RESPONSE TO COMMENTS
Offshore Seafood Processors in Federal Waters off the
Washington and Oregon Coast
NPDES Permit Number WAG520000
(March 4, 2019)

Overview

The United States Environmental Protection Agency Region 10 (EPA) issued a draft National Pollutant Discharge Elimination System (NPDES) general permit for Offshore Seafood Processors Discharging in Federal Waters off the Washington and Oregon coast (draft General Permit) on August 24, 2015. The public comment period closed on October 8, 2015.
On June 6, 2017, the EPA reopened the public comment period for the draft General Permit. The reopened public comment period closed on August 3, 2017. This comment period was limited to those permit provisions that had changed from the previous draft that was issued for public comment. See the Fact Sheet for the specific changes that were made.
The EPA received comments from:

2017	**2015**
Quinault Tribe	Oregon Dept. of Fish and Wildlife
Makah Tribe	Trident Seafoods Corporation
Quileute Tribal Council	Washington Dept. of Ecology
Oregon Coastal Management Program	Perkins Coie
Oregon Department of Fish and Wildlife	U.S. Fish and Wildlife Service
Oregon Dept. of Environmental Quality	
Perkins Coie	
Midwater Trawlers Cooperative	
Arctic Storm Management Group	
Washington Dept. of Ecology	

Note: The EPA condensed the comments received into shorter excerpts. To view the comments in their entirety, please see https://www.epa.gov/npdes-permits/proposed-npdes-general-permit-offshore-seafood-processors-federal-waters-coast

Additional Activities Associated with Permit Issuance

Based on the comments received during the 2015 comment period, 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. Below are the Federal Consultations that were completed after the 2015 public comment period.

NOAA Olympic Coast National Marine Sanctuary

304(d) consultation is now complete. Correspondence regarding the 304(d) consultation is posted on the EPA's website at: https://www.epa.gov/npdes-permits/state-and-federal-consultations-and-other-correspondence-proposed-npdes-general-permit.

USFWS Endangered Species Act (ESA) Consultation

ESA consultation with the USFWS is now complete. The Final Biological Evaluation for this General Permit is posted on the EPA's website at: https://www.epa.gov/npdes-permits/state-and-federal-consultations-and-other-correspondence-proposed-npdes-general-permit.

NMFS Endangered Species Act and Essential Fish Habitat (EFH) Consultation

ESA and EFH consultation with the NMFS are now complete. Correspondence regarding ESA and EFH consultation is posted on the EPA's website at: https://www.epa.gov/npdes-permits/state-and-federal-consultations-and-other-correspondence-proposed-npdes-general-permit.

Tribal Consultations

- The EPA and the Quileute Tribe conducted a consultation leadership meeting on December 5, 2016 and on October 13, 2017.
- On December 14, 2016, the EPA conducted a consultation leadership meeting with the Makah Tribe.
- On October 26, 2017 the EPA conducted a technical staff meeting with the Quinault Tribe.

Revisions Made to the 2017 Draft General Permit

As a result of comments received during the 2017 public notice period, the following revisions were made to the 2017 General Permit:

- General Permit Section III.B.4. The seasonal discharge prohibition dates were changed from April 15th – October 1st to April 15th to October 31st. See Comment: EPA Response to ODFW 5

- General Permit Section V.B.7. Effluent Monitoring was added to the permit conditions. See Comment: EPA Response to Ecology 5.

- Submittal of Annual Reports. The option to submit the annual report electronically was added. See Comment: EPA Response to Quinault 16.

- General Permit Section VI.B.5. The permittee must also provide a copy of the Annual Report to an agency listed below if the discharge occurs inside an agency's boundaries. See Comment: EPA Responses to Quinault 16, Ecology 5, and ODEQ 4.
    - Washington Department of Ecology
    - Oregon Department of Environmental Quality
    - Quinault Indian Nation

Comments Received During the June 19-August 3, 2017 Public Comment Period

1. Comments from Washington Department of Ecology:

Ecology 1:

The proposed Draft Permit does not meet existing State and Federal laws and regulations. As written, the Draft Permit could cause or contribute to unfavorable impacts to Waters of the State and violations of State Water Quality Standards.

The discharges proposed in the Draft Permit will cause degradation of Washington State Waters and violate the aquatic life dissolved oxygen criteria.

Discharges are likely contributing to adverse impacts to economically important ocean uses for coastal communities, including recreational razor clam harvest, Dungeness crab commercial fishing, and the shellfish aquaculture industry. Those impacts include harmful algal blooms, hypoxia, and ocean acidification.

EPA Response to Ecology 1:

The General Permit meets existing laws and regulations. The 2015 and 2017 Fact Sheets, as well as the EPA's consistency determination to Ecology, include in-depth discussions of the relevant laws and regulations, and how this permit complies with them. The EPA has considered impacts to Dungeness crab and other coastal fisheries and believes that the General Permit conditions will be protective of these fisheries. See Response to Ecology 10. However, if over the course of the next five-year permit cycle, monitoring or reporting information or new environmental data/trends indicate a need for more stringent permit conditions, the EPA will adjust permit conditions accordingly when the permit is reissued. If the data/trends indicate the need for more stringent conditions before reissuance of the permit, the EPA may modify the permit before the permit expires. No changes were made to the General Permit as a result of this comment.

Ecology 2:

Additional restrictions including treatment and better monitoring are necessary to prevent degradation of the coastal marine waters off Washington and Oregon. To address these issues, the General Permit must:

- Apply a year-round, 200-meter depth restriction off the coasts of Washington and Oregon to prevent discharges from further contributing to hypoxic conditions on the shelf, and ocean acidification.
- Require the discharges to be adequately monitored to accurately evaluate the impacts to water quality and aquatic resources.
- Require that the discharges meet the effluent limits promulgated by 40 CFR Part 408, Subparts U and V.

Be based on robust scientific studies to determine if the discharges are causing or contributing to harmful algal blooms, hypoxia, and ocean acidification.

EPA Response to Ecology 2:

To date, no studies have been conducted off the West Coast with the aim of developing a causal link between seafood processing discharges and harmful algal blooms, hypoxia, and/or ocean acidification. All three of these phenomena have been well documented in recent years, but the causal link between them and this particular discharge has not. In order to ensure that the General Permit is protective of marine water quality, the EPA has prohibited discharge in areas where the agency believes the discharge could cause or contribute to hypoxia (which is linked to ocean acidification). A bathymetry based seasonal discharge prohibition that coincides with the summer upwelling season will help to limit the discharge of nutrients and waste that exerts high biochemical oxygen demand- both of which can exacerbate harmful algal blooms, hypoxia, and

ocean acidification. The EPA has responded in more detail to these comments in Response Ecology 10.

Ecology 3:

Noncompliance with State water quality laws and regulations.

The Environmental Protection Agency's (EPA) information is insufficient to show the discharge from these facilities will not impair Washington's waters. The discharges authorized under the Permit do not comply with the following:

Chapter 90.48.080 of the Revised Code of Washington (RCW), Discharge of polluting matter in water prohibited.

Chapter 173-201A-500 of the Washington Administrative Code (WAC), Implementation of Standards, Achievement Considerations.

WAC 173-201A-510(1), Implementation of Standards, Means of Implementation, Permitting

WAC 173-226-070, Waste Discharge General Permit Program, Permit Effluent Limitations.

EPA Response to Ecology 3:

The EPA recognizes Washington Department of Ecology's comment. As indicated in the Coastal Zone Management Act (CZMA) Consistency Determination and the Fact Sheet, the EPA found that the discharges authorized by the General Permit comply with all applicable Washington State water quality standards and administrative codes. No changes were made to the General Permit as a result of this comment.

Ecology 4:

EPA has not applied the all known and reasonable treatment standard (AKART) required under RCW 90.48.010, and as written could cause or contribute to unfavorable impacts on Waters of the State and violations of State Water Quality Standards.

EPA Response to Ecology 4:

The EPA implements the NPDES permits program in federal Waters and has written this NPDES General Permit to comply with the federal Clean Water Act (CWA). This General Permit applies only to federal waters, and does not allow for discharges within the waters of the State of Washington. As explained in detail in the Consistency Determination that the EPA sent to Ecology, the General Permit will meet Washington State water quality standards and criteria at the boundary of Washington waters.

The EPA has analyzed the proposed General Permit against Washington's Marine Water Quality Designated Uses and Criteria (173-201A-210) in order to ensure that the discharges authorized by the General Permit do not negatively affect State waters at the point where Federal and State waters meet. For this analysis, the EPA referred to Table 612—Use designations for marine waters, Washington's coastal waters are designated "Extraordinary" for Aquatic Life Uses, for Primary Contact Recreation, and for Wildlife Habitat, Harvesting, Commerce/Navigation, Boating, and Aesthetics. Information on the legal and technical basis for this General Permit is provided in the original and re-proposal Fact Sheets.

Ecology asserts that the EPA has not met the AKART requirement of the State's regulations (WAC 173-220-130 and RCW 90.48.010) and that offshore seafood processing ships must apply the same level of treatment, and meet the same federally promulgated technology-based effluent limits, as Washington shore-based processors.

As previously explained in the EPA's CZMA consistency determination to Ecology, this permit authorizes discharges into Federal Waters; therefore, state water quality standards, including AKART, do not apply to this discharge. Even if AKART did apply to offshore processors discharging to federal waters, AKART would not warrant the same effluent limits as shore-based

processors because of fundamental differences in how shore-based and offshore facilities operate, including space and safety constraints inherent to offshore operations. Most offshore processing vessels expected to seek coverage under this General Permit conduct active trawl operations during discharge, a significant difference from their shore-based counterparts. Offshore processing vessels have limited space available for treatment or storage of waste product, which limits treatment options. In addition, offshore processing vessels are operating in the open ocean at least 3 nm from shore, and face vastly different safety and operational issues than their shore-based counterparts. Since these floating factories are surrounded by ocean, they do not have access to sewer, electricity, road access and other basic utilities and amenities that shore-based factories have. They also have dramatically more dilution available in the open ocean, as opposed to enclosed/shallow bays.

Further, requiring offshore seafood processors to transport Pacific whiting (i.e., the target species) to shore-based processors, as Ecology has suggested in their 2015 comments, would not be "reasonable." In fact, it would be particularly problematic for the Pacific whiting trawl fleet, and would cause unnecessary expense and logistical difficulties. During discussion with the EPA, representatives of the Pacific whiting offshore processing fleet have emphasized the importance of offshore (i.e., on-vessel) processing for Pacific whiting because of a naturally occurring parasite that causes fish to become soft soon after it is caught. If whiting is not processed immediately after harvest, the quality of the marketable product suffers. This claim was substantiated by NOAA. According to NOAA, "The abnormal muscle texture in Pacific whiting is caused by a myxosporidian- induced proteolysis. The latent potential for proteolytic textural softening in whiting, due to the presence of myxosporidian cysts at variable intensity, appears to be an intrinsic characteristic of the Pacific species…. The muscle parasite that affects whiting similarly is of little public health concern, but since it degrades flesh texture significantly and limits the utilization of the resource, it is a matter of technological concern."[1]

In addition, there would be significant costs in terms of time, fuel, and greenhouse gas emissions associated with transporting the catch to shore-based processing facilities.

See also EPA Response to Ecology 5.

Ecology 5:

The monitoring proposed by EPA in the Draft Permit is not sufficient to determine compliance with the applicable effluent limits (40 CFR Part 408, Subpart U and 40 CFR Part 408 Subpart V) and fails to meet the requirements of WAC 173-220-210 and WAC 173-226-090.

The monitoring program also fails to meet the requirements of 40 CFR 125.123(c) and 40 CFR 125.123(d)(2).

EPA Response to Ecology 5:

Ecology asserts that the monitoring program fails to meet the requirements of 40 CFR 125.123(c) and 40 CFR 125.123(d)(2) as well as the requirements found in WAC 173-220-210 and WAC 173-226-090.

WAC 173-220-210 and WAC 173-226-090 refer to monitoring requirements that can be reasonably required by the Department of Ecology for NPDES permits within Washington State. Since this is an EPA-issued permit for discharges into federal waters, WAC 173-220-210 and WAC 173-226-090 do not apply.

With regard to the federal Ocean Discharge Criteria Guidelines at 40 CFR 125.123(c), the EPA has determined that discharge of pollutants into the marine environment shall be permitted via this General Permit, subject to seasonal and year-round discharge prohibitions in areas prone to

[1] https://spo.nmfs.noaa.gov/sites/default/files/pdf-content/MFR/mfr445/mfr4451.pdf

hypoxic conditions. Based on the scientific literature and consulting with subject matter experts, the EPA has determined that these discharge prohibitions will prevent unreasonable degradation and irreparable harm to the marine environment. For more detail on how the EPA has complied with 40 CFR 125.123(c), see pages 17-18 of the 2017 Fact Sheet.

In accordance with the Ocean Discharge Criteria Guidelines at 40 CFR 125.123(d)(2), the EPA has specified additional monitoring requirements in the final permit in order to assess the impact of the discharge on water, sediment, and biological quality (see Appendix A of the General Permit for the NOI and Appendix B for the Annual Report). 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.

