



FACT SHEET

NPDES Permit Number: WAG520000
Public Notice Start Date: Date of Federal Register publication
Public Notice Expiration Date: 45 days from the date of Federal Register publication

Technical Contact: Catherine Gockel (206)-553-0325,
gockel.catherine@epa.gov, or, 1-800-424-4372 (within
Region 10)

The U.S. Environmental Protection Agency (EPA) re-proposes the National Pollutant Discharge Elimination System (NPDES) General Permit for the following activities pursuant to the provisions of the Clean Water Act, 33 U.S.C. §1251 et seq:

Offshore Seafood Processors in Federal Waters Off the Coast of Washington and Oregon (WAG520000)

The EPA Re-Proposes NPDES Permit Issuance

On August 24, 2015, the EPA released for public comment a draft NPDES General Permit for Offshore Seafood Processors in Federal Waters Off the Coast of Washington and Oregon (EPA General Permit No. WAG520000). The public comment period closed on October 8, 2015. Based on the comments received, the EPA has made the following revisions to the draft General Permit and re-proposes a revised draft for public review. The EPA seeks public comment only on the following proposed changes:

- Inclusion of a seasonal prohibition on wastewater discharges in waters shallower than 100 meters in depth;
- Inclusion of a year-round discharge prohibition over the Heceta/Stonewall Banks complex;
- Clarification on the jurisdiction of the General Permit;
- The addition of a Best Management Practice (BMP) that vessels must be moving while discharging in order to aid dispersion of the discharge;
- Clarification of terminology used in the General Permit;
- Clarification of the Sea Surface Monitoring Requirements;

- Additional provisions to mitigate impact to seabirds;
- Updates to the standard NPDES language and conditions;
- Revisions to the Notice of Intent (NOI) for permit coverage;
- Revisions to the Annual Report;
- Other factors that the EPA considered prior to re-proposing this draft General Permit based on comments received (i.e., harmful algal blooms and scientific study sites).

This Fact Sheet includes:

- Information on public comment and appeal procedures;
- A description of the re-proposed permit provisions;
- Technical information supporting the re-proposed provisions.

The EPA Invites Comments on the Re-Proposal

Those who wish to comment on the re-proposed General Permit may do so in writing within 45 days of the date of Federal Register publication. This public comment period is limited to only those provisions that are being re-proposed. The EPA will consider and respond to comments received on this re-proposal, as well as comments received during the initial public comment period, before issuing the final NPDES General Permit. Comments submitted previously on the initial draft General Permit need not be resubmitted. The EPA will not be considering new comments received during this comment period that are beyond the scope of this re-proposal, as the time to comment on provisions other than those that are being re-proposed has passed.

All comments must include the name, address, phone number, and email address (if available) of the commenter. Each comment should include a concise statement explaining the basis and relevant facts that support the comment. All written comments should be addressed to:

U.S. EPA, Region 10
ATTN: Director, Office of Water and Watersheds
SUBJECT: WA/OR Offshore Seafood General Permit Re-Proposal
1200 Sixth Avenue Suite 900, OWW-191
Seattle, WA 98101

Fax: (206) 553-0165

E-mail: gockel.catherine@epa.gov

Persons wishing to request that a public hearing be held may do so, in writing, by the expiration date of this public comment period. A public hearing is a formal meeting whereby EPA officials hear the public's views and concerns about an EPA action or proposal. A request for a public hearing must state the nature of the issues to be raised, reference the NPDES permit name and permit number, and include the requester's name, address, and telephone number.

After the public comment period ends, the EPA will review and consider all comments related to the re-proposed provisions. The EPA's Director for the Office of Water and Watersheds in Region 10 will make a final decision regarding the issuance of the General Permit **based on all comments received during both comment periods**.

Pursuant to 40 CFR § 23.2, unless the EPA specifies a different time in the Federal Register notice, two weeks after the Federal Register publication date is the "permit issuance date." The General Permit will become effective 30 days after the permit issuance date. In accordance with Section 509(b)(1)(F) of the Clean Water Act, 33 USC § 1369(b)(1), any interested person may appeal the General Permit in the Ninth Circuit Court of Appeals within 120 days from the General Permit issuance date.

Documents are Available for Review

Pursuant to 40 CFR § 124.9, the Administrative Record for the draft and re-proposed General Permit is available upon request by contacting Catherine Gockel at (206) 553-0325 or gockel.catherine@epa.gov. The draft and re-proposed General Permit, Fact Sheet and revised Biological Evaluation are available for review by contacting the EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday.

United States Environmental Protection Agency Region 10
1200 Sixth Avenue, Suite 900, OWW-191
Seattle, Washington 98101
206-553-0325 or
1-800-424-4372 (within Alaska, Idaho, Oregon, and Washington)

The re-proposed General Permit and Fact Sheet can also be found by visiting the Region 10 website at: <https://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/DraftPermitsORWA>.

For technical questions regarding the draft General Permit or Fact Sheet, contact Catherine Gockel at the phone number or email address at the top of this Fact Sheet. Additional services can be made available to person with disabilities by contacting Audrey Washington at 206-553-0523.

Table of Contents

I.	DESCRIPTION OF THE EPA’S RE-PROPOSAL	5
A.	BACKGROUND	5
B.	PERMIT CHANGES SUBJECT TO THE RE-PROPOSAL	10
1.	<i>Seasonal Discharge Prohibition in Waters Shallower than 100 Meters and Year-round Discharge Prohibition over the Heceta/Stonewall Banks Complex to Avoid Exacerbating Hypoxia and Ocean Acidification</i>	10
2.	<i>Sea Surface Species Monitoring of ESA-listed Species and Migratory Birds</i>	20
3.	<i>Additional Best Management Practice</i>	20
4.	<i>Clarification on the Jurisdiction of the General Permit</i>	22
5.	<i>Terminology Clarifications</i>	23
6.	<i>Provisions to Reduce Impact to Seabirds</i>	23
7.	<i>Standard NPDES Requirements</i>	24
8.	<i>Notice of Intent (NOI) Submission Requirements</i>	24
9.	<i>Annual Report Submission Requirements</i>	25
II.	OTHER FACTORS THAT THE EPA CONSIDERED PRIOR TO RE-PROPOSING THE GENERAL PERMIT	25
A.	HARMFUL ALGAL BLOOMS	25
B.	ROCKY REEFS	26
C.	SCIENTIFIC STUDY SITES	31
D.	MONITORING AND REPORTING	33
III.	OTHER APPLICABLE LEGAL REQUIREMENTS	34
A.	OCEAN DISCHARGE CRITERIA EVALUATION	34
B.	STATE WATER QUALITY STANDARDS AND CERTIFICATION	34
C.	COASTAL ZONE MANAGEMENT ACT - FEDERAL CONSISTENCY DETERMINATION	35
D.	ENDANGERED SPECIES ACT	35
E.	MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT	36
F.	NATIONAL MARINE SANCTUARIES ACT	37
G.	ENVIRONMENTAL JUSTICE	38
H.	TRIBAL COORDINATION AND CONSULTATION	39
IV.	REFERENCES	41

I. Description of the EPA's Re-Proposal

A. Background

1. Permit Development and Information Gathering

On August 24, 2015, the EPA released a draft NPDES General Permit for Offshore Seafood Processors in Federal Waters off the Coast of Washington and Oregon (EPA General Permit No. WAG520000). The comment period closed on October 8, 2015. Based on the comments received during the public review of the draft General Permit, the EPA determined that certain provisions warranted further consideration. To further that process, the EPA conducted telephone or in-person meetings with the following interested parties in order to clarify technical issues and to obtain additional information: the NOAA Olympic Coast National Marine Sanctuary, the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), the Washington Department of Ecology (Ecology), the Oregon Department of Land Conservation and Development (which conducts Coastal Zone Management Act federal consistency determinations for the State of Oregon), certain Tribes with usual and accustomed areas that extend into federal waters, the Northwest Indian Fisheries Commission, members of the scientific community, and representatives of the seafood industry. Coordination with State and Federal partner agencies and Tribes has been ongoing.

Notable meetings/events regarding this General Permit include the following:

- On June 14, 2016, EPA staff toured a catcher-processor that will likely seek coverage under this General Permit.
- On June 22, 2016 and March 9, 2017, the EPA met with representatives of the offshore seafood processing sector.
- The EPA and the Quileute Tribe conducted a consultation leadership meeting on December 5, 2016.
- On December 14, 2016, the EPA conducted a consultation leadership meeting with the Makah Tribe.
- On January 20, 2017, the EPA presented information about the permit development process to the Olympic Coast National Marine Sanctuary's Advisory Council.

2. Target Fishery: Pacific Whiting (Hake)

This General Permit does not specify a target species or type of seafood processing to be covered under the Permit. However, the EPA is aware that the sector seeking permit coverage primarily processes Pacific Hake (or Pacific whiting, *Merluccius productus*). Basic information about the Pacific whiting fishery and its management is provided below (excerpts are from "Status of the

Pacific Hake (whiting) stock in U.S. and Canadian waters in 2017 by Berger, et al., (2017)).¹ Detailed data on this fishery are collected via NOAA's At-Sea Hake Observer Program.²

“The coastal stock of Pacific Hake is currently the most abundant groundfish population in the California Current system. ... This stock exhibits seasonal migratory behavior, ranging from offshore and generally southern waters during the winter spawning season to coastal areas between northern California and northern British Columbia during the spring, summer and fall when the fishery is conducted. In years with warmer water the stock tends to move farther to the north during the summer. Older hake tend to migrate farther than younger fish ... The coastal stock of Pacific Hake typically ranges from the waters off southern California to northern British Columbia and rarely into southern Alaska, with the northern boundary related to fluctuations in annual migration. In spring, adult Pacific Hake migrate onshore and northward to feed along the continental shelf and slope from northern California to Vancouver Island. In summer, Pacific Hake often form extensive mid-water aggregations in association with the continental shelf break, with highest densities located over bottom depths of 200-300 m (Dorn and Methot, 1991, 1992).^{3 4}

Management of Pacific Hake in the United States

“In the U.S. zone, participants in the directed fishery are required to use pelagic trawls with a codend mesh of at least 7.5 cm (3 inches). Regulations also restrict the area and season of fishing to reduce the bycatch of Chinook salmon and several depleted rockfish stocks (though some rockfish stocks have rebuilt in recent years). The at-sea fisheries begin on May 15, but processing and night fishing (midnight to one hour after official sunrise) are prohibited south of 42° N latitude (the Oregon-California border). Shore-based fishing is allowed after April 15 south of 40° 30' N latitude, but only a small amount of the shore-based allocation is released

¹ Berger, A.M., C.J. Grandin, I.G. Taylor, A.M. Edwards, and S. Cox. 2017. Status of the Pacific Hake (whiting) stock in U.S. and Canadian waters in 2017. Prepared by the Joint Technical Committee of the U.S. and Canada Pacific Hake/Whiting Agreement, National Marine Fisheries Service and Fisheries and Oceans Canada. 202 p.

² NOAA Fisheries uses fishery observers and at-sea monitors to collect data from U.S. commercial fishing and processing vessels, as well as from shore-side processing plants and “motherships” (also known as receiver ships). Observers and at-sea monitors are professionally trained biological scientists gathering data first-hand to support science, conservation, and management activities. The high-quality data they collect are used to monitor federal fisheries, assess fish populations, set fishing quotas, and inform management. Observers also support compliance with fishing and safety regulations. See <http://www.st.nmfs.noaa.gov/observer-home/>.

³ Dorn, M.W. and R.D. Methot. 1991. Status of the Pacific whiting resource in 1991. Available at <http://www.pcouncil.org/groundfish/stock-assessments/by-species/pacific-whiting-hake>.

⁴ Dorn, M.W. and R.D. Methot. 1992. Status of the coastal Pacific whiting resource in 1992. Available at <http://www.pcouncil.org/groundfish/stock-assessments/by-species/pacific-whitinghake>.

prior to the opening of the main shore-based fishery (May 15). The current allocation agreement, effective since 1997, divides the U.S. non-tribal harvest among catcher-processors (34%), motherships (24%), and the shore-based fleet (42%). Since 2011, the non-tribal U.S. fishery has been fully rationalized with allocations in the form of IFQs to the shore-based sector and group shares to cooperatives in the at-sea mothership and catcher-processor sectors. Starting in 1996, the Makah Indian Tribe has also conducted a fishery with a specified allocation in its “usual and accustomed fishing area”.

“Shortly after the 1997 allocation agreement was approved by the Pacific Marine Fisheries Commission (PMFC), fishing companies owning catcher-processor (CP) vessels with U.S. west coast groundfish permits established the Pacific Whiting Conservation Cooperative (PWCC). The primary role of the PWCC is to distribute the CP allocation among its members in order to achieve greater efficiency and product quality, as well as promoting reductions in waste and bycatch rates relative to the former “derby” fishery in which all vessels competed for a fleet-wide quota. The mothership fleet (MS) has also formed a co-operative where bycatch allocations are pooled and shared among the vessels. The individual cooperatives have internal systems of in-season monitoring and spatial closures to avoid and reduce bycatch of salmon and rockfish. The shore-based fishery is managed with Individual Fishing Quotas (IFQ).

Table a. Recent commercial fishery catch (t). Tribal catches are included in the sector totals. Research catch includes landed catch associated with certain research-related activities. Catch associated with surveys and discarded bycatch in fisheries not targeting hake are not currently included in the model.

