Ba:Ca ratios in otoliths), presence (locations of captures), and general morphology measurements.
- (4) Eulachon sampling procedures for sample size, collection location and frequency, and archiving details should be determined by NMFS Protected Resources Division, Northwest Fisheries Science Center, and West Coast Groundfish Observer Programs.

## 2.11

### Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if the following occur: (1) the amount or extent of incidental take is exceeded (e.g., eulachon bycatch exceeds 0.02 percent of the calculated minimum Columbia River eulachon run, measured as a five-year geometric mean), (2) new information reveals effects of the agency action on listed species or designated critical habitat in a manner or to an extent not considered in this Opinion, (3) the agency action is subsequently modified in a manner that causes an effect on the listed species or critical habitat not considered in this Opinion, or (4) a new species is listed or critical habitat designated that may be affected by the action.