As a condition of Ecology's consistency decision on the EPA's Consistency Determination, Ecology set forth weekly monitoring requirements for the following parameters: Biochemical Oxygen Demand (BOD), total suspended solids (TSS), oil and grease, pH, Total Organic Carbon, Dissolved Organic Carbon, Carbonaceous BOD, Total Kjeldahl Nitrogen, Total Ammonia as Nitrogen, and Total Dissolved Solids.

The purpose of effluent monitoring in NPDES permit is to determine compliance with effluent limitations, establish a basis for enforcement actions, assess treatment efficiency, and characterize effluent. There are several factors to consider when establishing monitoring frequency, for example the design capacity of the treatment facility, the treatment methods used, cost of monitoring relative to permittees' capabilities, location and frequency of the discharge, and the nature of the pollutants.

The parameters and frequency of monitoring suggested by Ecology are similar to the parameters and frequency of Ecology's shore-based seafood processing permits and appear to be consistent with monitoring required to assess compliance with ELG-based effluent limitations. The ELGs cited by Ecology (40 CFR Part 408, Subpart U and 40 CFR Part 408 Subpart V) do not apply to the offshore processors and the GP does not include technology-based limits based on these ELGs. As such frequent monitoring is not required to assess compliance with effluent limits or treatment efficiency. As explained in the Fact Sheet and the EPA's CZMA consistency determination, there are currently no federally promulgated ELGs that apply to offshore seafood processors, and therefore the monitoring requirements for the referenced ELGs (40 CFR Part 408, Subpart U and 40 CFR Part 408 Subpart V) do not apply. The EPA has promulgated final ELGs specifying BCT, BPT, and NSPS for specific categories of sea food processing. These ELGs are codified at 40 CFR Part 408. When the ELGs were promulgated, the offshore seafood processing industry either did not exist or was in its infancy. Therefore, offshore processors were not analyzed during the development of the ELGs and, as such, <u>these ELGs do not apply to the offshore seafood processing industry.</u>

The EPA agrees that it is important to collect the necessary data to characterize the volume and nature of the discharge and to assess the impact of the discharge on water, sediment, and biological quality. However, weekly monitoring to characterize the wastestream is unnecessary and unreasonable when considering the treatment used on the vessels and location of the discharge. Since at-sea processors operate in offshore waters for weeks at a time and do not have regular access to laboratories, weekly monitoring requirements involving an on-shore laboratory would pose significant logistical challenges. In addition, BOD and Carbonaceous BOD have holding times of only 48 hours. See 40 CFR Part 136—guidelines establishing test procedures for the analysis of pollutants; §136.3 Identification of test procedures; Table II—Required

Containers, Preservation Techniques, and Holding Times. It would be unreasonable for the EPA to require weekly monitoring for at-sea vessels for parameters with such short holding times. The final General Permit requires the permittees to collect and analyze (on a quarterly basis, if discharging during that quarter) representative samples for BOD, TSS, oil and grease, pH, Total Organic Carbon, Dissolved Organic Carbon, Carbonaceous BOD, Total Kjeldahl Nitrogen, Total Ammonia as Nitrogen, and Total Dissolved Solids. The permit also requires monitoring for Chemical Oxygen Demand (COD) because COD can be used as a proxy for BOD, and is more feasible for at-sea processors in the long term because it has a longer holding time (i.e., 28 days). Collecting COD data will help to establish a long-term correlation between COD and BOD and may help to relieve permittees of BOD monitoring in the future. For permittees with fishmeal plants that discharge stickwater, the EPA will require one representative sample of stickwater per year of operation for all the parameters listed above. Results will be submitted via NetDMR. The EPA has revised the monitoring requirements in the final General Permit to reflect this change (see Section V.B.7. of the General Permit).

At-sea processors to be covered under this General Permit typically operate off the West Coast during the spring and fall (i.e., two quarters). Thus, over the course of a five-year permit cycle, the 16 factory processors will collect approximately 160 effluent samples (16 factory processors x 2 quarters of operation per year x 5-year permit cycle = 160 samples). These monitoring requirements will provide a sufficiently robust data set to characterize the discharge.

On October 5, 2017, the EPA interviewed Dr. Parker MacCready, Professor of Oceanography at the University of Washington and lead for the LiveOcean model (see http://faculty.washington.edu/pmacc/) to learn more about monitoring data necessary to populate a sophisticated ocean model. Dr. MacCready opined that representative samples would be sufficient inputs to the model and that weekly monitoring is not necessary in order to populate a model such as the LiveOcean model.

The EPA acknowledges the logistical challenges inherent to collecting samples for parameters with short holding times. However, at-sea processors should be able to fulfill this permit requirement by collecting representative samples immediately prior to coming to shore (or by providing the samples to vessels that meet them at-sea so that they can be delivered to an on-shore laboratory). This will require some degree of planning and coordination, but is feasible for Permittees on a quarterly (not weekly) basis.

Ecology 6:

Inadequate studies to evaluate the discharge's potential contributing effects on harmful algal blooms.

EPA Response to Ecology 6:

Because there is currently no evidence to suggest that discharge authorized by this General Permit will cause toxic algal blooms, the EPA is not including permit conditions to address harmful algal bloom outbreaks. The EPA will reevaluate whether to include permit requirements to mitigate potential contributions to harmful algal blooms upon the next permit reissuance (in five years). For more detail on how the EPA consulted with NOAA in order to consider the General Permit's potential contribution to harmful algal blooms, please see Section II.A. Harmful Algal Blooms of the 2017 re-proposal Fact Sheet.

Ecology 7:

Ecology recommends delaying permit issuance until the effects of the discharge are fully understood.

EPA Response to Ecology 7:

The EPA has a responsibility to issue a timely NPDES permit and cannot further delay permit issuance.

Ecology 8:

WAC 173-201A Part III, Antidegradation policy for Waters of the State.

EPA Response to Ecology 8:

The EPA recognizes Washington Department of Ecology's comment. The EPA notes that the Washington Water Quality Standards do not apply to Federal Waters therefore an antidegradation analysis is not required. The discharge will only be authorized in Federal Waters at least 3mn from shore. The EPA has added a provision to the General Permit to include a seasonal discharge prohibition in waters shallower than 100 meters in depth. The discharge will be prohibited within approximately 10-20 miles from the Washington Coast. Within the 10-20 miles distance between the discharge and State Waters an enormous amount of mixing and will occur dispersing the fish waste before reaching State Waters. See also the CZMA consistency determination regarding compliance with standards at the Federal/State boundary. For the reasons outlined above, no changes were made to the General Permit as a result of the comment.

Ecology 9:

WAC 173-201A-210(1)(d), aquatic life dissolved oxygen criteria.

EPA Response to Ecology 9:

The EPA recognizes Washington Department of Ecology's comment. The EPA does not expect this General Permit to impact dissolved oxygen levels in Washington State waters. Notably, the discharge will only be authorized in Federal Waters at least 3 nm from shore. In addition, the EPA has proposed a seasonal discharge prohibition in waters shallower than 100 meters in depth to avoid any contribution to hypoxic conditions at the seafloor as a result of the discharge authorized by this General Permit. Consequently, discharge will be prohibited within approximately 10-20 miles of the Washington Coast during the critical season, during which low dissolved oxygen occurs at-depth. Discharge will be prohibited within approximately 10 nm from Lake Ozette, within 19 nm of shore near Grays Harbor, and within 12 nm of shore at the Columbia River. Thus, discharge will take place miles from the State/Federal Waters boundary during the critical period. Within that miles-wide buffer between the discharge and State waters, an enormous amount of mixing and flushing will occur, given the massive dilution provided by the open ocean, tides, currents, wave action, and the vessels movement during discharging. Thus, the discharges covered by this General Permit will have no effect on dissolved oxygen within Washington waters. See Section I.B.1. of the re-proposed Fact Sheet and Section 4.5.2 of the revised Biological Evaluation.

Ecology 10:

Ecology is concerned that hypoxic conditions could be intensified by the increased respiration from organisms consuming the additional pollutant loading from the discharges.

In discussions between Ecology and the Oregon Department of Fish and Wildlife the two agencies agreed that in the interest of consistency a 200-meter depth restriction off the coasts of both States would be protective. This restriction needs to be in place year-round. This restriction would put the discharges close to the edge of the continental shelf help to prevent them from further contributing to hypoxic conditions on the shelf. … "Restricting the discharges to this boundary year-round will move them off the continental shelf. Ecology understands there may some impact to the fish processing fleet, but the immediate and long term environmental risks, including risks to the marine food web on which whiting depend must be considered."

EPA has insufficient information to make its determination.

EPA Response to Ecology 10*:*

Ecology states that the EPA has insufficient information to make a determination that the current 100-meter seasonal discharge prohibition will prevent contribution to hypoxic conditions. As explained in the fact sheet, this will be the first time an NPDES permit has been issued for offshore seafood processors 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. Since this is a first-time permit, it is unknown whether the processors contribute to hypoxic conditions at depth.

The EPA has insufficient information to determine prior to permit issuance that there will be no unreasonable degradation of the marine environment pursuant to 40 CFR 125.122. Thus, to ensure that permit conditions are protective of local ocean conditions and to prevent unreasonable degradation of the marine environment, the EPA is proposing to seasonally prohibit the discharge of seafood processing waste in waters shallower than 100 meters in depth and year-round over the Heceta/Stonewall Banks complex to reduce the risk of exacerbating seasonal hypoxia or anoxia at depth. For more information on the ODCE for this General Permit, see Section III.A. of the re-proposal Fact Sheet.

Based on the best available science and after consulting with prominent oceanographers, the EPA believes that prohibiting discharge in waters shallower than 100 meters during the upwelling season (typically mid-April to mid-late October) and year-round over Heceta/Stonewall Banks complex will protect water quality and bottom oxygen conditions.

As discussed in the fact sheet, there are well-documented hypoxic conditions on the shallow shelf during the upwelling season. See Peterson, et al. (2013) and other literature cited in EPA's 2017 re-proposal Fact Sheet. Dr. Bill Peterson of NOAA specifically recommended a seasonal discharge prohibition in waters shallower than 100 meters in order to avoid contributing to hypoxic conditions during the summer when oxygen levels are already low. In addition, since the Heceta/Stonewall Banks complex is known for sluggish and quiescent zones, as well as year-round low oxygen levels, many scientists interviewed by the EPA recommended prohibiting discharge year-round over this area. See hypoxia discussion in the 2017 Fact Sheet for more detail.

Aside from well-documented hypoxia on the shallow shelf during the summer upwelling season, prohibiting 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. As stated in the Fact Sheet, 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.[2] Dungeness crabs are not abundant beyond 91 meters in depth.[3] Most lingcod occupy rocky areas at depths between 10 and 100 meters.[4] Thus, prohibiting discharge in waters shallower than 100 meters during the critical period will be protective of coastal fisheries. In addition, the Pacific whiting fleet generally conducts its processing activity in deeper waters and will not be significantly affected by this permit condition.

Ecology and the State of Oregon have provided anecdotal information in their respective comments and consistency decisions, but there is no clear causal link between the discharge and hypoxia, ocean acidification, or harmful algal blooms (no such studies have yet been conducted). At this time, the States have not provided a sufficient technical or scientific basis to justify extending the discharge prohibition out to the 200-meter bathymetry contour, nor to make it a year-round prohibition. However, NPDES permits are written for a five-year time period, and the EPA will consider any relevant new information, including water quality and ocean conditions, as well as monitoring data from permitted discharges, prior to the next permit reissuance.

Ecology 11:

Ecology is concerned that the discharges are already contributing to ocean acidification that is already impacting shellfish growing operations in State Waters and that EPA's proposed seasonal discharge prohibition is not protective enough to prevent impacts from extending into, and causing degradation of adjacent State waters and violating the aquatic life pH criteria.

EPA Response to Ecology 11*:*

The EPA acknowledges that the West Coast is one of the first regions to be impacted by ocean acidification, and that Washington shellfish growing operations have been affected by ocean acidification. See Chan, et al., (2016) and the ocean acidification and hypoxia discussion in the 2017 Fact Sheet. However, there is no causal link between the discharges to be covered by this General Permit and impacts to shellfish operations. The discharge will take place miles from the Washington coast. There will be massive dilution prior to reaching shellfish growing areas in Washington waters. A scientific literature review and interviews with scientists confirmed EPA's conclusion that that the discharge will not violate state aquatic life pH criteria.

Over the course of the next permit cycle, the EPA will evaluate whether the permit is sufficiently protective of marine water quality, and will follow the work of the West Coast Ocean Acidification and Hypoxia Science Panel, as well as the Blue Ribbon Panel on Ocean Acidification. If needed, the EPA will impose further restrictions on discharge and/or additional monitoring and reporting requirements. The EPA will consider these factors when the permit is reissued in five years.