Year	US Mothership	US Catcher-Processor	US Shore-based	US Research	US Total	CAN Joint Venture	CAN Shore-side	CAN Freezer-Trawler	CAN Total	Total
2006	60,926	78,864	127,165	0	266,955	14,319	65,289	15,136	94,744	361,699
2007	52,977	73,263	91,441	0	217,682	6,780	54,295	14,121	75,196	293,389
2008	72,440	108,195	67,861	0	248,496	3,592	57,117	13,214	73,924	321,802
2009	37,550	34,552	49,222	0	121,324	0	44,136	13,223	57,359	177,171
2010	52,022	54,284	64,736	0	171,043	8,081	38,907	13,573	60,562	230,755
2011	56,394	71,678	102,146	1,042	231,261	9,717	36,363	14,593	60,672	291,670
2012	38,512	55,264	65,919	448	160,144	0	31,699	14,909	46,608	205,787
2013	52,447	77,950	102,143	1,018	233,558	0	33,665	18,584	52,249	285,591
2014	62,102	103,203	98,640	197	264,141	0	13,326	21,787	35,113	298,705
2015	27,661	68,484	58,011	0	154,156	0	16,775	22,903	39,678	190,663
2016	65,035	108,786	85,293	572	259,687	0	35,012	34,729	69,741	329,427

Table a. From Berger, et al., (2017), available at:

http://www.westcoast.fisheries.noaa.gov/publications/fishery_management/groundfish/whiting/2017-hake-assessment.pdf.

“Over the last decade (2007–2016), the mean coast-wide utilization rate (i.e., landings/quota) has been 77.5%. Over the last five years (2012 to 2016), the mean utilization rates differed between the United States (74.9%) and Canada (49.1%). In 2016, attainment in the U.S. was 70.7% of its quota. ...The Pacific Hake stock displays a very high recruitment variability relative to other west coast groundfish stocks, resulting in large and rapid biomass changes. This leads to a dynamic fishery that potentially targets strong cohorts resulting in time-varying fishery selectivity.” See Table a for data on recent commercial fishery catch. This General Permit will

cover U.S. motherships and catcher-processors. For more information about the Pacific whiting fishery and the composition of its discharge, see Section 2.2.1 of the revised Biological Evaluation.

Vessels Expected to Seek Permit Coverage

Based on communications with the offshore seafood processing sector (including Annual Reports submitted by vessels covered by the EPA General Permit for Offshore Seafood Processors in Alaska (AK-G52-4000) for their operations off the coast of Washington and Oregon, and a response to an EPA information request), as well as a review of NOAA permits for the West Coast At-sea Whiting sector (NOAA Pacific Coast Fisheries 2016), the EPA expects 16 vessels (10 catcher-processors and 6 motherships) to apply for coverage under this forthcoming General Permit. More detailed information about each vessel’s operations with regard to this General Permit is provided in Table b.

Table b. Information provided to the EPA on April 6, 2017 by the offshore seafood processing fleet in response to an EPA information request.

Seafood Company	Vessel Name	Mother-ship or catcher/processor	% of time running fish meal	% of time running fish oil	% of time discharging ground offal without any byproduct recovery	Total pounds seafood waste discharged over the 2016 year	Max pounds seafood waste discharged during a single month (specify which)	% by-product recovery (2016 average)	Dates of operation in WA/OR offshore waters in 2016
American Seafood	Eagle	CP	100%	100%	0%	1,409,657 lbs.	400,277 lbs. Oct	3.5%	5/15-5/31, 6/1-6/2, 10/1-10/24, 10/28-10/31, 11/1-11/17
American Seafood	Triumph	CP	100%	100%	0%	1,176,091 lbs.	359,460 lbs. Oct	3.5%	5/17-5/31, 9/1-9/4, 9/14-9/25, 10/3-10/22, 10/27-10/31, 11/1-11/15
American Seafood	Jaeger	CP	100%	100%	0%	733,436 lbs.	305,964 lbs. June	3.5%	5/16-5/31, 6/1, 6/5-6/25, 9/22-9/29
American Seafood	Rover	MS	100%	100%	0%	1,106,623 lbs.	303,039 lbs.	3.5%	5/16-5/31,

							May		6/3-6/20, 9/13- 9/30, 10/1-10- 15
American Seafood	Dynasty	CP	100%	100%	0%	1,092,666 lbs.	422,222 lbs. Oct	3.5%	5/17-5/31, 6/1, 9/14-9/28,10/02-10/17, 10/23-10/31, 11/1-11/9
Artic Storm	Artic Storm	MS for West Coast whiting operations	>99%	>99%	0%	1,360,001 lbs. of solid organic waste discharged	481,843 lbs. of solid organic waste discharged September	~2% of total delivered lbs.	5/15/-6/8, 9/9-10/31
Artic Storm	Arctic Fjord	MS for West Coast whiting operations	0%	0%	100%	2,019,926 lbs. of solid organic waste discharged	1,506,328 lbs. of solid organic waste discharged May	0%	5/15-6/7
Glacier	Alaska Ocean	CP for West Coast whiting operations	100%	100%	0%	889,501 lbs. of solid organic waste discharged	471,593 lbs. of solid organic waste discharged May	5.5%	5/15-6/14, 9/16-10/6
Glacier	Pacific Glacier	CP for West Coast whiting operations	0%	0%	100%	2,700,816 lbs. of solid organic waste discharged	1,115,817 lbs. of solid organic waste discharged May	0%	5/16-6/4, 10/1-11/22
Golden Alaska	M/V Golden Alaska	MS for West Coast whiting operations	100%	100%	0%	315,522 lbs.	187,626 lbs. May	4%	5/17-6/1, 6/4-6/17
Phoenix Processor Limited Partnership	Excellence	MS for West Coast whiting operations	>99% with brief periods of non-operation during maintenance and cleaning	>99% with brief periods of non-operation during maintenance and cleaning	<1% during brief periods of non-operation of fish meal plant during maintenance and cleaning	1,967,629 lbs. of solid organic waste discharged	500,140 lbs. of solid organic waste discharged July	~4% of total raw fish delivered lbs.	5/15-6/18, 6/25-7/27, 8/5-9/6, 9/12-10/13, 10/21-11/3
Phoenix	Ocean	MS	0%	0%	0%	0	0	0%	Did not

Processor Limited Partnership	Phoenix	for West Coast whiting operations							operate in Pacific Whiting fishery in 2016
Trident	Island Enterprise	CP for West Coast whiting operations	100%	100%	0%	1,010,868 lbs. of solid organic waste discharged	291,743 lbs. of solid organic waste discharged May	~8% of total delivered lbs.	5/16-5/31, 6/5-6/19, 10/8-10/13, 10/17-10/25, 11/4-11/19
Trident	Kodiak Enterprise	CP for West Coast whiting operations	0%	24.5%	75.5%	3,378,923 lbs. of solid organic waste discharged	1,133,545 lbs. of solid organic waste discharged Oct	~0.023% of total delivered lbs. (only ran oil operations in May at 0.078%)	5/15-5/27, 6/1-6/15, 9/25-10/8, 10/17-10/27
Trident	Seattle Enterprise	CP for West Coast whiting operations	0%	23.6%	76.4%	3,364,937 lbs. of solid organic waste discharged	993,905 lbs. of solid organic waste discharged May	~0.06% of total delivered lbs. (only ran oil operations in May at 0.21%)	5/15-5/26, 5/31-6/12, 10/17-10/30, 11/3-11/18

Note: Byproduct recovery machinery may periodically cease operations during periods of startup, shutdown, and cleaning.

B. Permit Changes Subject to the Re-Proposal

The public comments and subsequent information resulted in the EPA revising several permit provisions. The following sections describe the changes made to the draft General Permit that are subject to the re-proposal:

1. Seasonal Discharge Prohibition in Waters Shallower than 100 Meters and Year-round Discharge Prohibition over the Heceta/Stonewall Banks Complex to Avoid Exacerbating Hypoxia and Ocean Acidification

The following agencies submitted comments or consultation letters to the EPA expressing concern that seafood processing waste discharged under the permit could exacerbate ocean acidification and/or pull down ocean oxygen levels: Ecology, the Oregon Department of Fish and Wildlife (ODFW), the Oregon Department of Environmental Quality (ODEQ), the NOAA Olympic Coast National Marine Sanctuary, and the NMFS as part of its conservation recommendations to protect Essential Fish Habitat (EFH).

Background Information

The dynamics of seasonal hypoxia off the Washington and Oregon coast are well described by Peterson, et al. (2013): “In the northern section of the California Current (NCC), running along the west coast of the U.S.A., seasonal hypoxia events are driven by a combination of relatively low oxygen waters upwelling onto the shelf with further oxygen drawdown stemming from the decomposition of organic matter settling to the seafloor (Chan et al., 2008; Connolly et al., 2010). During the upwelling season (typically mid-April to mid-October), water from 100–150 m depth is transported up onto the shelf and replaces surface waters that move offshore via wind-driven Ekman transport. The upwelled waters are relatively old and tend to be low in oxygen due to extended exposure to water column respiration and isolation from the atmosphere.”

According to 15 years of data presented in Peterson, et al. (2013), hypoxia in the Northern California Current is highly seasonal, patchily distributed in both time and space, and can potentially affect over 60% of the continental shelf. Several regions, particularly the wider shelf areas, such as Heceta Bank off Oregon and much of the Washington shelf, are the most prone to early development and persistence of hypoxic bottom waters. Sediment oxygen demand causes the Washington coast to be susceptible to hypoxia and is associated with the broad area of shallow shelf (<60 meters) (Siedlecki, et al., 2015). Low-oxygen conditions result in negative habitat impacts for many organisms (Siedlecki, et al., 2015).

There have been numerous severe hypoxia/anoxia events off the coasts of Oregon and Washington in the last 15 years. For example, in 2002, the Heceta and Stonewall Banks complex experienced unprecedented inner shelf (<70 meter) hypoxia, which resulted in mass die-offs of fish and invertebrates, including Dungeness crab (*Cancer magister*) mortality of >75% in commercial crab pots, compared with the normal 0% (Grantham, et al., 2004). In 2006, the central Oregon coast experienced areas of anoxia, accompanied by the expansion of severe hypoxia across broad sections of the continental shelf. At its peak, hypoxia extended from the shelf break to the inner shelf (<50 meter) and covered at least 3,000 square km off the coast. Hypoxia occupied up to 80% of the water column in shallow (60 meter) shelf waters and continued over the mid to inner-shelf waters from June to October (Chan, et al., 2008).

Although severe hypoxia is a permanent feature of the oxygen minimum zone that intersects the continental slope (>600 meter in this system), there are no previous records of anoxia over the continental shelf or within the oxygen minimum zone (Chan, et al., 2008). Demersal fish and benthic invertebrate communities in these shallow shelf waters have been acutely affected by seasonally persistent anoxia and severe hypoxia. For instance, in August 2006, submersible based surveys revealed the complete absence of all fish from rocky reefs that normally serve as habitats for diverse rockfish (*Sebastes species*) communities. Chan, et al. (2008) also reported near-complete mortality of macroscopic benthic invertebrates (e.g. Dungeness crabs).

The West Coast is one of the first regions in the world to be impacted by ocean acidification, and multiple factors create a confluence of conditions (including ocean currents, coastal upwelling, and winds) that will make ocean acidification’s impacts increasingly severe in the future (Chan, et al., 2016). Since upwelled waters are low in dissolved oxygen, the progression of ocean

acidification will be coupled with increasing risk of hypoxic events (Chan, et al., 2016). “OA and hypoxia share a common set of drivers – increased atmospheric CO₂ levels and local nutrient and organic carbon inputs. Consequently, OA and hypoxia can be managed synergistically via an overlapping set of management strategies” (Chan et al., 2016).

The West Coast Ocean Acidification and Hypoxia Science Panel recommends better controls on nutrients and organic matter pollution, since they provide nourishment for algae and bacteria that can trigger hypoxia and exacerbate ocean acidification (Chan, et al., 2016). They recommend that managers reduce local pollutant inputs that exacerbate ocean acidification and hypoxia. “While elevated atmospheric CO₂ levels are a major driver of ocean acidification, local discharge of organic carbon and nutrients can exacerbate ocean acidification. Upon discharge, organic carbon is broken down by bacteria, which consume dissolved oxygen during the decomposition process, triggering hypoxic conditions, increasing CO₂ levels and lowering pH” (Chan, et al., 2016). Although the Panel’s recommendations are focused on nutrient inputs from land-based sources to semi-enclosed waterbodies, the EPA believes they are still relevant to this permit because: 1) seafood processing waste is high in nutrients and BOD and is a (NPDES “point”) source of organic carbon and nutrients in offshore waters; 2) circulation is sluggish over Heceta and Stonewall Banks and other areas where the continental shelf is wide, and 3) seafood waste could become entrained by eddies or retentive waters.

Although high primary production [from nutrient inputs] produces oxygen at the surface, the system is driven toward hypoxia when the particulate organic carbon sinks and respire into water already low in oxygen (Siedlecki, et al., 2015). Seafood processing waste not consumed at the surface has high biochemical oxygen demand, and could contribute to near-bottom hypoxia off the coast, particularly in wide shelf areas that already experience high sediment oxygen demand. Even if dissolved oxygen has already reached hypoxic levels at the continental shelf break, respiration can further exacerbate hypoxic conditions as bottom water moves shoreward over the shelf, especially if surface organic carbon sources are sizable (Grantham, et al., 2004). Once nutrients sink to the bottom off the Washington and Oregon coast, they stay on the shelf until circulation patterns are strong enough to flush them away (Siedlecki, et al, 2015).

Basis for Discharge Prohibition Areas

There are multiple reasons that support prohibiting discharge in waters shallower than 100 meters during the summer critical period and year-round over the Heceta/Stonewall Banks complex, including: 1) the technical basis outlined below, 2) the ocean discharge guidelines at 40 CFR §125, Subpart M, and 3) additional factors, such as the protection of Dungeness crab and other benthic species, and the fact that offshore seafood processors rarely discharge within the proposed discharge prohibition areas.

Technical Basis for the Proposed Discharge Prohibition Areas

Oceanographers whom the EPA interviewed while developing this draft General Permit recommended depth-based discharge exclusion zones in waters shallower than 100 or 200 meters to prevent seafood waste discharges from triggering or exacerbating hypoxic conditions in retentive and/or wide continental shelf areas (Newton and Peterson, 2016, via separate personal communications). Additionally, the NOAA Olympic Coast National Marine Sanctuary

recommended that the EPA consider a discharge exclusion zone, possibly by depth contour, as part of its 304(d) consultation with NOAA (see Section III.E. of this Fact Sheet for more detail).

The width of the shallow shelf is the critical factor that controls sediment oxygen demand, probably because proximity of the bottom to the surface allows organic matter to reach the bottom, and sediment oxygen demand is directly proportional to the flux of detritus that sinks to the seafloor (Siedlecki, et al., 2015). Observations of sediment oxygen demand in waters shallower than 70 meters are not available, but biomass is more concentrated near the coast, resulting in more large detrital particles (Siedlecki, et al., 2015). Seafloor oxygen modeling for waters off the Washington and Oregon coasts shows substantial depth dependence, with more sediment oxygen demand in the shallower depths. The larger detritus tends to sink faster, so it reaches the seafloor and respire faster. Generally, more detritus reaches the bed faster in shallower water columns, since there is less area for respiration to occur in the water column (Siedlecki et al., 2015).

The Heceta and Stonewall Banks complex and coastal circulation off central Oregon have been well studied. The central Oregon coast has complex bathymetry; the shelf width increases by a factor of five in the 150 km alongshore, and submarine banks are present over the shelf (Kosro, 2005). Small eddies and interactions with topography modify the currents over Heceta Bank (Kosro, 2005). For a description of the spatial structure of the temperature, salinity, density, and velocity fields during upwelling between the region north of Newport and over Heceta Bank, see Castelao and Barth (2005). It is likely that respiration of enhanced plankton biomass has contributed to hypoxic waters near the bottom in the Heceta Bank area (Wheeler, et al., 2003). According to Barth, et al. (2005), the sinking of organic matter over the Heceta Bank complex, and the subsequent respiration, is probably an important factor in the low-oxygen bottom waters observed there. The Heceta and Stonewall Banks system is also stressed by ocean acidification.

In order to avoid triggering or exacerbating hypoxic conditions because of additional nutrient inputs from seafood processing waste, the EPA proposes to prohibit the discharge of seafood processing waste in waters shallower than 100 meters in depth during April 15 - October 15. The Heceta/Stonewall Banks complex and the broad Washington shelf region (e.g. offshore of Grays Harbor at 46° N–47° N) are known “hot spots” of organic matter respiration (Siedlecki, et al., 2015 and the references therein). A depth-based discharge exclusion zone will help to protect the wider shelf areas, where both detrital concentrations and sediment oxygen demand are high (Siedlecki, et al., 2015). The wide shelf areas off the Washington and Oregon coasts are already stressed by ocean acidification and hypoxia, both of which are projected to increase as the global climate continues to change.

The seasonal discharge prohibition in waters shallower than 100 meters is shown in Figure 1, and has been added to the re-proposed General Permit Part III.B.5. Because hypoxia is a seasonal issue tied to the summer upwelling season, the EPA is not proposing to prohibit discharge in shallower waters during October 16 -April 14.

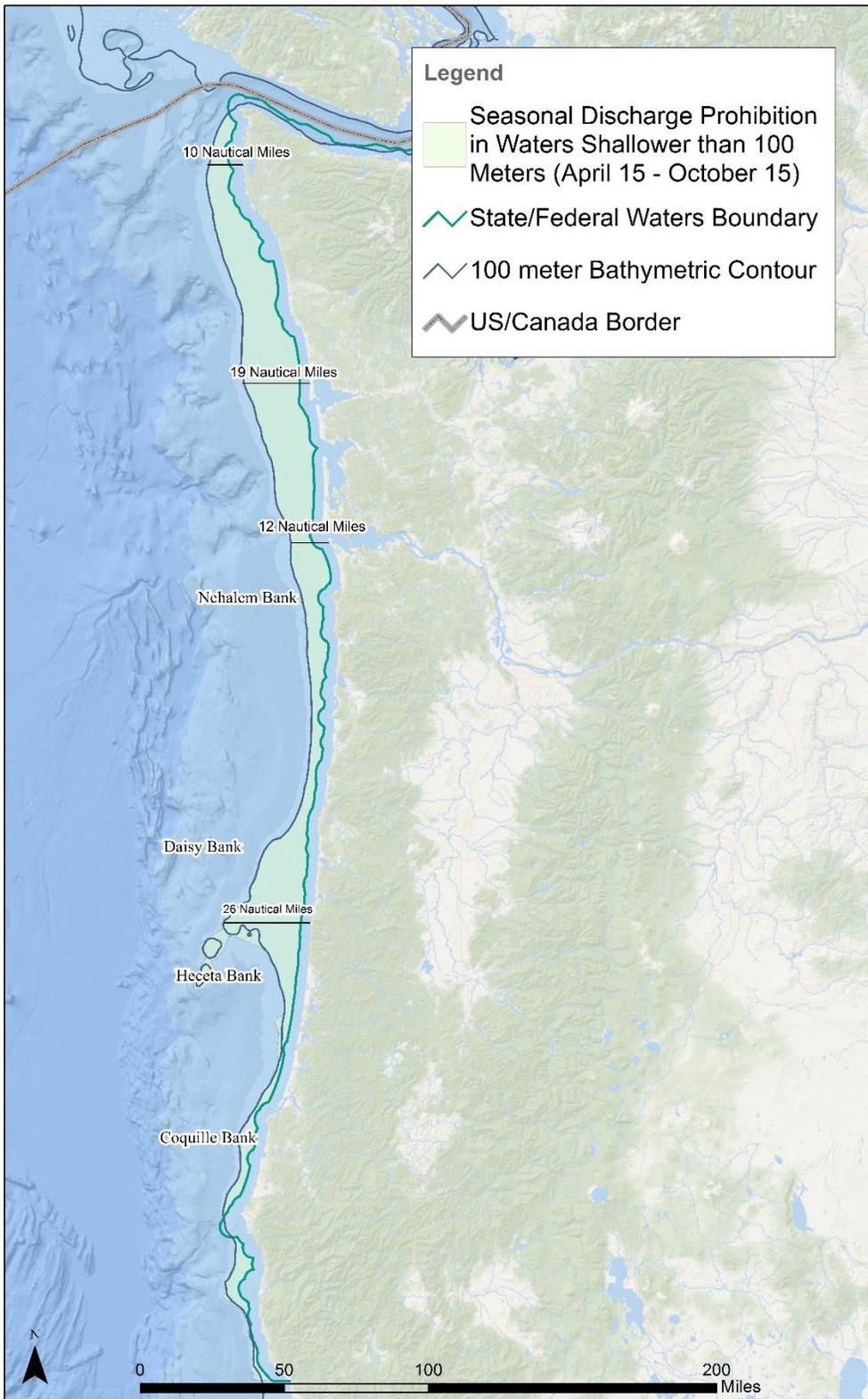


Figure 1. Seasonal discharge prohibition in waters shallower than 100 meters.

When mapping the 100 meter bathymetry contour, a small “donut hole” is apparent between 100 and 90 meters in depth, located near the Juan de Fuca Canyon off Northwest Washington. This “donut hole” is approximately 28 miles off the coast, encompasses an area of 8 square miles, and is within the Makah Tribe’s usual and accustomed fishing areas. Over the course of the EPA’s government-to-government consultation with the Makah Tribe, the Tribe communicated to the EPA that prohibiting discharge within that “donut hole” would be unacceptable to the Tribe because it could negatively affect the Tribe’s treaty-protected fisheries. Thus, the EPA has decided not to include the Juan de Fuca “donut hole” as part of the proposed seasonal discharge prohibition in waters shallower than 100 meters in depth.

In addition to the seasonal, bathymetry-based discharge prohibition described above, the EPA proposes to prohibit discharge year-round over the Heceta/Stonewall Banks complex. Oceanographers interviewed by the EPA specifically recommended excluding discharge in the Heceta and Stonewall Banks complex, especially in the quiescent zone where currents are sluggish, and where near-bottom hypoxia is frequently observed during the summer months (Barth, Chan, and Peterson, via separate personal communications, 2016). In a December 9, 2016 letter to the EPA, the Oregon Department of Fish and Wildlife (ODFW) also recommended that the EPA prohibit discharge year-round over the Heceta/Stonewall Banks complex: “The areas of greatest concern for large-scale hypoxia are Stonewall Banks and Heceta Banks off central Oregon. Oceanographic processes, retention areas and circulation patterns originating in deep waters set up hypoxic conditions in adjacent shallower waters (approx. <100m). Sluggish circulation patterns are well documented at Stonewall Bank and Heceta Bank has year-round low oxygen levels. Scientists are concerned that discharge fish processing waste on and in the vicinity of the Heceta-Stonewall Banks Complex could trigger and/or exacerbate hypoxic conditions there and in shallow waters.” ODFW provided a GIS map of the recommended Heceta/Stonewall Banks discharge prohibition area, which is depicted in Figure 2. Oregon’s Coastal Management Program has also communicated to the EPA that it anticipates conditioning its federal consistency concurrence with a discharge exclusion zone over the Heceta-Stonewall Banks complex. See Section III.C. of this Fact Sheet for more information on the Coastal Zone Management federal consistency review process.

In light of the well-documented concern regarding hypoxic conditions in the Heceta/Stonewall Banks complex in particular, the EPA proposes to prohibit discharge year-round discharge above the Heceta/Stonewall Banks complex, as shown in Figure 2. The Heceta/Stonewall Banks complex encompasses approximately 1,890 square miles.

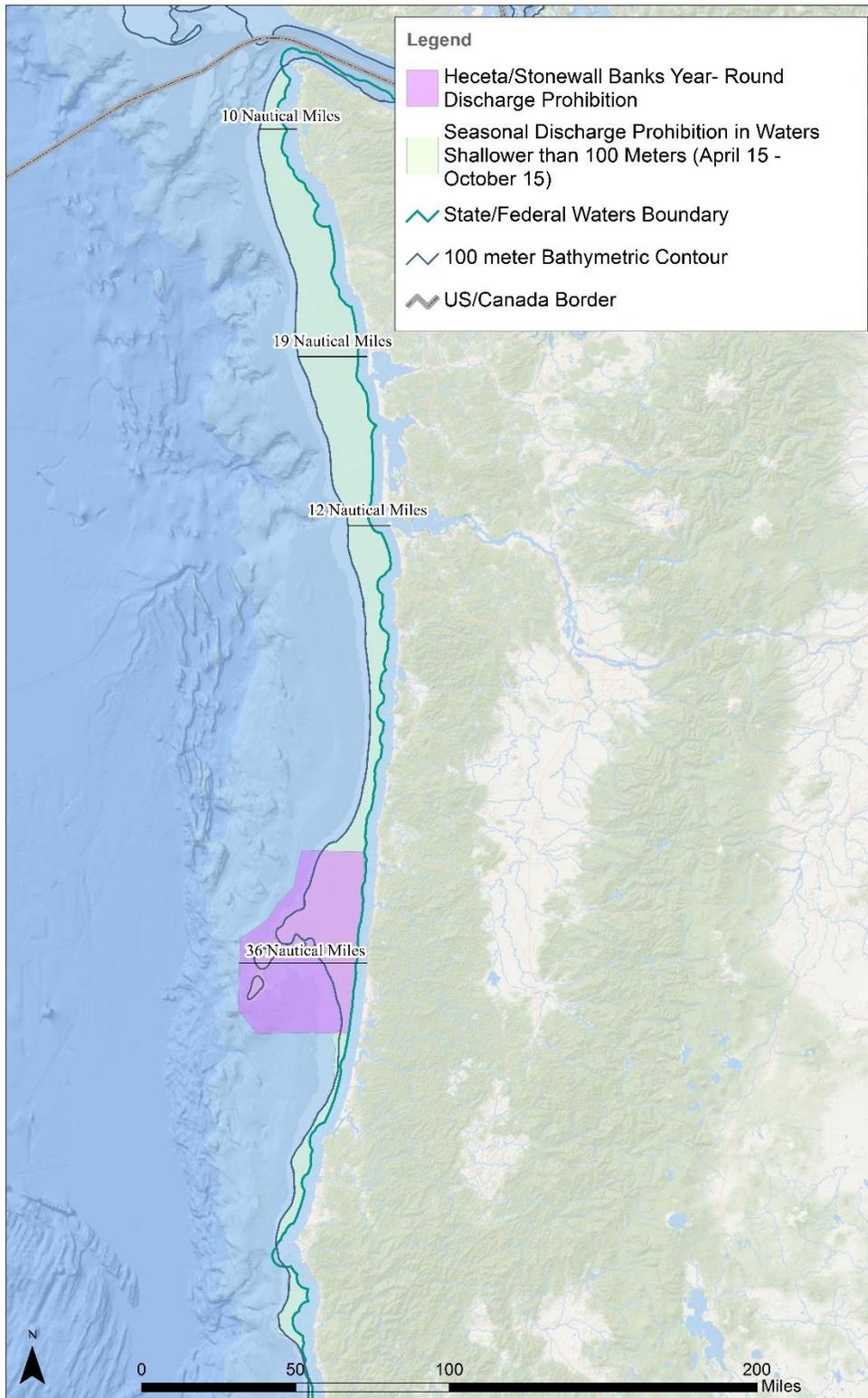


Figure 2. Year-round discharge prohibition above the Heceta/Stonewall Banks complex.

Notably, this NPDES General Permit applies only to the discharge, and not to the act of harvesting seafood. Thus, the discharge prohibitions would only apply to seafood processing waste discharged under this NPDES General Permit, and would not apply to the fishing action itself. Thus, vessels could still catch fish in waters shallower than 100 meters or over the Heceta/Stonewall Banks complex, but vessels would not be permitted to discharge seafood processing waste in waters less than 100 meters deep or over the Heceta/Stonewall Banks complex.