2. Oregon Consolidated Comments:

Oregon Department of Environmental Quality

ODEQ 1:

The Oregon state water quality criteria for dissolved oxygen in marine waters is no decrease in dissolved oxygen. The criteria for dissolved oxygen in OAR 340-041-0016 states "No wastes

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

[3] http://www.psmfc.org/crab/2014-2015%20files/DUNGENESS%20CRAB%20REPORT2014.pdf

[4] http://wdfw.wa.gov/fishing/bottomfish/identification/greenling/o_elongatus.html

may be discharged and no activities may be conducted that either alone or in combination with other waste or activities will cause violation of the following standards: (6) For ocean waters, no measurable reduction in dissolved oxygen concentration may be allowed." However, the discharges allowed by the permit in its current version include three sources of oxygen demanding substances measured as biochemical oxygen demand (BOD5): High concentration of suspended and dissolved BOD5 in the wastewater, much higher concentration of BOD5 in stickwater plus, ground solids which exert oxygen demand as they rot.
…The wastewater and solids mixture from these processes would be high volume and high concentration and must be considered a significant source of BOD5. … The discharges to federal waters would be transported by ocean currents to state waters. …Thus, it appears these discharges would result in lowering dissolved oxygen in state waters which is contrary to Oregon water quality standards.
ODEQ Recommendation: In order to ensure that discharges in federal waters do not impact state marine water quality, DEQ recommends minimizing BOD5 discharges and an adequate buffer be established between the activity and the boundary of the Territorial Sea. The proposed vessel discharges to federal waters should not be permissible shallower than 200 meters' year round. DEQ concurs with the exclusion zone location, depth, and timing recommended by ODFW and presented later herein.

EPA Response to ODEQ 1*:*

No discharge will be allowed within Oregon State waters. The discharges covered by the General Permit will be to the open ocean, in federal waters, and at least 3 nm from the Oregon coast or any offshore rocks or emergent islands. In addition, the EPA will prohibit discharge in areas where further BOD loading could trigger dissolved oxygen issues at or near the seafloor, particularly in areas where the continental shelf is broad (coinciding with the summer upwelling season), and year-round over the Heceta/Stonewall Banks complex (where discharge is prohibited out to 36 miles from the Oregon coast), thus providing an adequate buffer between the discharge and the boundary of Oregon's Territorial Sea.
For more detail, see EPA's Response to Ecology 10, above. Impacts to dissolved oxygen and seasonal hypoxia are also addressed in the 2017 Fact Sheet for the re-proposed General Permit and in the consistency determination that the EPA has provided to the State of Oregon.

ODEQ 2:

Wastewater Treatment: the re-proposed draft permit applies the federal effluent limitation guidelines that were developed for remote Alaskan waters (40 CFR Subpart T 408.202(b) and 205(b)). The correctness of applying these guideline limitations has not been satisfactorily established. The hydraulic nature of Oregon's waters is significantly different from that of remote Alaska. … DEQ recommends:
The cutting line wastewater discharges should be subject to higher levels of treatment capable to meet the limitations in 40 CFR 408 Subparts U and V. These are based on model technologies including at a minimum 40 mesh screening which reduces BOD5 by 40% according to EPA data. If implemented, the suspended BOD generated by the cutting lines and carried shoreward into state waters by currents would be significantly reduced.
The residuals processing lines should have a solubles plant to process the stickwater in accordance with 40 CFR 408 Subpart O.152 (a). by this action the suspended BOD from residuals processing carried shoreward into state waters would be significantly reduced.
Scientific third party studies of discharges under this permit should be funded and required to inform the application of effluent limitations within this permit in the future.

Ideally, no solids should be ground and discharged which is implicit in the technology of the named effluent limitation guidelines. That material should be minimized into usable products and when not usable, stored for disposal on shore by legally acceptable methods. … DEQ further recommends that the spatial, depth and temporal limitations on discharges as recommended by ODFW be incorporated.
Recommendation: EPA should apply the effluent limitation guidelines for bottomfish processing contained in 40 CFR Subparts U and V 408.210-227 and the fish meal/fish oil processing guidelines from Subpart O, with a solubles plant as in 40 CFR 408.152(a).

EPA Response to ODEQ 2:

The effluent limitation guidelines cited by ODEQ do not apply to offshore processors. See Response to Ecology 5, above.

ODEQ 3:

Monitoring Requirements. Recommendation: the monitoring and reporting should include: start/stop times and locations of the discharges, speed during discharge, tidal and general weather status during discharge, weight of discharge (lbs) with a requirement to discharge evenly through the discharge run, gallons of wastewater discharged, whether simultaneously or separately from ground fish discharges.

EPA Response to ODEQ 3:

The at-sea processing vessels to be covered by this General Permit discharge continuously while processing the catch. Thus, it would not be practical to require continuous reporting of speed during discharge, nor tidal and general weather status (since these are constantly changing). In addition, permittees already attempt to discharge as evenly as possible. In order to obtain additional information about discharge conditions, the EPA is requiring Permittees to report daily distance travelled during discharge per month (minimum and average daily distances), as well as minimum and average vessel speed during discharge per month (see Section 8 of the Annual Report). Permittees will also be required to provide a daily location of the vessel while discharging (see Section 7 of the Annual Report). Pursuant to CWA Section 308, the EPA can request more detailed location data from Permittees in order to inform a more targeted inquiry, if necessary, during the permit cycle.

ODEQ 4:

Recommendation: The monitoring and reporting of the wastewater discharges should include parameter monitoring sampling and analysis for parameters BOD, TSS, oil and grease and pH in accordance with 40 CFR 136 and should be required once per trip or no less than once per month if the same processes are ongoing and at least once per quarter for each different species/process. The challenges in this monitoring can be addressed as follows:

- pH has a hold time of 15 minutes can be accurately performed on-site with relatively little training
- TSS samples have a 7-day holding time, which will allow sample collection within the last days of a trip and delivery by 7 days to a shore based laboratory
- Oil and Grease samples have a 28 day holding time, which will allow sample collection within a trip and delivery by 28 days to a shore based laboratory
- BOD5 is collective compositely for 24 hours and has a 48 hour hold time starting with the beginning of collection. DEQ recognizes that this protocol is unsuited to longer duration shipboard activities. However, 40 CFR 136.4 includes provisions for applying to use an alternate test method. An alternate test method that uses automated in-line analysis of COD as a surrogate parameter has been approved for another industrial use in Region

10 and may be suited to shipboard installation. EPA should consider, review and approve an alternate test procedure suitable for these ship board activities for a parameter as a surrogate for BOD analysis.

EPA Response to ODEQ 4:

See EPA Response to Ecology 5.

Oregon Department of Fish and Wildlife

ODFW 1:

… ODFW appreciates that EPA recognizes the serious threat of hypoxia to the marine ecosystem and proposes to prohibit seafood processing discharges in specific areas of recurring and persistent hypoxia (i.e., the Heceta-Stonewall Banks reef complex, and the mid-to-shallow shelf). While this is a significant step in reducing a major stressor on already compromised waters, it does not go far enough to fully protect marine waters, habitats and species susceptible to the adverse effects of seafood processing waste discharges. Benthic and pelagic habitats across the entire shelf provide essential functions for fish and invertebrate species that are of direct interest to the state of Oregon. …

The threat of hypoxia to the marine ecosystem off Oregon and to Oregon's marine fisheries cannot be stressed enough and is a primary concern of this permit. In brief, oxygen-demanding organic matter increases respiration, a key driver of hypoxia … Hypoxia has expanded across the continental shelf in several years, resulting in mortality and spatial displacement of several species important to Oregon's commercial and recreational fisheries. Scientists expect hypoxia to increase in both frequency and severity in the future. Offshore fisheries are an integral part of Oregon's state and local economies with more than 140 species in approximately 33 commercial and recreational fisheries. Seventeen fisheries overlap both state and federal waters, and most commercial fisheries occur across the entire shelf. … the waste discharges governed under the proposed permit in federal waters have a reasonably foreseeable effect on the state's coastal resources and uses… actions in federal waters that affect the fishery resources of the state or fishery resources that are of economic importance to the state, are directly relevant to ODFW's mandate.

EPA Response to ODFW 1:

These comments have been noted, and have been responded to throughout the 2017 re-proposal Fact Sheet, EPA's consistency determination to the State of Oregon, and this response to comments document. See EPA Response to Ecology 10.

ODFW 2:

…The Pacific Fishery Management Council, in both the Pacific Groundfish Fishery Management Plan and Pacific Coast Salmon Fishery Management Plan, identifies organic matter and specifically, fish processing wastewater as sources of potential adverse effects on essential fish habitat (EFH) for more than 90 Council-managed species. The EFH Appendices includes conservation measures that are directly applicable to seafood processing waste, including: 1) effluent limitations based on water-quality concerns for EFH, 2) limit the discharge of untreated solid and liquid waste [such as solid fish waste] and liquid waste [such as seafood processing wastewater and stickwater], 3) establish controls for stickwater, 4) find alternative uses for fish processing waste, 5) avoid waste discharges into fish rearing and nursery habitat, 6) monitor the affected environment and water quality discharges under NPDES requirements.

EPA Response to ODFW 2*:*

The EPA has worked with the NMFS and with subject matter experts to address the NMFS conservation recommendations for this General Permit. The EFH Appendices referenced in this

comment, although related, apply to the fishing action and not to this NPDES General Permit, which covers the wastewater discharge. The EPA has completed a separate EFH consultation with the NMFS for this General Permit. The EPA's final EFH letter to the NMFS regarding this General Permit is posted on the EPA's website at: https://www.epa.gov/sites/production/files/2017-08/documents/r10-npdes-offshore-seafood-gp-wa-or-wag520000-correspondence-nmfs-efh-06-19-2017.pdf. See also Section III.E. of the re-proposal Fact Sheet.

ODFW 3:

Depth-based Exclusion Area. EPA's proposed Exclusion Area encompasses waters that have experienced hypoxia most consistently since first detected off Oregon in 2002. The proposed Exclusion Area, which extends from 3 miles to a 100 meter depth, and the Heceta-Stonewall Banks complex, encompasses 40% of the continental shelf. Further review of the available scientific information and modeling suggests that the deeper portion of the shelf is also at risk for hypoxia, particularly during years of severe hypoxia, and that extending the Exclusion Area out to the continental shelf break (approximated by the 200m depth contour) would ensure comprehensive protection of all marine habitats, included rocky reefs, for all fishery resources on the shelf. … Given the uncertainty of the spatial and temporal distribution and severity of hypoxic conditions on the continental shelf, and the need for data in offshore waters, a precautionary approach that protects the entire shelf is warranted until further refinement of modelled data and additional survey data suggest otherwise. … In addition to addressing regional hypoxia, a shelf-wide Exclusion Area would provide protection for all rocky reefs of the shelf, which are highly vulnerable to habitat impacts… A shelf-wide Exclusion Area would also protect eggs of bottom-spawning species that spawn in the deeper waters of the shelf where they are susceptible to smothering (e.g. sablefish and Pacific halibut).

Analysis of Impacts to the Fishery. …ODFW evaluated the potential spatial displacement of the whiting fishery at-sea sector … ODFW obtained the NMFS At-Sea Hake Observer Program (A-SHOP) data for the at-sea sector. Spatial analysis provided the ability to visually and quantitatively assess haul locations in relation to potential Exclusion Areas. We mapped both the start and end locations of all hauls by all vessels from 2008 to 2016. Presuming that motherships receive and begin to process the catcher boat's load at the end of the haul, it was important to consider the end locations of the hauls with respect to potential Exclusion Areas. From 2008 to 2016 the at-sea sector conducted 23,180 hauls. Only 259 of the haul start or end points were shoreward of the 200 m depth contour, or 1.1% of all hauls over this 10-year period (26 hauls per year, on average). … The spatial "footprint" of at-sea sector hauls (determined by a line density algorithm based on start and end locations) from 2008 to 2016 aligns tightly to the shelf edge, or 200 m contour. This pattern is best explained by restrictions on overfished species catch that have motivated these vessels to voluntarily operate farther offshore to avoid catching species declared as overfished. However, the fleet could conceivably move in shoreward of 200 m if fishery conditions change in the future.

… The A-SHOP data indicate that 99% of the start and stop locations of all hauls for the entire at-sea fleet occur deeper than the 200m depth contour. Even if catcher vessels fish shallower than 200 m, they end most hauls deeper than 200 m, as the A-SHOP data indicate. At this point they likely transfer their catch to the motherships and processing begins. This suggests that imposing a minimum 200m depth Exclusion Area may have minimal interference with processing operations as this would occur outside the 200 m Exclusion Area. However, as processors expressed, there is potential to impede certain aspects of their operations. Although there may be

some impacts to at-sea whiting operations, the benefits of an Exclusion Area encompassing the entire shelf (i.e., protecting life-sustaining dissolved oxygen, averting displacement of fish caused by oxygen depletion) ultimately supports the at-sea whiting fishery and all Oregon fisheries.

EPA Response to ODFW 3:

See EPA Response to Ecology 10.