Ocean Discharge Guidelines: Preventing Unreasonable Degradation and Irreparable Harm to the Marine Environment

Section 403 of the CWA (33 USC § 1343) prohibits issuing an NPDES permit for discharges into marine waters located seaward of the inner boundary baseline of the territorial seas (i.e., State and Federal offshore waters) except in compliance with the ocean discharge guidelines at 40 CFR §125, Subpart M. The guidelines set out criteria that the EPA must evaluate to ensure that point source discharges do not cause unreasonable degradation to the marine environment. The criteria are set out in 40 CFR § 125.122.

After an ocean discharge criteria evaluation (ODCE), the EPA (a) may issue an NPDES permit if the proposed discharge will not cause unreasonable degradation to the territorial seas, contiguous zones, and oceans (40 CFR § 125.123(a)); (b) will not issue an NPDES permit if the proposed discharge will cause unreasonable degradation (40 CFR § 125.123(b)); or (c) may issue an NPDES permit where there is insufficient information to make an unreasonable degradation determination, if the EPA also determines that the discharge will not cause irreparable harm to the marine environment while further evaluation is undertaken, that there are no reasonable alternatives to on-site discharge, and that the discharge will comply with certain mandatory permit conditions, including seasonal restrictions on discharge (40 CFR § 125.123(c)-(d)).

When reaching a determination that a proposed discharge will not cause unreasonable degradation, the EPA may rely on any necessary conditions specified in 40 CFR § 125.123(d). These conditions include seasonal restrictions on discharges, process modifications, a monitoring program to assess discharge impacts, bioaccumulation tests, and any other conditions deemed necessary because of local environmental conditions. In addition, 40 CFR § 125.123(d)(4) authorizes the EPA to modify or revoke a permit at any time if, on the basis of new data, the EPA determines that continued discharges may cause unreasonable degradation of the marine environment.

This will be the first time an NPDES permit has been issued for offshore seafood processing waste off the coast of Washington and Oregon. As such, the EPA has not received complete Notices of Intent for permit coverage, and the EPA has not received sufficiently detailed information from offshore processing vessels about the nature and location of the discharge. What is known is that seasonal hypoxia is already occurring at the seafloor in areas of broad continental shelf off the coast of Washington and Oregon, and that seafood processing detritus is high in nutrients. The extent to which seafood processing waste will further contribute to hypoxic conditions at depth is not known.

In accordance with § 125.123(c), the EPA has insufficient information to determine prior to permit issuance that there will be no unreasonable degradation of the marine environment pursuant to § 125.122. Thus, the EPA is proposing to prohibit the discharge of seafood processing waste in waters shallower than 100 meters in depth during April 15 - October 15 and year-round over the Heceta/Stonewall Banks complex to reduce the risk of exacerbating seasonal hypoxia or anoxia at depth and to ensure there will not be unreasonable degradation or irreparable harm to the marine environment.

For more information on the ODCE for this General Permit, see Section III.A. of this Fact Sheet.

Additional Factors that Support the Proposed Discharge Prohibition Areas:

Protection of Dungeness Crab and Other Benthic and Near-Bottom Fisheries

Excluding discharge in waters shallower than 100 meters will also help to protect other important benthic and near-bottom fisheries that operate off the coasts of Washington and Oregon, such as Dungeness crab, lingcod, and Chinook salmon (Peterson, 2016, personal communication).

According to a 2008 study on the values of commercial fish landings in Washington, the Dungeness crab landing had an ex-vessel value of \$29,567,235, comprising 79% of the ex-vessel value of shellfish commercial fish landings by Washington non-treaty fisheries that year, and 45% of the total ex-vessel value of 2006 non-treaty commercial fish landings from Washington fisheries (TCW Economics, 2008). The Oregon Department of Fish and Wildlife describes the Ocean and Columbia River crab fishery as the “most valuable single species commercial fishery in Oregon” (Oregon Department of Fish and Wildlife, no date). According to NOAA Fisheries, Dungeness crab are primarily fished at depths between approximately 10 and 100 meters off the Washington and Oregon coasts.⁵ Dungeness crabs are not abundant beyond 91 meters in depth.⁶ Most lingcod occupy rocky areas at depths between 10 and 100 meters.⁷

Existing Practices of the Offshore Seafood Processing Industry & Effects of the Seasonal Discharge Prohibition

The Pacific whiting fleet generally conducts its processing activity in waters deeper than 100 meters, and the proposed discharge prohibitions are unlikely to significantly affect the offshore processing fleet. This is corroborated by materials submitted to the EPA by trawl vessels that intend to seek coverage under this General Permit.

On March 22, 2017, the EPA sent an information request to the vessels expected to be covered

5

http://www.westcoast.fisheries.noaa.gov/publications/protected_species/marine_mammals/large_whale_entanglement_appendix_a-e.pdf

6 <http://www.psmfc.org/crab/2014-2015%20files/DUNGENESS%20CRAB%20REPORT2014.pdf>

7 http://wdfw.wa.gov/fishing/bottomfish/identification/greenling/o_elongatus.html

by the General Permit in order to learn more about discharges in waters shallower than 100 meters in depth and over the Heceta/Stonewall Banks rocky reef complex, and to learn more about each vessel's operations and discharge. On April 6, 2017, the EPA received a detailed response from the offshore seafood processing sector, containing the following information:

- In 2016, two catcher-processors operated in waters shallower than 100 meters between April 15 and October 15, and one mothership processor received fish from catcher vessels and discharged seafood processing waste in waters shallower than 100 meters during that time period.
- Since 2010, the following five vessels have discharged seafood processing waste in waters shallower than 100 meters: Excellence, Arctic Storm, Katie Ann, Island Enterprise, and Kodiak.
- From 2010-2016 inclusive, the entire offshore sector has taken 546 metric tons of whiting from waters shallower than 100 meters, out of a total of 867,995 metric tons of whiting. In other words, ***0.063% of seafood processing activity has taken place in waters shallower than 100 meters since 2010.***
- Since 2010 and during the April 15-October 15 period, the percentage of whiting catch taken from waters shallower than 100 meters was 0.083% (or 546 metric tons out of an entire catch of 656,062 metric tons).
- During 2016, 11 seafood processing vessels took fish (and presumably discharged) within the Heceta/Stonewall Banks complex.
- During 2016, hauls with locations in the Heceta/Stonewall Banks complex contained 3,361 metric tons of whiting, out of a total of 173,821 metric tons of whiting. Therefore, 1.93% of seafood processing activity took place within the Heceta/Stonewall Banks complex during 2016.
- Since 2010, 23,187 metric tons of whiting were taken within the Heceta/Stonewall Banks complex. Thus, ***2.67% of processing activity has taken place within the Heceta/Stonewall Banks complex since 2010.***
- Since 2010, 15 processors took fish from tows for which NOAA Observer-recorded locations within the Heceta/Stonewall Banks complex: Alaska Ocean, American Dynasty, American Triumph, Arctic Fjord, Arctic Storm, Excellence, Golden Alaska, Island Enterprise, Katie Ann, Kodiak Enterprise, Northern Eagle, Northern Jaeger, Ocean Rover, Pacific Glacier, and Seattle Enterprise. All of the whiting harvested in these tows are presumed to have been processed within the Heceta/Stonewall Banks complex.

Note: Since the Pacific whiting fishery does not start until May 15, the proposed discharge prohibition earlier in the spring will have no effect on the industry. Also, the mothership sector does not usually continue to process beyond October 15 due to changes in fishing conditions and increases in bad weather.

Optional Study to Demonstrate that the Discharge will not Contribute to Hypoxic Conditions in the Receiving Water

If a Permittee (or group of Permittees) is able to demonstrate that the discharge will not contribute to a measurable change in near-bottom oxygen levels, then that Permittee may be

granted authorization to discharge in waters shallower than 100 meters during the summer upwelling season and/or in the Heceta/Stonewall Banks complex, subject to the Director's approval and in accordance with the requirements in Section V.B.7 of the re-proposed General Permit.

At a minimum, the Plan of Study would need to include or account for the following:

- Conservative (i.e., reasonable worst-case) scenarios, including the maximum amount of possible material discharged over the smallest possible area, and the vessel moving at its slowest possible speed while discharging.
- Site-specific modeling analyses that are applicable to the waters most at-risk of seasonal hypoxia (e.g. a 1.5 km grid cell in Heceta Bank).
- Site-specific data to determine the range of conditions in the receiving water that affect fate and transport of the discharge (e.g. currents, nutrient and phytoplankton levels, vertical and horizontal transfer, etc.).
- Quantity and BOD of all relevant/potential types of discharge, including raw/ground (non-stickwater) waste and stickwater.
- Dispersion of the discharge plume, as well as the quantity and time for seafood waste detritus to settle at the seafloor (i.e., particle settling rate for the various types of material discharged). The study must also account for solids deposition.

2. Sea Surface Species Monitoring of ESA-listed Species and Migratory Birds

At the request of representatives of the Pacific whiting industry, the EPA has identified the specific animals that must be included in sea surface monitoring in Section VI.C. of the re-proposed General Permit. The revised General Permit requirement is included below:

“Species Monitoring. The sea surface monitoring must enumerate the occurrence and numbers of the following ESA-listed species attracted to the discharge identified within the survey area: Guadalupe fur seal (*Arctocephalus townsendi*), Blue whale (*Balaenoptera musculus*), Fin whale (*Balaenoptera physalus*), Humpback whale (*Megaptera novaeangliae*), Southern Resident killer whale (*Orcinus orca*), North Pacific right whale (*Eubalaena japonica*), Sei whale (*Balaenoptera borealis*), Sperm whale (*Physeter macrocephalus*), Green sea turtle (*Chelonia mydas*), Leatherback sea turtle (*Dermochelys coriacea*), Loggerhead sea turtle (*Caretta caretta*), Olive Ridley sea turtle (*Lepidochelys olivacea*), marbled murrelet (*Brachyramphus marmoratus*, murrelet), and the short-tailed albatross (*Phoebastria albatrus*, albatross). In addition, the sea surface monitoring must enumerate the occurrence and numbers of the following migratory birds: black-footed albatross (*Phoebastria nigripes*), pink-footed shearwater (*Puffinus creatopus*), sooty shearwater (*Puffinus griseus*), and flesh-footed shearwater (*Puffinus carneipes*).”

3. Additional Best Management Practice

In a December 18, 2015 letter to the EPA, the NMFS provided the following Essential Fish Habitat (EFH) conservation recommendation: “To ensure that dispersal of discharged material is sufficient to reduce impacts to both water quality and benthic conditions, vessels shall maintain, so long as safety permits, a minimum vessel speed of 5 knots during discharge to minimize density of effluent.” The ODFW also recommended that the EPA require a minimum vessel speed of 5 knots during discharges. The EPA considered these recommendations and discussed their feasibility with an industry representative. The offshore seafood processing industry communicated to the EPA that although vessels are underway while discharging, it would be problematic to impose a minimum discharge speed of five knots because vessels typically conduct fishing activities at a speed lower than five knots. In February, 2017, Mike Hyde of American Seafoods discussed this issue with other operators and provided additional information to EPA, included below:

“...[A] catcher processor is a vessel that catches and processes fish at the same time. Both operations generally continue concurrently 24 hours per day from arrival of the vessel on the fishing grounds until the vessel returns to port for offloading and re-supply. There are several factors that determine the speed of the vessel while it is operating but its speed while fishing is the most important. During fishing operations, the vessel has two main objectives: catching the target fish and not catching everything else. This is best achieved at towing speeds relative to the water of about 3.5 knots. The fishing nets on these vessels are very large and require significant horsepower to tow through the water. Our vessels use roughly 80% of their total power to tow just in ordinary fishing conditions. I don’t believe that any of our vessels has sufficient horsepower to tow its net at speeds above 5 knots. Even if they had the power to tow at 5 knots, the result would be a disaster in terms of both catch rates and bycatch. The nets are not designed to be towed at those speeds and would likely be stretched completely out of fishing shape. For certain, the salmon excluders and other bycatch reduction devices in the nets would collapse and bycatch rates would increase dramatically. For motherships, because they are not towing fishing nets, there are times at which those vessels will exceed 5 knots but because a mothership is part of an integrated operation with several catcher vessels that are fishing at closer to 3 knots, the mothership would not be operating over a larger area; it would simply be moving faster within the same area. More importantly, because the mothership is taking transfers of codends from the catcher vessels, it must operate during this process at about 1 knot. Finally, in high sea conditions, a 5 knot speed requirement would disrupt processing for both catcher processors and motherships and would create increased safety risks for even routine onboard operations.”

As explained above, it would be infeasible to require a minimum vessel speed of 5 knots as part of this General Permit. In order to address the spirit of the NMFS’s concerns, the EPA proposes to add a Best Management Practice (BMP) in the re-proposed General Permit that vessels must be moving while discharging (in order to aid dispersion), unless doing so would compromise the safety of the vessel. Due to feasibility and safety concerns from the seafood industry, the EPA has decided not to impose a specific minimum discharge speed in the General Permit.

4. Clarification on the Jurisdiction of the General Permit

The General Permit will cover federal waters within the U.S. Exclusive Economic Zone (EEZ), between 3 and 200 miles off the Washington and Oregon coast. In the case of emergent offshore rocks and islands, the EPA's jurisdiction begins 3 nm seaward from the offshore rocks and islands. The greatest distance is off the Orford Reef complex (specifically, Fox Island, where Oregon's Territorial Sea boundary is approximately 8 nm from the mainland shoreline). See Figure 2. At the request of the Oregon Department of Fish and Wildlife, the EPA has added a description of the Oregon Territorial Sea to the General Permit to the Definitions section of the re-proposed General Permit.

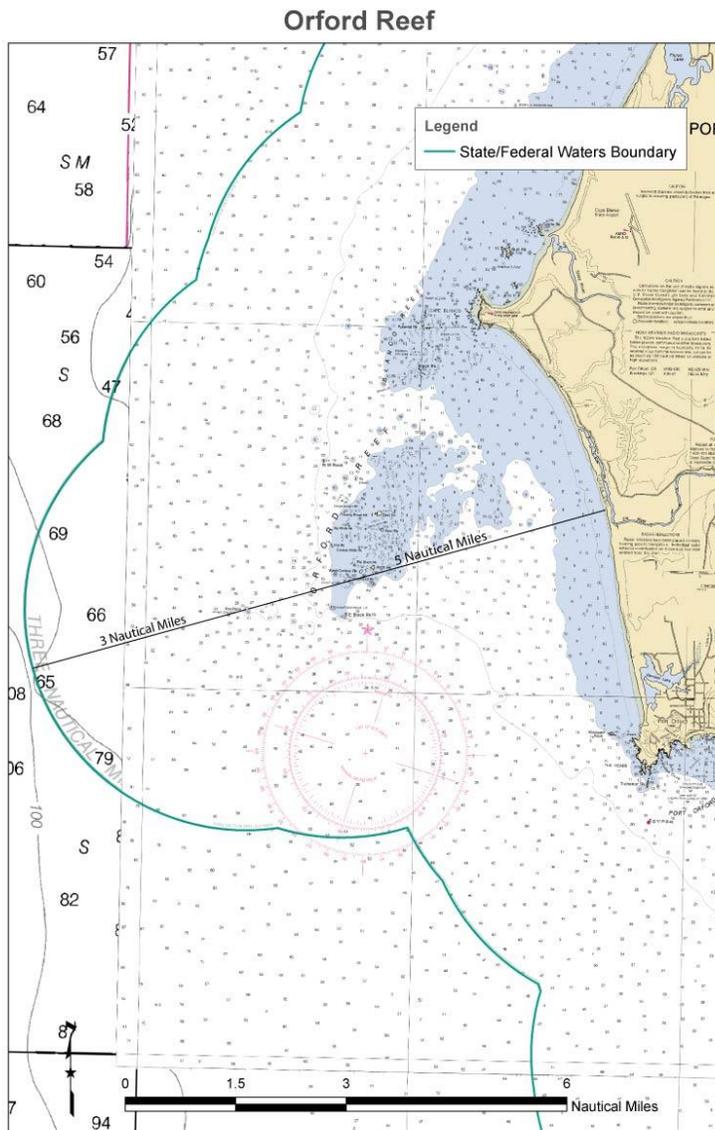


Figure 2. Orford Reef. Source of base map: <http://www.nauticalcharts.noaa.gov/>.

5. Terminology Clarifications

At the request of members of the seafood industry, the EPA has clarified the terminology used in several sections of the re-proposed General Permit. For example, the terms “treatment” and “waste” have been replaced with “by-product recovery,” where appropriate, in order to reflect that by-product is a seafood material that has value and can be converted into a finished product.

In Section IV.C.6.d, the EPA replaced “stormwater runoff” with “deck runoff,” which is consistent with the terminology in the EPA’s Vessel General Permit, where “deck runoff” is defined as the precipitation, washdowns, and seawater falling on the weather deck of a vessel and discharged overboard through deck openings (40 CFR §1700.4).

In Section V.B.4 of the General Permit, the EPA has clarified that the pre-operational check of the outfall system (to be performed at the beginning of each processing season) is not a requirement for daily inspection of the outfall system.

6. Provisions to Reduce Impact to Seabirds

Seabirds, including the ESA-listed short-tailed albatross (*Phoebastria albatrus*, albatross), can be attracted to seafood processing waste discharge, which can result in injury and/or mortality due to ship strike and cable interactions (Zador and Fitzgerald, 2008 and Melvin, et al., 2004, as described in a September 29, 2015 letter from USFWS to the EPA regarding this General Permit). The EPA is engaged in consultation with the USFWS under Section 7 of the Endangered Species Act (see Section III.D. of this Fact Sheet, and the EPA’s revised Biological Evaluation for more detail).

On May 2, 2017, the USFWS finalized a Biological Opinion Regarding the Effects of the Continued Operation of the Pacific Coast Groundfish Fishery as Governed by the Pacific Coast Groundfish Fishery Management Plan and Implementing Regulations at 50 CFR Part 660 by the NMFS on California Least Tern, Southern Sea Otter, Bull trout, Marbled Murrelet, and Short-tailed Albatross (USFWS, 2017). The Biological Opinion addressed both direct and indirect effects of the Pacific whiting trawl fishery, including short-tailed albatross attraction to fish processing waste from Pacific whiting trawl vessels. The Biological Opinion included an Incidental Take Statement, and stated that the Service believes that the reasonable and prudent measures (RPMs) (and accompanying terms and conditions) provided in the Biological Opinion will minimize take of the short-tailed albatross, and that the level of anticipated take is not likely to result in jeopardy to the species.

RPM 2 is relevant to this NPDES General Permit since it aims to minimize the risk of short-tailed albatross interacting with trawl cables, and because it includes offal management techniques. The other RPMs are not directly relevant to this General Permit. The EPA has incorporated the requirements of RPM 2 into Section VII.2. of the draft General Permit in order to be consistent with the Biological Opinion:

“In order to minimize the risk of short-tailed albatross interacting with trawl cables, Permittees shall consider the following management actions:

- a. The use and effectiveness of streamer lines when using trawl gear;
- b. The degree to which minimizing the aerial extent of trawl cables affects the risk of bird strike; and
- c. Feasible offal management techniques that decrease attraction of short-tailed albatross to the vicinity of aerial lines.
- d. Implement measures that minimize the potential for short-tailed albatross interactions with trawl gear (based on NMFS research findings and investigations into trawl-associated mortality or injury, and as these albatross protection measures become available).”

To address USFWS concerns about storm petrels or other birds becoming disoriented by lights during nighttime operations, the EPA proposes to include the following requirement:

“Lights used during night operations should be minimized as much as possible, and shielded and directed downward to the extent that is feasible.”

The EPA has determined that the proposed General Permit is not likely to adversely affect ESA-listed seabirds. Concurrent with this public notice, the EPA has re-submitted its Biological Evaluation to the USFWS and plans to continue ESA consultation with regard to listed seabirds. For more detail, please see the revised Biological Evaluation.

7. Standard NPDES Requirements

The EPA has added or updated the standard NPDES language in the following sections of the re-proposed General Permit to make the General Permit more consistent with other Region 10 NPDES permits:

- Permit Expiration
- Submittal of a Notice of Intent
- Authorization to discharge
- Obtaining an individual permit
- Signatory requirements
- Permittee’s request to be excluded from GP coverage
- Notice of termination of discharge
- Duty to comply
- Duty to reapply
- Other information
- Transfer

8. Notice of Intent (NOI) Submission Requirements

Please refer to Appendix A of the General Permit to review the proposed NOI requirements.

9. Annual Report Submission Requirements

Based on comments received from Federal and State partner agencies, as well as personal communications with Pacific Northwest oceanography experts, the EPA is proposing to require additional specificity regarding the nature and quantity of the discharge.

At the request of the Olympic Coast National Marine Sanctuary, Permittees must also provide a copy of their Annual Reports to the Sanctuary if they discharged seafood processing waste within the Sanctuary's boundaries during that calendar year.

At the request of the Quileute Tribe, Permittees must also provide a copy of their Annual Reports to the Quileute Tribe if they discharged seafood processing waste within the Quileute Tribe's usual and accustomed fishing area boundaries during that calendar year. West Coast federal fishing regulations describe usual and accustomed fishing areas for the Quileute, Indian Tribe, Quinault Indian, Nation, Hoh Indian Tribe, and Makah Indian Tribe at § 660.4, Subpart A. See http://www.westcoast.fisheries.noaa.gov/publications/fishery_management/groundfish/public_notices/public_notice_tribal_u_a.pdf.

Please refer to Appendix B of the General Permit to review the proposed Annual Report requirements.

II. Other Factors that the EPA Considered Prior to Re-Proposing the General Permit

A. Harmful Algal Blooms

During the public comment period, the EPA received consultation letters from the NOAA Olympic Coast National Marine Sanctuary, the NMFS EFH program, and Ecology expressing concern with regard to harmful algal blooms (HABs). The NOAA Sanctuary recommended exclusion areas and/or monitoring around a known HAB initiation site (i.e., the Juan de Fuca Eddy). The NMFS EFH program recommended no discharge in or within 250 feet of a visible algal bloom. The EPA considered these recommendations and reviewed the relevant scientific literature. The EPA also sought the expertise of Dr. Vera Trainer, a NOAA scientist whose research is focused on West Coast HABs.

Dr. Trainer communicated to the EPA, the NOAA Sanctuary, and to the NMFS EFH program that there is currently no evidence to suggest that nutrient inputs from the discharge of fish processing waste will be sufficient to cause toxic algal blooms (Trainer, 2016, personal communication). Thus, the EPA does not propose to prohibit the discharge of seafood processing waste discharge near areas susceptible to algal blooms (e.g. the Juan de Fuca Eddy).

The Juan de Fuca eddy is not the only HAB hotspot on the West Coast; Heceta Bank is also a HAB hotspot (Trainer, 2016, personal communication). As explained in section I.B.1. above, the EPA proposes to prohibit discharge year-round over the Heceta/Stonewall Banks complex off the

coast of Newport, Oregon. See Figure 2.

With regard to monitoring for HABs, the EPA is supportive of additional scientific research on West Coast HABs, but believes that a requirement for Permittees to conduct HAB monitoring (e.g. as part of the MERHAB project) is beyond the scope of this NPDES permit. Conducting phytoplankton net tows and sampling for whole water and nutrients before and after discharge is also beyond the scope of this permit, and would likely be infeasible because vessels are moving while discharging. If Permittees are interested in collaborating with NOAA to further the scientific knowledge on HABs, the EPA encourages those Permittees to contact NOAA directly.

B. Rocky Reefs

The EPA received comment/consultation letters from the ODFW and from the NMFS (i.e., EFH conservation recommendations) that recommended that EPA exclude rocky reefs from permit coverage.

According to NOAA Fisheries, “Rocky reefs are submerged rock outcrops with varying relief, creating refuges for juvenile and smaller fishes in addition to surface area for colonization of algae and invertebrates. Rocky reefs take a variety of forms, each with a different associated biological community. Starting from the shore, rocky intertidal zones are an interface between land and sea. The rocky intertidal is home to plants, invertebrates, and fishes during high tides. Crashing waves, daily low tides that strand marine organisms out of the water, and competition for space make life in the rocky intertidal stressful. Nearshore rocky reefs are completely submerged, but still receive enough light for photosynthesis. They are inhabited by algae, invertebrates, and groundfishes. Rocky reefs in deeper water do not receive enough light for photosynthesis and are dominated by sessile invertebrates, deep sea corals, and groundfishes. Most rocky reefs are beneficial because of the physical structure they provide to support an ecosystem. Seamounts are particularly unique habitats that are formed by undersea mountains. The steep slopes of the mount force nutrient rich deep waters to rise to the surface generating food sources for a variety of fishes and other marine fauna. Along the West Coast, the Pacific Fishery Management Council identified rocky reefs as a Habitat Areas of Particular Concern (HAPC).”⁸

As part of its EFH consultation with the EPA (in a letter dated December 18, 2015), the NMFS recommended the following: “To minimize impacts to Habitat Areas of Particular Concern, no discharge shall occur over or within 250 feet of rocky reefs.” In order to map rocky reefs, the EPA referred to the ““V4_0_SGH_WA_OR_NCA” GIS layer (Goldfinger et al., 2014). Rocky reef substrate encompasses a large area off the coast of Washington and Oregon (see Figure 4). It would be unreasonable for the EPA to prohibit discharge within 250 feet of all of the rocky reef substrate shown in Figure 4, particularly because many are important commercial fishing areas.

⁸ http://www.westcoast.fisheries.noaa.gov/habitat/habitat_types/rocky_reef_info/rocky_reef_habitat_types.html

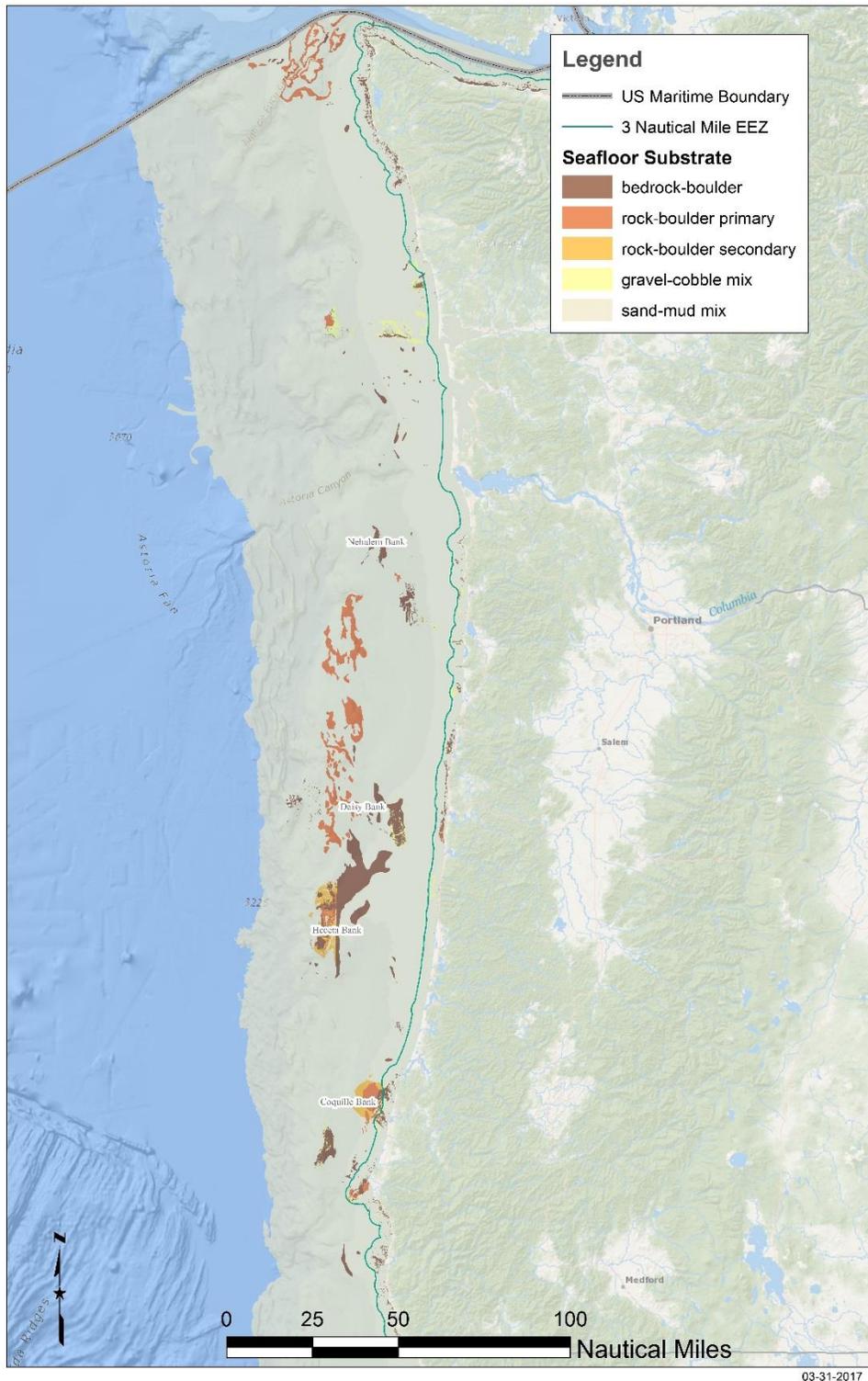


Figure 4. Rocky Reef Substrate. Source: “V4_0_SGH_WA_OR_NCA” (Goldfinger, et al., 2014).