ODFW 4:

Rocky Reefs. According to the Ocean Discharge Requirement, EPA must determine if the permit causes unreasonable degradation of the marine environment (40 CFR §125.122) and EPA must specifically consider "special aquatic sites including, but not limited to marine sanctuaries and refuges, parks, national and historic monuments, national seashores, wilderness areas and coral reefs." Rocky reefs are 'special aquatic sites' because they are a finite resource of only 10% of the continental shelf, yet they support high biodiversity and abundance. The topographic complexity of rocky reefs provides a diversity of habitat structure for critical ecological functions such as nesting, nursery sites, foraging, refuge from predators and shelter from ocean currents. Numerous reef-associated species are vital to west coast fisheries, as is evidenced by several spatial management designations signifying their relative ecological and economic value. Most notably, the designation of rocky reefs Essential Fish Habitat (EFH) for West Coast Groundfish under the Magnuson Stevens Act, and their distinct designation as Habitat Areas of Particular Concern emphasizes their superior ecological significance, sensitivity and limited availability. In addition, several rocky reefs are federally-regulated as EFH Conservation Areas to protect sensitive rocky habitats from physical damage by fishing gear. Unlike smooth bottoms of sand or mud, the inherent topographic relief and complexity of rocky reefs could alter water movement and the retentive capacity of nutrients and detritus across the reef, similar to coral reefs, where topography, orientation, wind and other factors divert currents and flow around reef structures and reduce velocity and flow across the reef surface up to a magnitude greater than sandy seafloors (Rogers, et al., 2013; Storlazzi, et al., 2013; Black et al., 1988; USGS, 2017). Although information about hydrodynamics on rocky reefs of the Pacific Northwest may be lacking, high-relief and rugose (i.e., surface roughness) structural formations in an otherwise homogenous and smooth sand or mud seafloor, likely affect water movement at the seafloor. Thus, rocky reefs may experience increased nutrient retention and accumulating detritus on the bottom as large amounts of sinking processing waste settle into crevices and burrows, between boulders, and adhere to pinnacles, ridges and attached invertebrates, including deep-sea corals.

The effects of increased organic load on deep-water rocky reefs is not well known, but studies report negative effects of sedimentation on deep-sea coral species and filter-feeding organisms which inhabit deep-water reefs (Allen, et al. 2006; Reed 2005). This suggests that smothering from accumulating debris is generally detrimental. Without proper flushing, sinking detritus could smother sessile and habitat-forming invertebrates. Smothering of benthic fish eggs and displacement of young-the-year rockfishes and other species from secure burrows is also plausible as protected micro- habitats and low-flow support larval settlement (Breitburg, et al. 2002). Furthermore, immobile organisms and eggs are directly susceptible to localized hypoxia as they cannot escape these conditions. Deep-sea corals are further susceptible to shifts in ocean chemistry and nutrients as they have evolved with relatively stable ocean chemistry conditions (Guinotte, et al. 2006; Whitmire, 2007).

EPA's Ocean Discharge Criteria Evaluation (ODCE) (2015) stated that benthic communities are

particularly vulnerable to disturbance and burial under a minimal amount of material, and that fish eggs may succumb when buried under as little as 0.4 inches of accumulating waste material. EPA's analysis predicts an accumulation of 0.5 cm (0.2 inches) of processing waste on the seafloor (ODCE, Section 3.2.1). This would create a safety margin of only 0.2 inches for vulnerable organisms. This analysis is quite concerning because: (1) fish eggs have a very narrow tolerance threshold for burial; (2) a safety margin of 0.2 inches is too narrow; and (3) EPA's analysis did not consider marine conditions and habitats that could increase retention or uneven accumulation as discussed above (e.g., rocky reef and biogenic habitat features that trap material, and localized currents or eddies that could result in greater amounts of accumulation concentrating in some areas). EPA's estimate of deposition may actually underestimate the retentive nature of rocky reefs that could result in increased build-up of organic matter than predicted in the analysis. Without in-situ or laboratory studies, the fate of the material and its implications on marine organisms and habitats are unknown. Rocky reef habitats and associated species would be subjected to an unknown and unpredictable level of physical and chemical degradation by seafood processing waste caused by increased nutrient load, oxygen-demanding organic matter, and smothering.

In our comments to EPA in December 2016, ODFW identified several prominent reefs for protection from processing discharges. EPA proposes prohibiting discharges on only one of these areas; the large rocky reef complex of the Heceta-Stonewall Banks. ODFW continues to recommend prohibiting discharges at six prominent rocky reefs (Figure 3). Three of these reefs are designated as Groundfish EFH Conservation Areas, and three are currently proposed for designation in the PFMC's Groundfish EFH review process. ODFW shares management responsibility for species dependent on these specific habitat areas. Coastal economies could be impacted should these species suffer from impacts on their habitats. Therefore, protection of rocky reef habitats are of direct interest to the state of Oregon.
In developing our recommendation to prohibit discharges on rocky reefs, ODFW evaluated the potential spatial displacement of the at-sea sector using NMFS Observer Program A-SHOP data (2010-2016). Spatial impact is low at all reefs relative to the total number of hauls (23,180) during this time period, however, some effort would be displaced (Table 3).

Recommendation: Rocky reefs are special aquatic sites of ecological and economic significance with high potential for water quality degradation and smothering of benthic organisms that require year round protection from processing waste discharges. The large reef complex known as Heceta-Stonewall Banks, as proposed in the draft permit, should remain in the final permit. The following additional rocky reefs should be protected as year-round Exclusion Areas: Nehalem Bank, Garibaldi Reef, Daisy Bank, Arago Reef (federal waters), Coquille Bank, and Rogue Reef (Figure 3).

EPA Response to ODFW 4:
The EPA acknowledges that rocky reefs are important nursery habitat and have been identified as Habitat Areas of Particular Concern, and invited comments on whether to prohibit discharge over the specific rocky reefs recommended by ODFW. See Section II.B. of the re-proposal Fact Sheet. However, although ODFW has provided additional scientific literature citations, the EPA does not have sufficient information to prohibit discharge over these reefs. The EPA performed a systematic review of the scientific literature for each of the rocky reefs named by ODFW, and

did not find documentation of smothering/benthic impacts from the discharges to be covered by this General Permit. With the exception of the Heceta/Stonewall Banks rocky reef megacomplex, for which the EPA is already proposing a year-round discharge prohibition due to well-documented hypoxia and anoxia issues and overwhelming expert opinion, the EPA does not have sufficient basis to prohibit discharge over other rocky reefs. However, the EPA has the ability to request location-specific data from Permittees (see EPA Response to ODFW 8 for more detail), and can obtain spatially explicit information about discharges over the rocky reefs of concern to the State of Oregon over the course of the next permit cycle. Additionally, there will likely be significant new scientific information about West Coast rocky reef habitats over the next five years, potentially including effects of nutrient discharges, hypoxia, and/or smothering of sessile organisms. Although there is not currently sufficient basis to prohibit discharge over rocky reefs, this permit cycle will serve to gather data about the nature and location of the discharge, and there will likely be new scientific studies to consider. If new evidence emerges that links the discharge to impacts to rocky reefs, the EPA will consider prohibiting discharge over those areas, either via a permit modification or after this five-year permit cycle.

ODFW 5:

Seasonal vs. year-round closure

EPA proposes a seasonal prohibition for the depth-based Exclusion Area from April 15 to October 15 to coincide with peak upwelling and hypoxia, however, there are other factors that support a year-round prohibition in the Exclusion Area: 1) Year-round low oxygen persists across the Washington shelf and Heceta Bank, Oregon and could expand spatially and temporally, particularly during severe hypoxia events, as occurred across the shelf off Oregon during 2002 and 2006; 2) A year-round prohibition protects rocky reefs in the Exclusion Area from smothering and excessive nutrient input; impacts that are independent of seasonality; 3) Current fishing regulations require that the at-sea sector delay fishing until April, however, regulations could change in the future.

If EPA imposes a seasonal closure instead of a year-round closure, the closed season should extend through October 31. EPA based its proposed dates on the upwelling period for a typical year (to coincide with the occurrence of hypoxia). However, the exact timing for the onset and end of upwelling is highly variable, and hypoxia can persist into late October, particularly in years of severe hypoxia. As upwelling subsides, the post-upwelling transition period of late October and November is characterized by the slowing of currents across the shelf as they reverse direction and flow northward and offshore. This period of current relaxation can allow hypoxia to linger until strong currents begin to transport low oxygen water off the shelf. Furthermore, the at-sea sector is often highly productive in October, representing the highest or second highest monthly catch between 2008 and 2015, and up to 40% of the annual catch over that time period (NMFS A-SHOP data). Permitting processing waste discharges into high-risk hypoxic waters during this unstable time period, could further exacerbate or prolong hypoxic conditions. At a minimum, seafood processing discharged during the transition period in October should be prohibited in the Exclusion Areas.

Recommendation: Preferred: Institute a year-round prohibition of waste discharge for all Exclusion Areas. If EPA declines to institute a year-round prohibition for all exclusion areas,

implement a seasonal prohibition for the depth-based Exclusion Area from April 15 - October 31, while maintaining a year-round prohibition for all rocky reefs.

EPA Response to ODFW 5:

See EPA Response to Ecology 10. In addition, as described in the re-proposal Fact Sheet, the summer upwelling season generally occurs from mid-April to mid-October, and the seasonal discharge prohibition coincides with those dates. The EPA acknowledges that hypoxic conditions could linger through the end of October, and that the at-sea processing sector generally has high wastewater discharge rates in October. For these reasons, the EPA will adjust the seasonal discharge prohibition's end date to October 31 in order to prevent exacerbating hypoxic conditions. This change is reflected in the final General Permit.

ODFW 6:

Monitoring, Reporting and Compliance.

Monitoring/Reporting: the EPA Fact Sheet explains the need for additional reporting requirements on processing amounts and discharges in order to assess bio-loading and potential impacts to water quality and dissolved oxygen (as specified in 40 CFR § 125.123(d)). However, the proposed monitoring requirements will not provide the quantitative information on processing and discharge amounts and discharge locations that are necessary to meet EPA's stated need or the Ocean Discharge Requirement for assessing impacts. In order to assess impacts on the environment (and ultimately minimize those impacts), we need to know what is discharged where, when and how much. This information would make it possible to conduct scientific studies with a robust approach to determine if there is measureable accumulation and transport. Furthermore, this information would be needed to modify or remove discharge restrictions in the future.

Recommendation: To meet this legal mandate, the reporting requirements for the annual report should include:

- Total amount (pounds or metric tons) of each raw product per month
- Total amount of each type of finished product and byproduct (e.g., H&G, fillet, surimi, fish oil, fishmeal) per month
- Known amount of each type of waste product (weight of fish solids, volume of stickwater, waste water, and offal, etc.) separately, per month. This is necessary for scientists to calculate BOD for each type of waste product since
- BOD concentrations vary greatly among byproduct type (i.e., BOD is much more concentrated in stickwater)
- Representative samples of different types of liquid wastes (wastewater, stickwater, offal) to measure BOD5, TSS, O&G and pH.

EPA Response to ODFW 6:

See EPA Response to Ecology 5.

ODFW 7:

Compliance: The Ocean Discharge Requirement [40 CFR Part 125.123(d)] requires a "schedule of compliance for existing discharges, which are determined to be necessary because of local environmental conditions". The biochemical oxygen demand (BOD) of seafood processing wastewater at 1500-3000 mg/L is 50-100 times higher in BOD than treated sewage (DEQ, personal communication). Stickwater at 50,000 mg/L is 1700 times higher in BOD than treated sewage (DEQ, personal communication). Because seafood processing uses high volumes of water, it produces a waste stream that is high volume and high BOD. The precise risk that inducing or aggravating hypoxic conditions would cause 'unreasonable degradation' has not been investigated, but is plausible, and considered by scientists to be a risk that must be avoided. In order to encourage and ensure vessel compliance with the spatial prohibitions designed to prevent 'unreasonable degradation', detailed reporting requirements are essential. The draft permit's proposed requirement of a once-daily location on a map of unspecified scale to be reported annually does not satisfy the Ocean Discharge Criteria requirement of "compliance …determined to be necessary because of local environmental conditions". Reporting should include authenticated vessel location information at a spatially and temporally- relevant interval.

EPA Response to ODFW 7:

As described in the re-proposal Fact Sheet, 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 Part125, 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. The EPA acknowledges that seafood processing wastewater discharges are high in BOD, and that the

extent to which seafood processing waste will further contribute to hypoxic conditions at depth is not known. In accordance with 40 CFR § 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 40 CFR § 125.122. Thus, the EPA is prohibiting the discharge of seafood processing waste in waters shallower than 100 meters in depth during April 15 – October 31 and year-round over the Heceta/Stonewall Banks complex to reduce the risk of exacerbating seasonal hypoxia or anoxia at depth, thus, ensuring there will not be unreasonable degradation or irreparable harm to the marine environment.
A schedule of compliance is not required for these discharges because of local environmental conditions, as those have already been addressed by permit conditions (i.e., seasonal and year-round discharge prohibitions). Instead, the EPA has proposed discharge prohibitions based on local oceanographic conditions in order to prevent unreasonable degradation of the marine environment.