In a December 9, 2016 letter to the EPA, the ODFW recommended a year-round discharge prohibition over the Stonewall/Heceta Bank complex, which the EPA proposes to incorporate into the General Permit (see Section I.B.1 of this Fact Sheet for more detail). The ODFW also recommended year-round exclusion areas for the following reefs: Nehalem Bank, Garibaldi, Daisy Bank, Hydrate Knoll, Arago Reef, Bandon High Spot, and Rogue Reef. The ODFW provided specific exclusion area boundaries for each reef or complex. See Tables 1 and 2, and Figure 5. According to the ODFW, these reefs are of ecological significance, supporting an abundance and diversity of species that are partially or entirely dependent on the reef environment for egg-rearing, nursery habitat, feeding, and shelter. Sessile (e.g. mussels and barnacles) and habit-forming invertebrates and fish eggs are especially vulnerable to disturbance and burial under a minimal amount of material.

Notably, the geographic area authorized under the General Permit does not include Blanco Reef or Orford Reef, since those are within State waters, and not subject to the jurisdiction of this General Permit.

Table 1. Approximate Area and Dimensions of ODFW’s Rocky Reef Discharge Prohibition Recommendations

Bank	Area (Square Miles)	Distance North to South	Distance East to West
Heceta/Stonewall	1,890	50 nm	33 nm at the widest point; 20 nm at the top
Nehalem Bank	84	13 nm	7 nm
Garibaldi Reef	128	16 nm	6 nm
Hydrate Knoll	64	17 nm	11 nm
Daisy Bank	64	8 nm	16 nm
Arago Reef	131	15 nm	9 nm
Bandon High Spot	77	13 nm	6 nm
Rogue Reef	35	11 nm	3 nm

Table 2. Coordinates for ODFW’s Rocky Reef Discharge Prohibition Recommendations

Rocky Reef	Latitude	Longitude
Heceta/Stonewall	44.50450	-124.61615
Heceta/Stonewall	44.68164	-124.56497
Heceta/Stonewall	44.67941	-124.15125
Heceta/Stonewall	43.82156	-124.23857
Heceta/Stonewall	43.81267	-124.83207
Heceta/Stonewall	43.92338	-124.95911
Heceta/Stonewall	44.26036	-124.95804
Heceta/Stonewall	44.34816	-124.78539
Hydrate Knoll	44.71314	-125.1821
Hydrate Knoll	44.71464	-125.0537

Hydrate Knoll	44.5728	-125.04475
Hydrate Knoll	44.56981	-125.17464
Daisy Bank	44.6803	-124.82826
Daisy Bank	44.73554	-124.74465
Daisy Bank	44.64596	-124.62819
Daisy Bank	44.58922	-124.6491
Daisy Bank	44.5952	-124.73121
Daisy Bank	44.63252	-124.82677
Nehalem Bank	45.99175	-124.65604
Nehalem Bank	46.01452	-124.62676
Nehalem Bank	46.01452	-124.56041
Nehalem Bank	45.91564	-124.49015
Nehalem Bank	45.79854	-124.52853
Nehalem Bank	45.87791	-124.65864
Garibaldi Reef	45.79269	-124.47064
Garibaldi Reef	45.79464	-124.4238
Garibaldi Reef	45.73674	-124.31126
Garibaldi Reef	45.59037	-124.26962
Garibaldi Reef	45.51751	-124.13171
Garibaldi Reef	45.49344	-124.15903
Garibaldi Reef	45.53247	-124.23645
Garibaldi Reef	45.52337	-124.37761
Arago Reef	43.32581	-124.61977
Arago Reef	43.32581	-124.48105
Arago Reef	43.27221	-124.45583
Arago Reef	43.07044	-124.50942
Arago Reef	43.19182	-124.68125
Bandon High Spot	43.07832	-124.88617
Bandon High Spot	43.09724	-124.86252
Bandon High Spot	43.09724	-124.81366
Bandon High Spot	43.0468	-124.7774
Bandon High Spot	42.95852	-124.76006
Bandon High Spot	42.87813	-124.87041
Bandon High Spot	42.89704	-124.93188
Bandon High Spot	43.02473	-124.8641
Rogue Reef	42.5471	-124.71908
Rogue Reef	42.5471	-124.65918
Rogue Reef	42.5266	-124.65129
Rogue Reef	42.49508	-124.6907
Rogue Reef	42.37527	-124.63238
Rogue Reef	42.35951	-124.67179
Rogue Reef	42.45094	-124.73011
Rogue Reef	42.49035	-124.73326

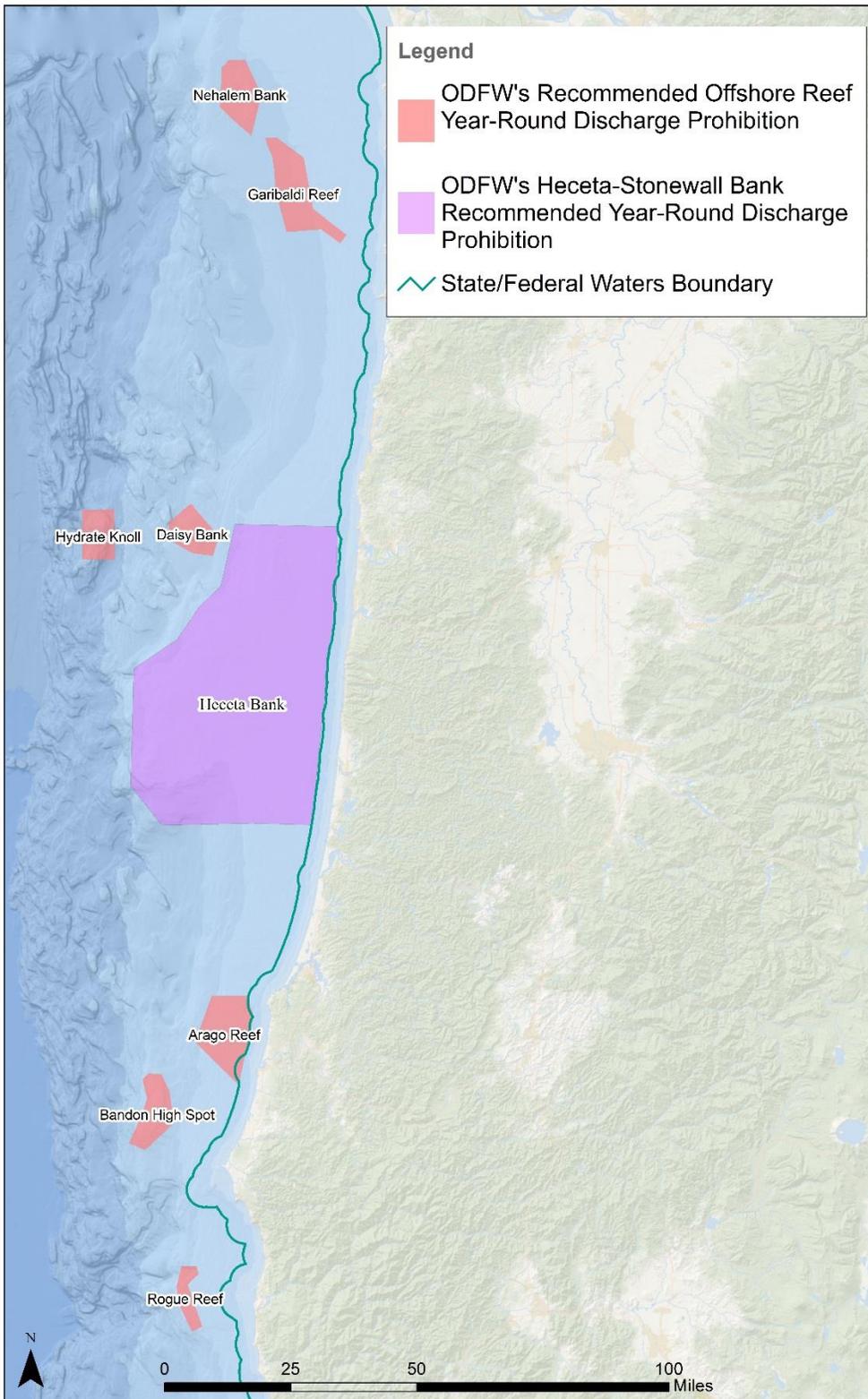


Figure 5. ODFW's year-round discharge prohibition recommendations over rocky reefs.

As described above and noted by the ODFW and by researchers from NOAA and Oregon State University, the areas of greatest concern for large-scale hypoxia are Stonewall and Heceta Banks off central Oregon, due to sluggish/retentive circulation patterns and well-documented year-round low oxygen levels. In response to recommendations from the NMFS, ODFW, and from scientific experts (in addition to a review of the scientific literature), the EPA proposes to prohibit discharge year-round over the Heceta/Stonewall Banks complex. However, at this time the EPA does not have sufficient information about the effects of seafood processing waste on the other rocky reefs cited by the ODFW to justify prohibiting discharge in those areas (Nehalem Bank, Garibaldi, Daisy Bank, Hydrate Knoll, Arago Reef, Bandon High Spot, and Rogue Reef). *The EPA invites comments on whether to prohibit discharge over these rocky reefs.*

C. Scientific Study Sites

The ODFW's comment letter recommended that the EPA consult with appropriate ocean researchers regarding potential impacts to ocean research stations, and address concerns with exclusion zones, if appropriate.

The EPA considered the impact of the permitted seafood discharge to the long-term Newport Hydrographic Line, and to the Ocean Observatories Initiative (OOI) Cabled Array and the OOI Endurance Array, as well as other Northwest Association of Networked Ocean Observing Systems (NANOOS) monitoring stations. See Figure 5. The EPA interviewed Dr. Jack Barth of Oregon State University, who is a lead scientist for the OOI and an expert in the Cabled Array and Endurance Array monitoring stations⁹ to learn more about how processed seafood waste could impact long-term ocean monitoring efforts (Barth, 2016, Personal Communication). Dr. Barth recommended that the EPA exclude discharge within 10 nautical miles of research sites.