ODFW 8:

In addition to the NMFS observer program data (A-SHOP) previously discussed, all vessels in the at-sea sector (motherships, catcher-processors, and catcher boats) are required to carry a vessel monitoring system (VMS) that reports their position to federal fisheries law enforcement via satellite. These two sources provide the most reliable and accurate accounting of vessel position. It is understood that catcher boats may fish in areas prohibited to processing; however, as previously discussed catcher boats transfer their catch to motherships at the end of the haul, so that the haul end points of the catcher boats would provide a reference point secondary to the VMS data for motherships. There are a few potential options to facilitate and simplify reporting of the A-SHOP and VMS data to the EPA. Vessel captains could provide these data directly to EPA or possibly request their data be forwarded from the data center to EPA, or arrange a data-sharing agreement between the EPA and NMFS or PSMFC.

Recommendation: Specific reporting requirements should include: 1) VMS vessel position at the required VMS interval [3 pings per hour], and 2) NMFS At-Sea Hake Observer Program (A-SHOP) location data for each haul start and stop location for catcher-processors and catcher boats (as proxy for motherships that track very closely to catcher boats.)

EPA Response to ODFW 8:

On September 21, 2017 the EPA consulted with Jon McVeigh and Vanessa Tuttle from the NMFS At-Sea Hake Observer Program to discuss this recommendation, and coordinated via email with other staff from the NOAA Observer Program. On October 17, 2017, the EPA asked for more information from potential Permittees regarding data that at-sea processors collect and the feasibility of complying with the reporting requirements recommended in Oregon's comment. More specifically, the EPA asked for more information in terms of NOAA Observer Program data, VMS, and Sea State Incorporated (a contractor that manages catch and location data for the Pacific whiting sector). The at-sea processors responded to the EPA's inquiry on October 19, 2017.

According to the Pacific whiting sector and NOAA staff, the West Coast at-sea whiting sector contracts with Sea State, Inc. to provide the fleet with the necessary information to avoid by-catch and other non-desirable catching activities. NMFS staff confirmed that Sea State obtains

data directly from the NOAA Observer Program, pursuant to agreements from the harvesters to limited waivers of the confidentiality requirements of the Magnuson-Stevens Act.
The Magnuson-Stevens Act has confidentiality requirements that would complicate or preclude the transfer of A-SHOP or VMS data from NOAA to the EPA, especially since the EPA is not responsible for fishery management plan development and monitoring, or catch/fishing quota verification. See 16 USC § 1881a(b). NOAA collects VMS data for catch enforcement purposes (primarily monitoring fishing activity relative to closed areas), and they have specific regulations regarding the release of that information. See http://www.westcoast.fisheries.noaa.gov/fisheries/management/vms.html. Per 16 USC 1881a (3), the Secretary of Commerce, in cooperation with other agencies and states, shall avoid duplication of existing State, tribal, or Federal systems and shall utilize, to the maximum extent practicable, information collected from existing systems. It would be duplicative and burdensome for the EPA to require Permittees to submit these location data as part of this General Permit, since NOAA already requires, collects, and manages these data, and the EPA can request it at any time. NMFS invests considerable resources and staff time in order to maintain its NMFS At-Sea Hake Observer Program and VMS data. The EPA does not currently have the resources to maintain this type of database for this General Permit.
In addition, this type of requirement would be problematic for motherships because, according to the at-sea processors, motherships do not collect A-SHOP and VMS data, as it is only required for harvesting and catch accounting activities (motherships do not harvest). Further, using location data from catcher boats as a proxy for motherships would not be appropriate, since the catcher boats do not discharge seafood processing waste and are thus outside the scope of this General Permit.
The EPA does not believe that it is necessary to request the type of data that the State of Oregon is recommending. Instead, if the EPA decides that specific vessel location information is needed, the EPA has the ability to request such information pursuant to Section 308 of the CWA. Moreover, if the State of Oregon seeks to receive A-SHOP or VMS data for the Pacific whiting sector, NOAA has protocols for states to receive such information.

ODFW 9:

Optional Study to demonstrate that discharges will not contribute to hypoxia. It should be a stated requirement of the optional study that any proposed study design or analysis must be reviewed by subject-matter experts and meet scientific rigor.

Recommendation: Require an independent research/university partner in order to assure peer review, access to ocean chemistry expertise, and scientific rigor. Study results should be shared with the newly formed Oregon Coordinating Council on OAH to help contribute to scientific knowledge and solutions regarding this issue.

EPA Response to ODFW 9*:*

The EPA agrees that any optional study to demonstrate that the discharge will not contribute to hypoxic conditions in the receiving water should be reviewed by subject-matter experts and meet scientific rigor. In fact, Section V.B.7.d. of the General Permit already says "The Director will review the Plan of Study to ensure it is sufficiently complete and scientifically rigorous." In order to develop a study of sufficient scientific rigor, Permittees would likely need to seek the expertise of an independent research or university partner. However, the EPA declines to make that a permit condition at this time. As stated in the General Permit, the EPA reserves the right to

review study plans and final reports and to seek outside expertise as needed. The EPA will share the results of any such study that is conducted in the future with the Oregon Coordinating Council on OAH.

Summary of Oregon Agency Recommendations (More detail contained in the 34-page comment letter).

We acknowledge the time and energy the EPA has taken to consider state resources and the quickly developing issue of OAH and the role nutrient input has in contributing to the problem. We appreciate the year-round discharge exclusion area at Heceta-Stonewall Banks as well as the other permit conditions to reduce impacts to continental shelf resources of interest to the State, however, beyond the Heceta-Stonewall Banks discharge exclusion area, we do not believe the conditions in this seafood discharge draft NPDES general permit are adequate to conserve and sustain fisheries, other marine life, and water quality into the future. We recommend the additional conditions:

Oregon Summary 1:

The Discharge Exclusion Area should encompass the entire continental shelf out to the shelf break, which is approximated by the 200 m depth contour.

EPA Response to Oregon Summary 1:

See EPA Response to ODFW 5.

Oregon Summary 2:

Rocky reefs (Nehalem Bank, Garibaldi Reef, Daisy Bank, Arago Reef (federal waters), Coquille Bank, and Rogue Reef) should be protected by year-round Discharge Exclusion Areas.

EPA Response to Oregon Summary 2:

See EPA Response to EPA Response to ODFW 4.

Oregon Summary 3:

The continental shelf Discharge Exclusion Area should be implement year round, which encompasses many of the rocky reefs and provides a clear, consistent, economically feasible, and biologically meaningful boundary for seafood waste discharge. If EPA does not implement a year-round continental shelf Discharge Exclusion Area, a seasonal prohibition from April 15 - October 31 for the depth-based shelf Exclusion Area and a year-round prohibition for all rocky reefs named above is critical.

EPA Response to Oregon Summary 3:

See EPA Response to ODFW 5.

Oregon Summary 4:

EPA should apply the effluent limitation guidelines for bottomfish processing contained in 40 CFR Subparts U and V 408.210-227 and the fish meal/fish oil processing guidelines from Subpart O, with a solubles plant as in 40 CFR 408.152(a).

EPA Response to Oregon Summary 4:

See EPA Response to Ecology 5.

Oregon Summary 5:

Reporting requirements for the annual report should include:

a. Total amount (pounds or metric tons) of each raw product per month

b. Total amount of each type of finished product and byproduct (e.g., H&G, fillet, surimi, fish oil, fishmeal) per month

c. Known volume (if possible) or estimate of each type of waste product (fish solids, stickwater, waste water, offal, etc.) separately, per month. This is necessary for scientists to calculate BOD for each type of waste product since BOD levels vary greatly among byproduct type (i.e., stickwater BOD is 3-8 times higher than wastewater BOD)
d. Ideally, these additional detailed reporting requirements could be required to fully understand the contribution of seafood processing waste on BOD:
i. start/stop times and locations of each discharge event,
ii. speed during each discharge event,
iii. tidal and general weather status during discharge,
iv. weight of each discharge (lbs) and whether discharged evenly throughout run
v. gallons of wastewater discharged per discharge event, whether simultaneously or separately from ground fish discharges.

EPA Response to Oregon Summary 5:

The General Permit already requires Permittees to report the total annual amount of raw and finished product, as well as total annual amount of discharged seafood processing wastes. The Annual Report also requires Permittees to report total seafood waste discharged per month, total stickwater discharged per month, total quantity non-stickwater discharged per month, and the maximum daily discharge (all types of seafood waste) per month. The EPA believes that this, combined with effluent monitoring, is sufficient to characterize the nature and volume of the discharge. Of the types of waste product listed in this condition, stickwater is the most pertinent to Oregon's hypoxia concerns because stickwater is so high in BOD. The effluent discharged by Permittees under this General Permit is largely composed of seawater, and seafood processing waste is required to go through a grinder. Thus, it would not be practicable to require separate monitoring for the other types of waste product listed in this condition. Additionally, the General Permit already requires Permittees to conduct materials accounting of the inputs, processes, and outputs of the facility, where inflow = outflow + accumulation. For example, for the head and gut process, inflow is whole seafood and cleaning water, accumulation is headed and gutted seafood, and outflow is heads, guts, blood, slime, scales, trimmings, unusable seafood, and water.

Regarding the start/stop times and locations of each discharge event, speed during each discharge event, tidal and general weather status during discharge, weight of each discharge (lbs) and whether discharged evenly throughout run, see EPA Response to ODEQ 3. Minimum and average speeds during discharge are required for each month of discharge, per the Annual Report.

Oregon Summary 6:

Compliance reporting requirements should include: VMS vessel position at the required VMS interval [3 pings per hour] for all vessels, and NMFS At-Sea Hake Observer Program (A-SHOP) location data for each haul start and stop location for catcher-processors and catcher boats (as proxy for motherships that track very closely to catcher boats.)

EPA Response to Oregon Summary 6:

See EPA Response to ODFW 8.

Oregon Summary 7:

If EPA retains Monitoring Requirement #7 (Optional Study) to allow permittees to determine whether seafood discharge contributes to hypoxia, EPA should require an independent research/university partner in order to assure peer review, access to ocean chemistry expertise, and scientific rigor. EPA should also require study results be shared with the newly formed

Oregon Coordinating Council on OAH to help contribute to scientific knowledge and solutions regarding this issue. Gathering certain information would be particularly helpful to understand if seafood waste discharge contributes or does not contribute to OAH and are listed in

EPA Response to Oregon 7:

See EPA Response to ODFW 9.

3. Comments from the Quileute Indian Tribe:

Quileute 1:

Request extension of the public comment period until such time the agency consultations are complete or concurred as per applicable policies and that sufficient information has become available from applicants to inform the permit application.

EPA Response to Quileute 1:

This was the second public comment period for this General Permit and as such was limited in scope. The original comment period for this General Permit was a 45-day comment period in 2015. The EPA determined that a second public comment period was necessary based upon changes that were made to the General Permit. This public comment period was limited in scope and was for a period of 45 days. The EPA feels that a 45-day public comment period is appropriate for the second comment period and has decided not to reopen the public comment period. The EPA continued to consult and coordinate with Tribes despite the public comment period being closed.

Quileute 2:

It has been Quileute's position that utilizing the ocean to get rid of wastewater is attempting to "cure" pollution by dilution, a practice that would never be allowed in Puget Sound or other bodies of water where the human population is more extensive. We find it disingenuous that federal rules for reservation water quality are being proposed for all tribes without water quality standards, while water where we treaty fish, in the ocean, will not be similarly protected. We seek a discharge exclusion zone inclusive of the Quileute Tribe's U & A (Cape Alava to Queets River out 40 miles), or the entire Washington shelf;

EPA Response to Quileute 2:

As the NPDES permitting authority in federal waters, the EPA has a responsibility to issue this General Permit in compliance with the Clean Water Act and, as a federal agency, has a trust responsibility to the Tribe. As such, the EPA issued this permit in compliance with the Clean Water Act while also respecting treaty protected resources. In order to avoid unreasonable degradation to the marine environment, the EPA has imposed a seasonal, bathymetry-based discharge prohibition that includes a portion of the Quileute Tribe's usual and accustomed fishing area (U&A). This will prohibit discharge during the summer upwelling season approximately 13 miles and shoreward within the Quileute U&A.

Quileute 3:

We request that EPA exercise its discretional authority and determine this is a "new source" and apply National Environmental Policy Act (NEPA) requiring an Environmental Impact Statement. It is our view that this proposed activity must be held to new source performance standards.

EPA Response to Quileute 3:
Although this is a new General Permit, and the permittees are "new dischargers," the offshore seafood processors that will be covered by this General Permit are not "new sources," as defined under the Clean Water Act. NPDES facilities are considered new sources if there is an effluent limitation guideline (ELG) applicable to the discharge and the facility was constructed after promulgation of new source performance standards. See 40 CFR § 122.2. As explained in more detail in the 2015 Fact Sheet for this General Permit, there are no ELGs that apply to offshore seafood processors. Moreover, the EPA does not have discretionary authority to designate a facility as a new source. Since the permittees are not new sources, NEPA review is not required.