⁹ <http://oceanobservatories.org/array/cabled-array/>

Ocean Monitoring Stations

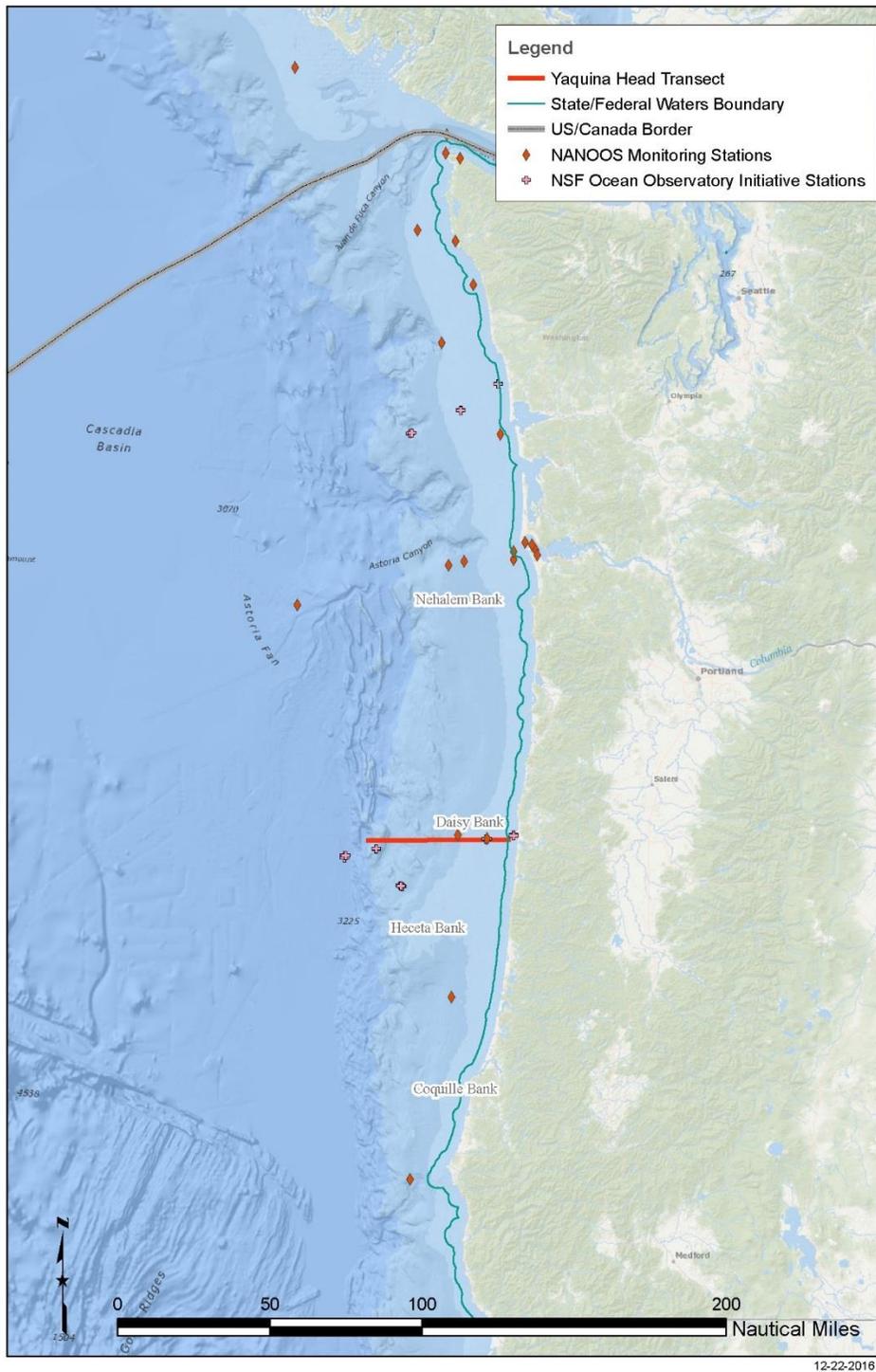


Figure 5. Ocean Monitoring Sites.

The EPA appreciates the value of these long-term ocean monitoring efforts, but does not have regulatory authority under the Clean Water Act to prohibit discharge near ocean monitoring stations.

The EPA expects that any potential impacts to the research monitoring stations will be minimal, and will reflect ongoing seafood processing activities. Vessels will be moving while discharging. Also, discharges from offshore seafood processing vessels are effectively part of the monitoring baseline, since discharge has been occurring for approximately 20 years. Vessels already have incentive to avoid ocean monitoring stations for navigational/safety reasons so that towed trawl equipment does not get caught on the buoys. The EPA notes that in 2014, NOAA's National Data Buoy Center (NDBC) published an *Important Notice to Mariners* asking mariners to take specific steps to safeguard data buoys by, among other things, "giving the buoy a wide berth to avoid entangling the buoy's mooring or other equipment suspended from the buoy- 500 yards for vessels which are trailing gear, and at least 20 yards for all others" (NDBC, 2014).

D. Monitoring and Reporting

Multiple agencies provided comments that the EPA should require more monitoring and reporting on the discharge. The EPA considered these comments, and is proposing to require additional reporting on the quantity and nature of the discharge in order to better understand loading and potential impacts to water quality and dissolved oxygen (see Appendix A of the re-proposed General Permit for the revised NOI and Appendix B for the revised Annual Report). Additional reporting requirements include: a table on which to report daily location of the vessel while discharging, minimum and average daily distances traveled, vessel speed, total stickwater discharged per month, maximum daily discharge amounts, and monthly average by-product recovery rates.

However, the EPA is not proposing to require additional monitoring to assess the discharge's contributions to hypoxic conditions, primarily because of logistical and cost considerations. Since hypoxia is a concern, the EPA considered requiring annual monitoring for BOD, as well as TSS. However, the holding time for BOD is only 48 hours. Thus, it would be difficult for Permittees to deliver samples to a laboratory within the 48-hour timeframe, since they are only authorized to discharge in Federal Waters of the open ocean.

Since hypoxia is an issue at the sea-floor, the EPA also considered requiring near-bottom dissolved oxygen monitoring. For the following reasons, it would be unreasonable for the EPA to require near-bottom dissolved oxygen monitoring as part of this General Permit (Peterson, 2016 personal communication):

- Deep-sea monitoring is difficult and expensive, and would likely require the employment of a specialized research vessel;
- Vessels are moving while discharging;

- Seafood processing waste will likely take weeks to mineralize, depending on temperature and other ocean conditions. Therefore, there will be an unknown time lag in the BOD of the discharge; and
- Ocean conditions are dynamic, and seasonal hypoxia is already occurring off the coast due to natural upwellings.

Thus, there are multiple factors that would confound the interpretation of the discharge's contribution to hypoxic conditions.

The EPA is soliciting comments on the proposed monitoring requirements during this public comment period, particularly from the seafood processing industry and from scientists/modelers.

III. Other Applicable Legal Requirements

A. Ocean Discharge Criteria Evaluation

The EPA has prepared an ODCE for the draft permit and interviewed subject matter experts regarding the potential of offshore seafood processing waste to exacerbate and/or trigger hypoxic or anoxic conditions on the continental shelf. The EPA has also considered the potential effects of the discharge on other important fisheries that operate on the seafloor. This evaluation process informed the EPA's permit development process, including the bathymetry-based seasonal restriction on discharge. See Section I.B.1. above.

B. State Water Quality Standards and Certification

The General Permit's area of coverage is only in Federal Waters; thus the EPA is not seeking 401 certification from any State or Tribe. However, seafood waste discharged under this General Permit could potentially affect waters of Washington and Oregon. 40 CFR 122.44(d)(4) requires that NPDES permits must include any requirements necessary to "conform to applicable water quality requirements under Section 401(a)(2) of CWA when the discharge affects a State other than the certifying State." Therefore, the EPA must establish conditions in the permits for these facilities, which ensure compliance with the applicable water quality requirements of the States of Washington and Oregon. Consistent with the requirements of Section 401(a)(2), on November 7, 2016, the EPA provided a preliminary draft General Permit and Fact Sheet for Washington and Oregon to review prior to the public comment period. The EPA believes that the re-proposed General Permit complies with the water quality requirements of Washington and Oregon. See discussion in the Oregon and Washington Consistency Determinations.

If the EPA is the NPDES permitting authority for the point source discharges in the upstream State, the downstream State may object to the issuance of the permits in the upstream state if the federal permits in the upstream State will affect the quality of its waters so as to violate any water quality requirements in the downstream State (CWA Section 401(a)(2)). Both States have provided comments on the preliminary draft General Permit, and the EPA has worked to address

those comments.

C. Coastal Zone Management Act - Federal Consistency Determination

Section 307 of the "Coastal Zone Management Act of 1972" (CZMA), called the "federal consistency" provision, gives states a strong voice in federal agency decision making for activities that may affect a state's coastal uses or resources. The federal consistency provision is a tool that state programs use to manage coastal activities and resources and to facilitate cooperation and coordination with federal agencies.¹⁰

Generally, federal consistency requires that federal actions, within and outside the coastal zone, which have reasonably foreseeable effects on any coastal use (land or water) or natural resource of the coastal zone be consistent with the enforceable policies of a state's federally approved coastal management program. Federal actions include federal agency activities, federal license or permit activities, and federal financial assistance activities. Federal agency activities must be consistent to the maximum extent practicable with the enforceable policies of a state coastal management program, and license and permit and financial assistance activities must be fully consistent.

The EPA has submitted CZMA federal consistency determinations to Washington and Oregon, and has determined that the General Permit is consistent with the enforceable policies of each State. Each State will have its own public comment period regarding its consistency determination on this General Permit.

D. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with the NMFS and the USFWS if their actions could beneficially or adversely affect any threatened or endangered species and/or their designated critical habitat. The EPA analyzed the discharges proposed to be authorized by the draft General Permit, and their potential to adversely affect any of the threatened or endangered species or their designated critical habitat areas in the vicinity of the discharges in a Biological Evaluation (BE) dated August 2015.

On December 18, 2015, the EPA received a letter of concurrence from the NMFS. The NMFS concurred with the EPA that the proposed action is not likely to adversely affect the ESA-listed fish, marine mammals, and turtles under the NMFS' jurisdiction.

On September 29, 2015, the EPA received a response from the USFWS indicating that the draft General Permit has the potential to affect ESA-listed or migratory birds. The EPA has since worked with subject matter experts and consulted the recent Biological Opinion on the Pacific groundfish fishery (USFWS, 2017) to incorporate provisions to reduce impacts to the short-tailed albatross and other seabirds into the re-proposed General Permit (see Section I.B.6. of this Fact Sheet). The EPA has also clarified that the General Permit's jurisdiction begins 3 nm

¹⁰ <https://coast.noaa.gov/czm/consistency/>

away from offshore rocks and islands; approximately 8 nm from shore at the furthest point (see Section I.B.4. of this Fact Sheet). Therefore, the discharge of seafood processing waste is prohibited within 3 nm of National Wildlife Refuge islands, and seabird nesting habitat will not be adversely affected by this General Permit. In addition, the EPA is proposing to exclude discharge in waters shallower than 100 meters during April 15 through October 15. Marbled murrelets are usually found within five miles from shore off of Washington, and just over three miles from the Oregon coast (Huff et al., 2006), and would be unlikely to be adversely affected by this General Permit.

In light of the fact that the General Permit's area of coverage excludes all coastal rocks and islands, and that the EPA has included additional seabird protection measures into the re-proposed General Permit in order to be consistent with the RPM and terms and conditions from the Biological Opinion (USFWS, 2017), the EPA concludes that the action is not likely to adversely affect listed seabirds. The EPA has updated its BE to reflect these changes to the re-proposed General Permit.

The EPA has reviewed the re-proposed draft General Permit and determined that the proposed changes would further support the EPA's conclusions that the discharges are not likely to adversely affect listed, proposed, and candidate species or their designated critical habitat areas. This Fact Sheet, the re-proposed draft General Permit, and the revised BE will be sent to NMFS and the USFWS for review during the public comment period.

E. Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act, NMFS and various fisheries management councils must identify and protect "essential fish habitat" (EFH) for species managed under the Act. The EFH regulations define an "adverse effect" as any impact that reduces quality and/or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species fecundity), site-specific, or habitat wide impacts, including individual, cumulative, or synergistic consequences of actions. Agency actions that may adversely affect EFH requires consultation with NMFS.

The EPA submitted a Biological Evaluation (BE) dated August 2015 to the NMFS, which included an EFH assessment. The EFH assessment concluded that the discharges authorized by the draft General Permit will not adversely affect EFH. On December 18, 2015, the NMFS communicated to the EPA that the proposed action could adversely affect EFH because of impacts to water quality (via pollutant loading and decreased dissolved oxygen) and to benthic conditions (because of laying of discharged fish processing waste on the sea floor). The NMFS provided conservation recommendations to avoid, mitigate, or offset the impact of the proposed action on EFH:

1. "To minimize water quality impacts from nutrient loading that spurs algal growth, no discharge shall occur within 250 feet of a visible algal bloom.
2. To minimize impacts to Habitat Areas of Particular Concern, no discharge shall occur over or within 250 feet of rocky reefs.

3. To minimize water quality impacts from nutrient loading that increase demand for dissolved oxygen, no discharge shall occur in or within 250 feet of an identified hypoxic zone.
4. To ensure that dispersal of discharged materials is sufficient to reduce impacts to both water quality and benthic conditions, vessels shall maintain, so long as safety permits, a minimum vessel speed of 5 knots during discharge to minimize density of effluent.”

The EPA has worked with the NMFS and subject matter experts to address the NMFS conservation recommendations via the proposed changes to this General Permit. Concurrent with this public notice period, the EPA has formally responded to the NMFS EFH recommendations.

F. National Marine Sanctuaries Act

The National Marine Sanctuaries Act (NMSA) authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational, or aesthetic qualities as national marine sanctuaries. The Olympic Coast National Marine Sanctuary (the Sanctuary) was designated under this authority in 1994. The Sanctuary encompasses a highly productive ocean and coastal environment that is important to the continued survival of numerous ecologically and commercially important species of fish, seabirds, and marine mammals, and diverse habitats supporting a great variety of biological communities.

Section 304(d) of the NMSA (16 U.S.C § 1434(d) requires federal agencies to consult with the Secretary of Commerce, through NOAA, regarding any federal action or proposed action, including activities authorized by federal license, lease, or permit, that is likely to destroy, cause the loss of, or injure any sanctuary resource. The Sanctuary considers that the proposed General Permit meets the above criteria, requiring the EPA to consult with the Sanctuary. In a letter dated May 25, 2016, the Sanctuary provided the EPA with recommended alternatives to protect Sanctuary resources and minimize or mitigate injury to Sanctuary resources associated with the proposed General Permit. In that letter, the Sanctuary recommended that the EPA establish permit conditions to mitigate against the stimulation of harmful algal blooms, to mitigate contributions to hypoxic conditions, and to require more detailed monitoring and reporting. The EPA has addressed these concerns in the re-proposed General Permit.

As part of the NMSA 304(d) consultation, the Sanctuary also requested that it be provided with copies of monitoring reports. Accordingly, the EPA is proposing to require that vessels provide copies of their Annual Reports to the Sanctuary if they discharged seafood processing waste within the Sanctuary’s boundaries during that calendar year.

The EPA has worked with the Sanctuary and subject matter experts to address the Sanctuary’s recommendations via the proposed changes to this General Permit. Concurrent with this public notice period, the EPA has formally responded to the Sanctuary’s recommendations.

G. Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities.” The EPA strives to enhance the ability of overburdened communities to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. “Overburdened” communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, the EPA Region 10 has considered implementing enhanced public involvement opportunities for EPA-issued permits where facilities’ discharge to waters in overburdened communities. For more information, please visit <http://www.epa.gov/compliance/ej/plan-ej/>.