4. Comments from the Makah Tribal Council:

Makah 1:
The permit should not have a discharge exclusion zone because EPA lacks a sufficient scientific basis to impose one. The stated justification for the exclusion zone – that ground seafood waste could trigger or exacerbate hypoxic conditions on the continental shelf off the coast of Washington – is not supported by a credible causal relationship between the discharges subject to the permit and the hypoxic conditions that EPA seeks to limit.
EPA Response to Makah 1:
See EPA Response to Perkins Coie 1.
Makah 2:
The whiting fishery has a unique link between catcher and processor vessels, such that fishing locations need to be readily accessible to processors to maximize efficiency. The proposed discharge exclusion zone will also impair the efficiency of the whiting fishery because it will increase the difficulty of managing for bycatch of salmon and rockfish.
EPA Response to Makah 2*:*
The EPA notes the Tribe's concerns regarding the efficiency of the whiting fishery. The EPA's mandate is to issue NPDES permits that are protective of water quality. The EPA had discussions with the Tribe regarding the basis for the 100-meter in depth discharge prohibition area. As explained in the 2017 Fact Sheet, the EPA established the discharge prohibition to address concerns regarding hypoxia. The EPA specifically carved out the Juan de Fuca "donut hole" to minimize impacts to the Tribe as a result of the discharge prohibition. While the EPA understands the Tribe's concern, the EPA believes that the discharge prohibition is necessary to address concerns regarding hypoxia.
Makah 3:
The Tribe supports a robust monitoring program as part of the permit... the Tribe urges EPA to utilize the monitoring program as a logical, scientifically supported and incremental step in understanding the impacts of the discharges and, over time, to use that information obtained from monitoring to develop appropriate discharge conditions, rather than impose a discharge exclusion zone at the outset.
EPA Response to Makah 3:
See EPA Response to Ecology 5.

5. Comments from Midwater Trawlers Cooperative:

Midwater 1:

The at-sea mothership fishery is challenging, expensive, and difficult (paraphrased). In order to prosecute the fishery and avoid rockfish and salmon, catcher vessels spend a lot of money and energy moving around the ocean to find clean fishing- seeking out areas with lots of target species (whiting) with little or no bycatch (rockfish and salmon).
We oppose a prohibition on discharges in waters shallower than 100 meters in depth. We oppose a year-round prohibition on discharges in the Heceta/Stonewall Banks complex. We oppose any additional closures to rocky reefs. We oppose any additional monitoring. We believe these additional restrictions are unnecessary and they have the potential to economically harm the fishery participants without a clear link to an ocean benefit.

EPA Response to Midwater 1*:*

The EPA notes the Midwater Trawlers Cooperative's opposition to discharge prohibitions and additional monitoring requirements. The EPA has documented its basis for the discharge prohibitions and monitoring requirements in the 2017 Fact Sheet and in EPA's Response to Ecology 5. See also responses to comments submitted by Perkins Coie.

6. Comments from the Quinault Indian Nation:

We have several overall concerns related to the discharge allowed by this permit:

Quinault 1:

Interference with treaty reserved fisheries. The operation of processor ships operating under this permit within the Quinault marine fishing area effectively shuts down treaty reserved fisheries for a period of time following the discharge. Following discharge from processing ships our fishers have noted that their catch is reduced to near zero, presumably due to the abundance of food available from the discharged product, so they are not interested in biting a baited hook.
On page 37 the document states: "The issuance of this General Permit does not convey any property rights of any sort, or exclusive privileges, nor does it authorize any injury top persons or property or invasion of other private rights, nor any infringement of federal, tribal, state or local laws or regulations." However, these discharges are currently interfering with a tribal fishery operating under tribal regulations and this permit would allow continued interference.

EPA Response to Quinault 1:

This is the first permit that the EPA is issuing to the offshore seafood processors who discharge off the coast of Washington and Oregon. While the EPA understands that Tribe's concerns regarding interference with treaty reserved fisheries, at this time, the EPA does not have sufficient documented evidence that shows that the discharges are interfering with the tribal fishery. The EPA believes that this permit will provide information regarding the location of the discharges, quantity of the discharges, etc. such that additional conditions could be placed in future permits if warranted.

Quinault 2:

The discharge has the potential to contribute to coastal hypoxia. The concentrated discharge has the potential to increase the amount of organic matter decaying in the ocean when compared to the organic matter from natural processes thus increasing the risk of hypoxia events. The primary target fish for the permitted fisheries are pelagic, thus naturally few would contribute to decaying organic matter as they move through this area, while the processing discharge potentially results in an increased amount of decaying organic matter. There are indications that coastal hypoxia has been more frequent and more severe since 2002.

EPA Response to Quinault 2:

See above EPA Response to Ecology 10.

Quinault 3:

Cumulative effects of the discharge on the environment. The permit is open-ended with no upper limit on the amount of organic matter that can be discharged. While the permit application requests information on the maximum amount of discharge, it is not clear to us how the potential effects of each operator is addressed. In addition, it is not clear how the potential cumulative effects of multiple permit holders is addressed.

EPA Response to Quinault 3:

Catch varies by location and quantity each month. Since this is the first issuance of this General Permit and the catch is highly variable, it is not possible to establish a limit on solids discharged at this time, nor does the EPA have a basis to do so. The Notice of Intent (NOI) requires projected maximum quantity of the pounds of process waste solids discharged by species (in pounds/year) and the Annual Report requires details about monthly catch and the volume and characteristics of the effluent. Information gathered during this permit cycle may be used to better estimate discharge levels associated with catch. If in the future there is indication that this discharge is causing unreasonable degradation of the marine environment, the EPA will consider including a limit on solids discharged under this General Permit.

At the present time, discharge of seafood processing waste off the coast of Oregon and Washington is unregulated. Issuance of this permit will allow the EPA to better understand where, when, and how much seafood waste is being discharged. The EPA will assess potential cumulative effects through the review of annual reports and broader water quality assessment data over the permit cycle

It should also be noted that NMFS implements a catch shares system (also known as the trawl rationalization program) for the West Coast Groundfish Trawl Fishery, which consists of an Individual Fishing Quota (IFQ) program for the shore-based trawl fleet and cooperative programs for the at-sea mothership and catcher/processor trawl fleets. For more information, see http://www.westcoast.fisheries.noaa.gov/fisheries/groundfish_catch_shares/index.html. If the EPA were to impose an upper limit on the amount of organic matter that can be discharged, it could interfere with the Pacific Whiting Conservation Cooperative's ability to prosecute the fishery to an unreasonable extent.

Quinault 4:

The discharge could alter behavior of marine mammals. The concentrated food source from the processing boats and the subsequent repeated exposure to the enhanced food availability often result in marine mammals altering their feeding and migration habits resulting in major depredations on local fisheries (references provided upon request).

EPA Response to Quinault 4:

The EPA has completed ESA and EFH consultation with NMFS; this included consultation regarding marine mammals. NMFS concurred with the EPA's determination that this General Permit is not likely to affect listed fish or marine mammal species. According to a December 18, 2015 letter from the NMFS to the EPA regarding this NPDES permit (Reference number: WCR 2015-3556): "Vessel movement poses a potential risk of ship strike among whales, but the issuance of the NPDES permit will not increase the number of operating vessels, the discharge is unlikely to function as an attractant to the listed whales, the discharge is unlikely to alter prey composition for whales, and vessel speeds during discharge are sufficiently slow to allow whales to avoid strike if they happen to co-occur within vessel operation areas. For these reasons, effects on these marine mammals are discountable."

Quinault 5:

The 100-meter depth limit does not provide adequate protection for treaty reserved fisheries. The Quinault Nation has regulated fisheries in depths greater than 100 meters. We request a meeting with technical staff to work out conditions that do not harm treaty fisheries.

EPA Response to Quinault 5:

On October 26, 2017, the EPA and the Quinault Indian Nation met to discuss the Tribe's concerns with the draft General Permit and how to avoid impacts to treaty protected fisheries. As the NPDES permitting authority in federal waters, the EPA has a responsibility to issue this General Permit in compliance with the Clean Water Act and, as a federal agency, has a trust responsibility to the Tribe. As such, the EPA issued this permit in compliance with the Clean Water Act while also respecting treaty protected resources. A 100-meter bathymetry-based discharge prohibition during April 15 – October 31 will exclude discharge approximately 20 miles west of the shoreline within the Quinault U&A. See EPA response to Ecology 10 and Quileute 2.

Quinault 6:

The April 15 limitation does not provide adequate protection for treaty reserved fisheries. Our halibut fishery often begins in March; thus, we recommend March 1 as the starting point for limitations on the discharge.

EPA Response to Quinault 6:

The Pacific whiting fishery is not currently open in March. Since the at-sea processors do not operate in Federal Waters off the coast of Washington and Oregon in March, there is no current impact to tribal halibut fisheries; therefore, the EPA has no basis to prohibit discharge beginning March 1. If the whiting season were to open earlier in the future, the EPA would consider that in a future permit cycle.

Quinault 7:

Page 15 Chapter V; A 12: Oil and Grease. The first bullet reads"[l]evels of oils or petrochemicals in the sediment which cause deleterious effects in the biota shall be prevented." Without any criteria this appears to be meaningless and unenforceable.

EPA Response to Quinault 7:

Under 40 CFR 125.122, in analyzing whether the permitted discharge will cause unreasonable degradation of the marine environment, one consideration that the EPA must consider are marine water quality criteria developed pursuant to CWA Section 304(a)(1). 40 CFR § 125.122(a)(10). The criteria for oil and grease is found in Section 304(a)(1) of the CWA, which states the narrative water quality criteria required for aquatic life; "Levels of oils or petrochemicals in the sediment which cause deleterious effects to the biota shall be prevented. Surface waters shall be virtually free from floating nonpetroleum oils of vegetable or animal origin, as well as petroleum-derived oils." As such, the provision is included in the final General Permit.

In the offshore seafood industry, the majority of vessels try to utilize all parts of the fish and convert the byproduct to fish oil and fish meal. Thus, the amount of discharging oil and grease is lessened. The utilization of byproduct recovery operations is discussed in further detail in the Fact Sheet, Table B: Information provided to the EPA on April 6, 2017 by the offshore seafood processing fleet in response to an EPA information request.

Quinault 8:

Page 15, Chapter V; B: Monitoring Requirements. This section outlines the monitoring required by the permittee, but nearly all of the data are kept by the permittee. Are there any reviews of

these data and if so are there any reports summarizing the results? The QIN requests copies of all such reviews and reports.

EPA Response to Quinault 8:

This is a new permit and EPA has not yet received any reports summarizing the monitoring data. At the Quinault Tribe's request, the EPA has added a permit requirement that all Permittees discharging within the Tribe's U&A must submit Annual Reports to the Quinault Tribe.

Quinault 9:

Page 15 Chapter V; B 7. This section describes an optional study related to hypoxic conditions. Have any studies been conducted under this section? If so, the QIN requests copies of these reports.

EPA Response to Quinault 9:

This is a new General Permit, and no studies described in Section V.B.7. have been conducted. At the Quinault Tribe's request, the EPA has added a permit requirement that all Permittees discharging within the Tribe's U&A must also submit the optional study to the Quinault Tribe.

Quinault 10:

Page 16 Chapter V; B 7b. This section describes the study plans for discharge in waters shallower than 100 meters between April 15 and October 15. Have any permittees requested to discharge into waters shallower than 100 meters, thus conducting these studies? If so the QIN requests copies of these permits.

EPA Response to Quinault 10:

This is a new General Permit, and as such, no permittees have requested discharge into waters shallower than allowed by the General Permit. At the Quinault Tribe's request, the EPA has added a permit requirement that all Permittees discharging within the Tribe's U&A must also submit any such requests to the Quinault Tribe.

Quinault 11:

Page 24 Chapter VI; B 2f. This section requires records be kept on by-catch and prohibited species that were not processed but returned to the sea whole, but retains the records with the permittee unless requested by the EPA. Have these records been requested and if so have they been analyzed by the EPA? If these records are available for discharges in the QIN U&A we request copies of these data and analyses.

EPA Response to Quinault 11:

Since this is a new General Permit, the EPA has not received nor requested any records that pertain to by-catch and prohibited species, as such no records are available yet. The EPA has included a permit requirement that any future discharges in the Tribe's U&A will provide the Tribe with the By-Catch and Prohibited Species Report.

Quinault 12:

Page 27 Chapter VIII; General Monitoring, Recording and Reporting Requirements. The permit is largely monitored by the permittee with the EPA depending on this monitoring and the self-reporting of any non-compliance. What actions has the EPA completed to examine these records, and what site specific enforcement has occurred?

EPA Response to Quinault 12:

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, there is no permit currently available to at-sea processors, and no at-sea processors have been granted coverage under this General Permit. To date, no enforcement has occurred.

Quinault 13:

Page 29 Chapter VII; I. changes in Discharge of Toxic Pollutants. This section describes what appears to be a very detailed monitoring program that would require dedicated staff and laboratory facilities. Are these staff and facilities available on the permitted vessels?

EPA Response to Quinault 13:

This provision is a standard condition that must be included in NPDES permits for all industrial dischargers (See 40 CFR 122.42(a)). As a standard condition in all industrial permits, the provision requires the permittee to notify EPA as soon as possible if the permittee knows or has reason to believe that the discharge will exceed the notification levels. At this time, the EPA does not have reason to believe that at-sea processing would result in the discharge of acrolein, antimony, or the other toxic pollutants listed in Section VII. of the General Permit. However, if the discharge could exceed the notification levels cited in the General Permit, it would be incumbent on the permittee to comply with this permit provision.