As part of the General Permit development process, the EPA Region 10 conducted a screening analysis to determine whether this permit action could affect overburdened communities. The EPA used a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted. The General Permit only covers federal waters, and does not cover any communities or places where people live on land. However, coastal communities could be affected by the offshore seafood processing sector. Along the Washington and Oregon coast, there are several areas that the EPA environmental justice screening tool highlighted, including: within the Makah Reservation; the Quinalt Reservation; and areas near Astoria, Lincoln City, Coos Bay, and Brookings, Oregon. The EPA has invited the Washington coastal Tribes with usual and accustomed areas to consult on this General Permit, and has engaged in further tribal consultation and coordination discussions with the Makah and Quileute Tribes regarding how the proposed General Permit could affect their respective treaty-protected fisheries resources.

Regardless of whether a facility is located near a potentially overburdened community, the EPA encourages Permittees to review (and to consider adopting, where appropriate) “Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways to Engage Neighboring Communities” (see <https://www.federalregister.gov/articles/2013/05/09/2013-10945/epa-activities-to-promote-environmental-justice-in-the-permit-application-process#p-104>). Examples of promising practices include thinking ahead about community’s characteristics and the effects of the permit on the community, engaging the right community leaders, providing progress or status reports, inviting members of the community for tours of the facility, providing informational materials translated into different languages, setting up a hotline for community members to voice concerns or request information, follow up, and other activities.

H. Tribal Coordination and Consultation

The proposed General Permit only applies to federal waters at least 3 miles off the coast. There are four Tribes on the Washington coast with usual and accustomed fishing areas that extend 30-40 miles offshore, and therefore overlap with the Permit's jurisdiction.

NMFS adopted U&A fishing area boundaries for several Pacific Coast Tribes in 1996 and published those boundaries in Federal fishing regulations for species managed under the Magnuson-Stevens Act (MSA). Since 1996, some tribal U&A fishing area boundaries have been amended, as ordered by the courts. On September 3, 2015, the United States District Court set forth boundaries for the Quileute Indian Tribe and the Quinault Indian Nation usual and accustomed fishing areas off the Washington coast.¹¹ NMFS announced publication of a final rule on June 8, 2016 implementing the courts final judgement. An illustration of the tribal accustomed fishing areas are shown below in Figure 6. To learn more about the NMFS regulations describing the Pacific Coast Treaty Indian Tribes' usual and accustomed fishing areas, see MSA Title 50 § 660.4, Subpart A.

¹¹ *United States v. Washington*, 2:09-sp-00001-RSM, (W.D. Wash. Sept. 3, 2015) (Amended Order Regarding Boundaries of Quinault & Quileute U&As)

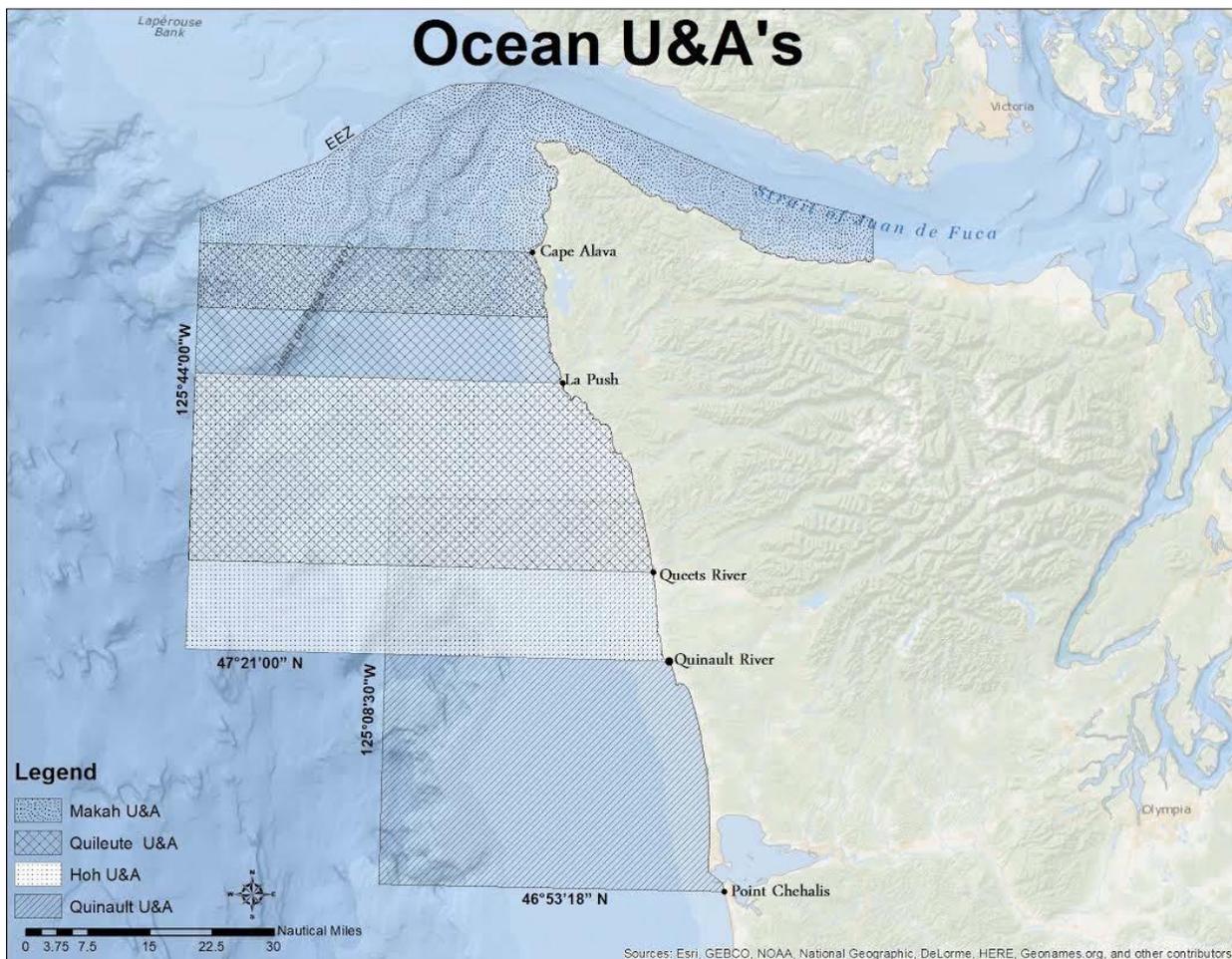


Figure 6. Depiction of Pacific coast treaty Tribes' usual and accustomed (U&A) fishing areas off the Washington coast. Note: this map depicts U&A fishing areas that occur both inside and outside of the exclusive economic zone (EEZ). Source: http://www.westcoast.fisheries.noaa.gov/publications/fishery_management/groundfish/public_notices/public_notice_tribal_u_a.pdf

On August 20, 2015, the EPA invited these Tribes to engage in government-to-government consultation. Since then, the EPA has conducted additional outreach via the Northwest Indian Fisheries Commission and with individual tribal staff. On July 21, 2016, EPA staff met with representatives of the Quileute Tribe in La Push, Washington to discuss the draft General Permit. The EPA and the Quileute Tribe conducted a consultation leadership meeting on December 5, 2016. On August, 15, 2016, EPA staff met with representatives of the Makah Tribe. A consultation leadership meeting was conducted with the Makah Tribe on December 14, 2016. Coordination and outreach efforts have been ongoing.

During permit development, NPDES permits staff followed the EPA Region 10 Tribal Consultation and Coordination Procedures, available online at http://www.epa.gov/region10/pdf/tribal/consultation/r10_tribal_consultation_and_coordination_

procedures.pdf.

IV. References

Barth, J. A. Personal Communication. Oregon State University. 2016.

Barth, J. A., S. D. Pierce, and R. M. Castelao. 2005. Time-dependent, wind-driven flow over a shallow midshelf submarine bank. *Journal of Geophysical Research*, Vol. 110: C10S05.

Castelao, R. M., and J. A. Barth. 2005. Coastal ocean response to summer upwelling favorable winds in a region of alongshore bottom topography variations off Oregon. *Journal of Geophysical Research*, Vol. 110: C10S04.

Chan, F. Boehm, Personal Communication. Oregon State University. 2016.

Chan, F., J. A. Barth, J. Lubchenco, A. Kirincich, H. Weeks, W. T. Peterson, and B. A. Menge. 2008. Emergence of anoxia in the California Current large marine ecosystem. *Science*, 319: 920.

Chan, F., A. B. Boehm, J. A. Barth, E. A. Chornesky, A. G. Dickson, R. A. Feely, B. Hales, T. M Hill, G. Hofmann, D. Ianson, T. Klinger, J. Largier, J. Newton, T. F. Pedersen, G. N. Somero, M. Sutula, W. W. Wakefield, G. G Waldbusser, S. B. Weisberg, and E. A. Whiteman. The West Coast Ocean Acidification and Hypoxia Science Panel: Major Findings, Recommendations, and Actions. California Ocean Science Trust, Oakland, California, USA. April 2016.

Connolly, T. P., B. M. Hickey, S. L. Geier, and W. P. Cochlan. 2010. Processes influencing seasonal hypoxia in the northern California Current System. *Journal of Geophysical Research*, Vol 115: C03021.

Goldfinger C, S. K. Henkel, et al., 2014. Benthic Habitat Characterization: Volume 1 Evaluation of Continental Shelf Geology Offshore the Pacific Northwest. US Dept. of the Interior, Bureau of Ocean Energy Management, Pacific OCS Region. OCS Study BOEM 2014-662. 161 pp.

Grantham, B. A., F. Chan, K. J. Nielsen, D. S. Fox, J. A. Barth, A. Huyer, J. Lubchenco and B. A. Menge. 2004. Upwelling-driven nearshore hypoxia signals ecosystem and oceanographic changes in the northeast Pacific. *Nature*, 429, 749–754.

Huff, M.H., S. L. Raphael, K. S. Miller, K. S. Nelson, and J. Baldwin. 2006. Northwest Forest Plan- the first 10 years (1994-2003): Status and trends of populations and nesting habitat for the marbled murrelet. Portland, Oregon: USDA Forest Service, Pacific Northwest.

Kosro, P. M. 2005. On the spatial structure of coastal circulation off Newport, Oregon, during spring and summer 2001 in a region of varying shelf width. *Journal of Geophysical Research*, Vol. 110.

Melvin, E.F., K. S. Dietrich, and T. Thomas. 2004. Pilot Tests of Techniques to Mitigate Seabird Interactions with Catcher Processor Vessels in the Bering Sea Pollock Trawl Fishery. Pollock Conservation Co-operative.

National Data Buoy Center (NDBC). 2014. Important Notice to Mariners: National Weather Service Seeks Cooperation to Safeguard Critical Data Buoys. Accessed August 8, 2016 online at http://www.ndbc.noaa.gov/marine_notice.shtml.

Newton, J. Personal Communication. University of Washington Applied Physics Lab. 2016.

NOAA Fisheries. 2016. Pacific Coast Fisheries Permit System: West Coast Regional Office. Accessed August 8, 2016 online at https://www.webapps.nwfsc.noaa.gov/apex_ifq/f?p=112:23:13922552911704::NO::...

Oregon Department of Fish and Wildlife (no date). Commercial Crab Fishing. Accessed July 14, 2016 online at <http://www.dfw.state.or.us/mrp/shellfish/commercial/crab/index.asp>.

Peterson, W. Personal Communication. National Oceanic and Atmospheric Administration, Northwest Fisheries Science Center, Hatfield Marine Science Center, Newport, Oregon. 2016.

Peterson, J. O., C. A. Morgan, W. T. Peterson, and E. Di Lorenzo. 2013. Seasonal and interannual variation in the extent of hypoxia in the northern California Current from 1998–2012, *Limnol. Oceanogr. Methods*, 58(6), 2279–2292.

Siedlecki, S. A., N. S. Banas, K. A. Davis, S. Giddings, B. M. Hickey, P. MacCready, T. Connolly, and S. Geier (2015), Seasonal and interannual oxygen variability on the Washington and Oregon continental shelves, *Journal of Geophysical Research: Oceans*, 120, 608–633.

Suryan, R. Oregon State University, US Short-Tailed Albatross Recovery Team. Personal Communication. 2016.

TCW Economics. 2008. Economic analysis of the non-treaty commercial and recreational fisheries in Washington State. Prepared for Washington Department of Fish and Wildlife.

Trainer, V. Personal Communication. NOAA, Marine Biotoxin Program at the Northwest Fisheries Science Center. 2016.

USFWS (U.S. Fish and Wildlife Service). 2017. Biological Opinion Regarding the Effects of the Continued Operation of the Pacific Coast Groundfish Fishery as Governed by the Pacific Coast Groundfish Fishery Management Plan and Implementing Regulations at 50 CFR Part 660 by the National Marine Fisheries Service on California Least Tern (*Sterna antillarum browni*), Southern Sea Otter (*Enhydra lutris nereis*), Bull trout (*Salvelinus cojifluentus*), Marbled Murrelet (*Brachyramphus marmoratus*), and Short-tailed Albatross (*Phoebastria albatrus*) Prepared by the Oregon Fish and Wildlife Office, U.S. Fish and Wildlife Service Portland Oregon. FWS

Reference Number 01EOFW00-2017-F-0316

Wheeler, P.A., A. Huyer, and J. Fleischbein. 2003. Cold halocline, increased nutrients and higher chlorophyll of Oregon in 2002. *Geophysical Research Letters*, Vol. 30, No 15, 8021.

Zador, S. G., and S.M. Fitzgerald. 2008. Seabird attraction to trawler discards. AFSC Processed Report 2008-06. NOAA, National Marine Fisheries Service. Seattle, WA.