Quinault 14:

Page 34 Chapter IX; J. Anticipated Noncompliance. This section does not outline what criteria are needed to report an anticipated noncompliance, thus it appears that it can be done without limit. Also, the section does not require any reporting on the results of this noncompliance. Does EPA keep records of when this provision is used, and are they available.

EPA Response to Quinault 14:

This is a standard condition in NPDES permits. All instances of non-compliance are required to be reported in the Annual Reports. At the Quinault Tribe's requests, the EPA has added a permit requirement that all Permittees discharging within the Tribe's U&A must submit Annual Reports to the Quinault Tribe.

Quinault 15:

Page 36 Chapter X; F Availability of Reports. This section appears to identify only "permit applications, permits and effluent data" as non-confidential data. It appears to allow labeling the required annual reports, data that indicates noncompliance, and all other data (e.g. by-catch, prohibited species) as confidential data. Is this correct?

EPA Response to Quinault 15:

Per 40 CFR Part 2, information submitted to the EPA pursuant to this permit may be claimed as confidential by the Permittee. If the claim is asserted, the information will be treated in accordance with procedures set forth in 40 CFR Part 2, Subpart B. Specifically, once claimed as confidential, the EPA follows a process to determine whether the information is "confidential business information." In general, information submitted under the permit, such as annual reports, would not be considered confidential business information because it falls within the definition of "effluent data."

Quinault 16:

The QIN requests that it be notified when any of the permittees are operating within the QIN marine fishing area defined as all Pacific Ocean waters between Point Chehalis (46°53'18"N) and Destruction Island (47°40'06"N) and east of (123°08'30" W). In addition, we request a copy of all annual reports of permittees that operate within this area.

EPA Response to Quinault 16:

At the Quinault Tribe's request, the EPA has added a permit requirement that all permittees are to submit the DMR's and Annual Reports electronically to NetDMR, which the Tribe will have access to, once the permittee adds the Tribe to the NetDMR notification system. At this time the EPA does not have a feasible way for the Tribe to be notified in real-time if a permittee enters

the QIN marine fishing area define above. However, the Marine Exchange-Puget Sound website (https://marexps.com/) has vessel tracking tools available that can assist the Tribe with the live vessel location data. https://marexps.com/. In addition, the permit requires that the permittee submit a copy of their Annual Report to the Quinault Tribe if they discharge within the Quinault Tribal U&A.

Quinault 17:

There are several reports and records required by the permit that are retained by the permittee. Although the permit states that they must be provided to the EPA upon request, unless these documents are requested the permittee keeps them. We are concerned that so much of the data collected for this permit is retained by the permittee, and is potentially unavailable due to the very broad condition related to confidential data (Page 36 Chapter X). Without this data, evaluations of the effectiveness of the permit at reducing or controlling pollution are not possible. We feel that data related to the discharge under this permit need to be available in order to properly evaluate the effect and cumulative effects of this permit.

EPA Response to Quinault 17:

As explained in EPA Response to Quinault 15, a permittee can claim that some information submitted to the EPA is confidential business information; however, in general, information submitted under the permit would be considered "effluent data" and, thus, would not be considered confidential business information. The EPA can request information/documents from the permittees at any time. In addition, the EPA has included requirements for the permittees to submit documents to the Tribe when the permittees are discharging within the Tribe's U&A. If the Tribe would like additional information that it is not receiving, the Tribe can request that the EPA provide the information.

Quinault 18:

The inspections of the facilities by EPA are limited with the term "reasonable times" without definition. Could the permittee simply deny access until operations are brought into compliance?

EPA Response to Quinault 18:

In accordance with 40 CFR 122.41(i) the permittee must allow the EPA or any persons authorized by the EPA to enter the facility and conduct inspections during these times. If the permittee denied the EPA access to the facility, the EPA has the ability to obtain a search warrant to access the facility.

7. Comments from Perkins Coie (representing the At-Sea Processors):

Perkins 1:

The Draft Permit includes a prohibition on processing in certain areas, including waters shallower than 100 meters and over the Heceta/Stonewall Banks complex.

We remain opposed to such restrictions because there is no hard scientific data linking the discharge of ground seafood waste to certain water quality issues enumerated in the Fact Sheet. In fact, the Fact Sheet constantly makes reference to possible impacts. There are numerous statements that processing waste "could contribute" to hypoxia; "is likely ...to contribute" to hypoxic waters; "is probably" an important factor; scientists are concerned that waste "could trigger and/or exacerbate" hypoxic conditions. These are not statement based on empirical conclusions, but are speculative without any underlying scientific factual basis.

EPA Response to Perkins 1:

As summarized in the Fact Sheet for the re-proposed draft General Permit, 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. Seafood processing waste exerts high biochemical oxygen demand, will eventually settle to the seafloor in some form, and has potential to pull bottom oxygen down to unsafe levels.

The ocean discharge criteria guidelines at 40 CFR Part 125, Subpart M set out criteria that the EPA must evaluate to ensure that point source discharges into the ocean do not cause unreasonable degradation to the marine environment. 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. 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 40 CFR § 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 40 CFR § 125.122. Thus, the EPA is proposing to seasonally prohibit the discharge of seafood processing waste in waters shallower than 100 meters in depth 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 the re-proposal Fact Sheet.

Therefore, the EPA is imposing permit requirements in order to be protective of marine water quality in areas of well documented scientific concern, even in light of some degree of uncertainty regarding the degree to which permitted discharges are contributing to water quality impacts. For example, see Peterson, et al. (2013), Siedlecki, et al. (2015), and Grantham, et al. (2004), as well as the concerns expressed by the ODFW, the Oregon Department of Environmental Quality, the Washington Department of Ecology, the NOAA Olympic Coast National Marine Sanctuary, and the Quileute and Quinault Tribes as part of the record for this General Permit.

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.

Perkins 2:

The whiting fishery removes from the natural process the total allowable catch each year. This removal reduces the amount of biodegradable waste material (the fishery die off) from the ecosystem of concern. EPA should realize that such removals relieves the concerns addressed in the revised Draft Permit as the underlying purpose for the proposed no discharge operational areas.

EPA Response to Perkins 2:

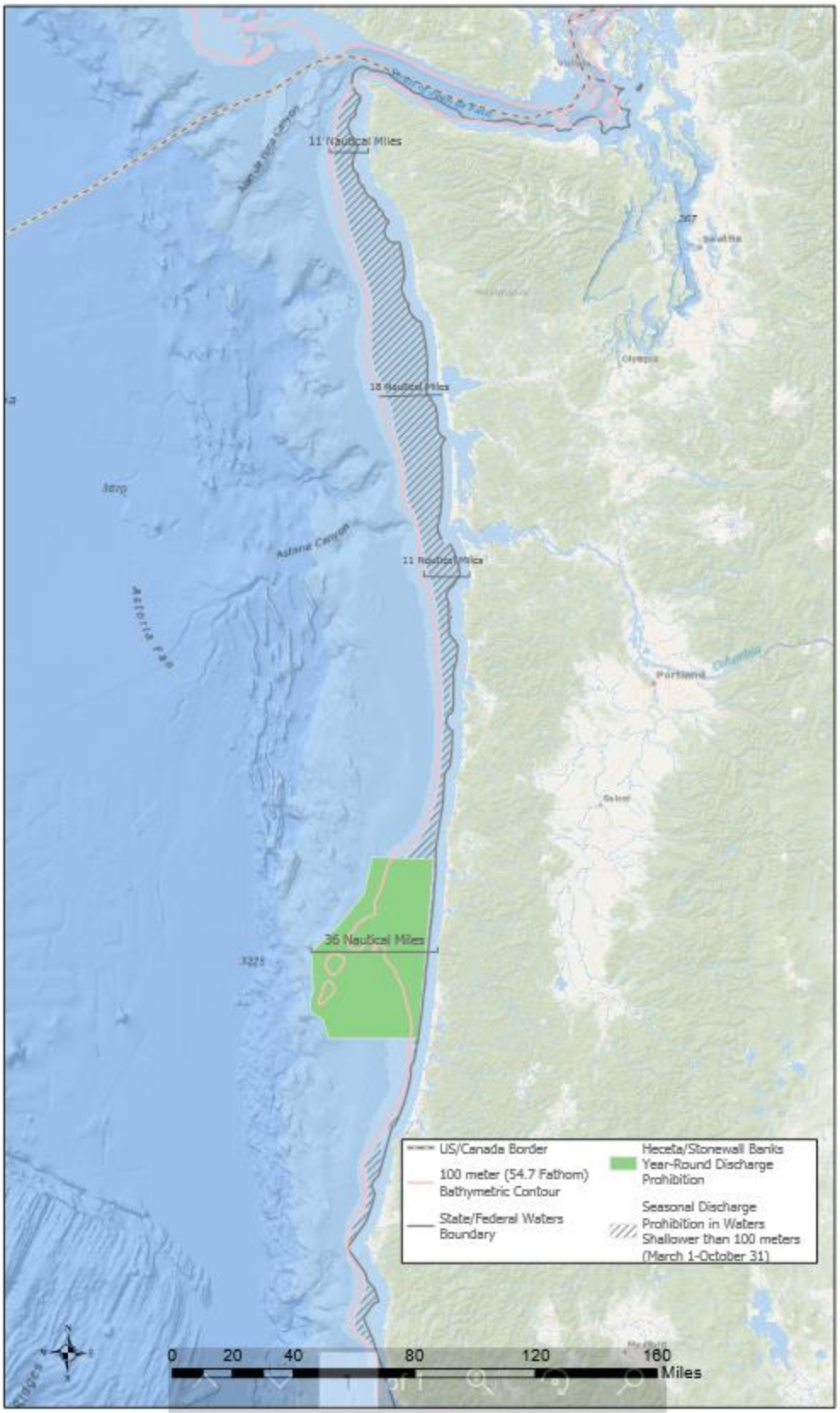
Factory processors are NPDES point source dischargers under Section 402 of the CWA. Factory processors discharge seafood processing waste from an outfall in a much more concentrated form than would occur from natural mortality. In addition, at-sea processing changes the nature of the fish from living to dead, which changes the structure of the marine nutrients and the mineralization process. No change was made to this permit as a result of the comment.

Perkins 3:

These companies provided historical harvesting and processing patterns that illustrate the prior use of these areas. While it is accurate that these proposed discharge closure areas have not been significantly relied up on in the past, there are some locations that are now necessary to smaller harvesting vessels for the transshipment of crews and equipment to the processing vessels that receive and process their catch. In addition, attached to these comments are charting locations (Attachment A) for the Heceta Bank complex area that depict small adjustments to the revised Draft Permit proposed no discharge area. We have reviewed our operation records and believe these adjustments will provide areas of operation that are important to the commercial whiting fishery that are not significant to the proposed no discharge area. We respectfully request that EPA review these adjustments and amend the proposed no discharge area to allow operations to continue in the newly adjusted locations.

EPA Response to Perkins 3:

The EPA has reviewed the adjustments to the Heceta/Stonewall Banks complex that were submitted as part of this comment, and plotted them in order to compare with the coordinates recommended by the ODFW (which the EPA proposed to exclude from discharge in the recently public noticed draft General Permit). See below. The EPA confirmed with marine habitat/spatial fisheries management staff at the ODFW that this adjustment would still protect the areas of greatest concern for hypoxia. Thus, the EPA has adjusted the year-round discharge prohibition in the Heceta/Stonewall Banks complex to reflect the requested change.


11 Nautical Miles
18 Nautical Miles
11 Nautical Miles
36 Nautical Miles
Astoria Canyon
Astoria Fan
Portland
Columbia
Olympia
Seattle
US/Canada Border
100 meter (54.7 Fathom) Bathymetric Contour
State/Federal Waters Boundary
Heceta/Stonewall Banks Year-Round Discharge Prohibition
Seasonal Discharge Prohibition in Waters Shallower than 100 meters (March 1-October 31)
0 20 40 80 120 160
Miles

Perkins 4:
These proposed closure areas also may become important to operations in the future. This Draft Permit will be in place for at least 5 years and likely more given the administrative extension that many NPDES permits operate under after their expiration. To close such areas without any empirical information justifying the closures is not warranted nor fair.

EPA Response to Perkins 4:
NPDES permits are issued for five-year periods. At the time of the next General Permit reissuance, the EPA will consider the monitoring and reporting data received during the permit cycle, as well as any changes to environmental conditions or other pertinent information that is learned or submitted during this permit cycle.

Perkins 5:
Sea Surface Species Monitoring. The revised Draft Permit requires permittees to "enumerate the occurrence and numbers" of a broad array of ESA-listed species. (Note that the list of species here far exceeds the list requires of permittees in the Alaska Seafood Offshore Discharge permit). While we understand the agency's need to know when and how often these animals coincide with seafood processing activities, we believe that the precision of requiring "enumeration" is too specific. We believe the permit should require the permittees to estimate rather than enumerate.
The "enumeration" requirement in the second paragraph is far too broad and impossible to comply with. We believe the provision regarding the species and justification for sea bird monitoring is not justified and erects a substantial barrier to compliance. EPA is requesting a far too difficult task based on, not threatened or endangered status, treaties such as the Migratory Bird Treaty. There are large flocks of these migratory birds everywhere off the coast of Washington and Oregon and, therefore, we do not believe that the information being requested will provide any meaningful information. However, if EPA wants to retain this paragraph, we would suggest it require an "estimate" rather than an enumeration and only require an estimate of those birds which "are attracted to the discharge" (as set forth in the first paragraph). Further, the requirement should be limited to those bird species of concern to the Endangered Species Act.

EPA Response to Perkins 5*:*
At the request of representatives of the Pacific whiting industry in their 2015 comment for this draft General Permit, the EPA identified the specific animals that must be included in sea surface monitoring in Section VI.C. of the re-proposed General Permit. However, the EPA acknowledges the difficulties inherent to enumerating large flocks of migratory birds that can congregate in offshore waters. Thus, the EPA is removing the permit requirement to enumerate the following migratory birds: black-footed albatross (Phoebastria nigripes), pink-footed shearwater (Puffinus creatopus), sooty shearwater (Puffinus griseus), and flesh-footed shearwater (Puffinus carneipes).
The requirement to enumerate the occurrence and numbers of ESA-listed species attracted to the discharge will remain in the General Permit. ESA-listed species are, by definition, rare and would thus not be expected to congregate in numbers that would make enumeration infeasible. The ESA-listed species for which the sea surface monitoring requirement applies are as follows: Guadalupe fur seal (Arctocephalus townsendi), Blue whale (Balaenoptera musculus), Fin whale (Balaenoptera phyusalus), 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).

Perkins 6:

Rocky Reefs. Given the lack of supporting data for the prohibitions in the Draft Permit, we are strongly opposed to extending operational prohibitions to other areas, for the reasons stated above. There certainly is no basis for extending the prohibitions in the Draft Permit to additional rocky reefs. Please see Attachment B to these comments that clearly depict the historical use of these Rocky Reef areas by the commercial whiting fishery. Clearly these areas are important and will continue to remain critical. To prohibit operations in these areas will unnecessarily harm the participants in this vital commercial fishery, both small family owned harvesting vessels and the processing vessels that serve them.

EPA Response to Perkins 6*:*

These comments, and the use of rocky reef areas by the commercial whiting fishery, have been noted. Also see ODFW 4 response.

Perkins 7:

Monitoring. There are a number of additional monitoring requirements in this Draft permit (as compared with the earlier draft). We concur with EPA's conclusion that further monitoring requirements (as discussed in Section II.D. of the Fact Sheet) would be logistically challenging and costly. Furthermore, the additional monitoring is expensive and impractical and would not likely yield information that would be meaningful. As EPA acknowledged in the Fact Sheet, seafood waste as well as normal biomass decay from annual mortality takes time to mineralize and any attempted real time monitoring would not be effective.

EPA Response to Perkins 7:

The EPA notes the whiting processors' collective opposition to discharge prohibitions and to additional monitoring requirements. See also EPA Response to Ecology 5 for further explanation of the monitoring that will be in the Permit.

8. Comments from Arctic Storm Management Group, LLC:

Arctic 1:

Oppose the seasonal discharge prohibition in waters shallower then 100 meters in depth. The supporting documentation for the re-proposed permit does not scientifically link discharged seafood waste to water quality issues in these areas. … No empirical evidence.

EPA Response to Arctic 1:

These comments have been noted. See EPA Responses to Perkins 1 and 7.

Arctic 2:

We are discharging into deep waters only what little remains after processing, with nothing added but water. These same fish would otherwise eventually die of natural mortality and their remains would contribute much more decomposed mass to the ecosystem. Our removals reduce the amount of whiting that would otherwise die and decompose.

EPA Response to Arctic 2:

See EPA Response to Perkins 2.

Arctic 3:

While we have not had much historical reliance on waters shallower than 100 meters in depth in the past, there is some reliance on these areas, which may increase in the future.

Trying to avoid bycatch... With so many areas already closed to fishing under separate management, additional closures by the EPA based on limited data would be extremely harmful, and would limit our ability to continue to work in this fishery.
Request that motherships be excluded from the depth prohibition altogether. Motherships must move with their fleet of catcher vessels. If motherships are unable to process fish at depths of less than 100 or 200 meters, it effectively prohibits mothership sector catcher vessels from fishing where shoreside catcher vessels will be allowed continued access. This profoundly disadvantages the mothership sector.

EPA Response to Arctic 3:

As detailed in Table b. of the re-proposal Fact Sheet, motherships are among the largest dischargers to be covered under this General Permit, and therefore potential contributors to water quality issues. For example, the Arctic Fjord (a mothership) discharged 2,019,926 total pounds' seafood waste over the 2016 year (more than any other at-sea whiting processor). Thus, it would not make sense to exclude motherships from the discharge prohibitions required by this General Permit. See also, EPA Response to Perkins 4.

Arctic 4:

We oppose the year-round prohibition on discharges in the Heceta/Stonewall Banks complex. There is no firm scientific linkage between discharged seafood waste and water quality issues in the areas proposed to be closed, and no empirical evidence justifying the closure. … While the fleet at-large may not show significant reliance inside this proposed closure, the catcher vessels that deliver to Arctic Storm and/or Arctic Fjord are reliant on this area.
If a year-round prohibition on discharges in the Heceta/Stonewall Banks complex does remain in the final permit, we ask that EPA refine the closure areas to remove areas of historical fishing, or exclude motherships from the prohibition altogether.

EPA Response to Arctic 4:

The EPA adjusted the year-round discharge prohibition in the Heceta/Stonewall Banks complex to better accommodate at-sea operations in the area. See EPA Response to Perkins Comment 3.

Arctic 5:

Sea surface monitoring requirements. It may be difficult for crew to count every single animal, especially in cases where there are large flocks of migratory birds. We suggest that EPA change the language under this requirement from "enumerate the occurrence and numbers of the following ESA-listed species" to "document the occurrence and estimate the number of the following ESA-listed species." We also request the removal of non-ESA listed birds from the sea-surface monitoring requirements.

EPA Response to Arctic 5:

See Response to Perkins Comment 5.

Arctic 6:

Rocky reefs. We strongly oppose any additional closures to rocky reefs. We agree with statements in the EPA Fact Sheet that many of the areas proposed for closures by NMFS and ODFW are important to commercial fishing, would be unreasonable to close, and that the EPA does not have sufficient information about the effects of seafood processing waste in these areas.

EPA Response to Arctic 6:

These comments have been noted. See also EPA Response to ODFW 4 for further information concerning Rocky Reefs.

Arctic 7:

Monitoring. We agree with statements in EPA Fact Sheet that additional monitoring should not be required, due to logistical and cost concerns.

EPA Response to Arctic 7:

These comments have been noted. See also EPA Response to Ecology 5.

Comments Received During the 2015 Public Notice Period August 24th, -Oct 8th, 2015

9. Comments from Oregon Fish and Wildlife 2015:

ODFW 2015/1:

GENERAL USE PERMIT AND OCEAN DISCHARGE CRITERIA EVALUATION

EPA's Ocean Discharge Criteria are used to determine if discharge would cause unreasonable degradation of the marine environment. The first criterion in the ODCE addresses bioaccumulation or persistence of the discharged material. As noted in Section V.A.2, the Effluent Limitations Requirement requires that vessels " ...discharge effluents into hydrodynamically energetic waters with a high capacity of dilution and dispersion." In several instances (noted below), the ODCE draws conclusions regarding this criterion that the Department finds to be unsubstantiated:

- By using conservative estimates of bottom accumulation in its analyses, the evaluation concludes that it was not necessary to account for any circulation (i.e., retention) patterns, (Section 3.1.2)
- There is no Federal criterion for dissolved oxygen (DO) offshore, and surface DO is determined to be above Oregon and Washington state criteria. There is no discussion of subsurface or bottom hypoxia conditions (Section 9.6).
- Offshore waters are described as "well-oxygenated" with "good flushing" (Sections 5.3.1 and 5.3.2)
- Evaluation assumes suffocation of fish eggs when buried under 0.4 inches of accumulated fish waste, but predicts less than 0.2 inches of accumulated fish waste due to "good flushing" offshore (Section 5.1.2).

In the offshore waters off Oregon, expansive areas of water retention and hypoxia occur in areas of ecological significance. For instance, directly south of Stonewall Bank, circulation patterns are extremely sluggish and tend to develop a slow, counter-clockwise gyre during summer. This condition will likely tend to concentrate, not disperse disposed fish waste.

Additionally, low concentrations of dissolved oxygen in bottom water inshore of Heceta Bank are well known and have been increasing over time. Fish waste accumulation in either area could further exacerbate conditions there, and adversely affect fish and invertebrates at various life stages. Stonewall Bank, Heceta Bank and surrounding areas are highly important to Oregon's commercial and recreational fisheries.

Without analysis or informed modeling efforts, it is not possible to predict the extent of (or lack of) accumulation and biochemical changes in these areas, or the magnitude of adverse effects that could compromise these ecologically and economically vital areas.

These concerns were first brought to EPA's attention in June, 2012 by ODFW, oceanographers at Oregon State University and NOAA in response to EPA designating new offshore fish waste disposal sites for Trident Seafoods (Newport, OR).

Also of concern are other rocky reefs such as Nehalem Bank, Daisy Bank, Coquille Bank, etc. All rocky reefs are ecologically important, complex environments supporting an abundance and diverse array of reef-dependent species that occupy the reefs for all or most of their life cycles, including include egg-rearing, feeding and shelter. Sessile marine invertebrates in particular are vulnerable to habitat disturbance. Generally, complex rocky habitats and biogenic structures serve to slow water movement across the reef and retain fish waste debris where it sinks to the bottom.

Absent quantitative assessment of the physical and chemical effects of fish waste in these important and finite environments, a precautionary approach in the form of "disposal exclusions zones" is warranted.

Recommendation #1: EPA should consult Oregon-based oceanographers (e.g., Dr. Bill Peterson, NOAA, Dr. Jack Barth and Dr. Frances Chan, OSU) to better understand oceanographic processes around Stonewall Bank, Heceta Bank and other areas off Oregon where conditions are similar. Known areas of retention and hypoxia as identified by OSU oceanographers should be deemed "exclusion zones" in Section III.B. of the General Permit. Sufficient spatial buffers should be placed around these zones to account for drift of disposed waste.

EPA Response to ODFW 2015/1*:*

- After this version of the draft permit and fact sheet was proposed, the EPA interviewed the Oregon-based oceanographers that ODFW recommended. In addition, after the 2017 public comment period, the EPA interviewed Dr. Parker MacCready, an oceanographic modeler at the University of Washington's School of Oceanography. As a result of these interviews and a review of the scientific literature, the EPA has established discharge prohibition areas in the final General Permit. See also EPA Response to Ecology 10 and EPA Response to ODFW 4.

ODFW 2015/2:

Recommendation #2: Rocky Reefs currently identified in seafloor mapping products by OSU's Active Tectonic and Seafloor Mapping Lab should be deemed "exclusion zones" in Section III.B. of the General Permit. Sufficient spatial buffers should be placed around these zones to account for drift of disposed waste.

EPA Response to ODFW 2015/2*:*

As described in detail in Section II.B. of the 2017 re-proposal Fact Sheet, the EPA considered prohibiting discharge around specific rocky reefs, and specifically solicited comments on the matter. As 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). See EPA Response to ODFW 4, above, for more detail.

ODFW 2015/3:

The reporting plan as proposed does not require sufficient information about disposal amounts and location to support tracking and monitoring potential impacts.

Recommendation #3: Reporting requirements should include the following: 1) report the vessel's speed during each disposal event to document and ensure adequate dispersal of the disposed fish waste, 2) report specific location information of each disposal event (GPS coordinates for start/end points of each 'dump'), 3) include a summary of discharge amounts per day per location.

EPA Response to ODFW 2015/3:

See the EPA responses to Oregon Summary 5, ODEQ 3, and to ODFW 8 for more recent comments and recommendations regarding reporting requirements.

ODFW 2015/4:

Scientific Study Sites

NOAA conducts long-term oceanographic monitoring along a transect line off Yaquina Head (44.65 N Latitude) between 124.10 and 126.05 Degrees West Longitude. In addition, the National Science Foundation is installing a multi-million-dollar ocean observatory off Newport to study ocean processes for the next 30 years. (www.oceanobservatories.org). NOAA and OSU oceanographers expressed concerns to EPA for impacts to these study areas in June, 2012 in response to EPA designating new offshore fish waste disposal sites for Trident Seafoods (Newport, OR).

Recommendation #4: Consult with appropriate ocean researchers at OSU, NOAA and NSF regarding potential impacts to ocean research stations. Address concerns with "exclusion zones': if appropriate.

EPA Response to ODFW 2015/4:

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. The EPA interviewed Dr. Jan Newton, Senior Principle Oceanographer of the University of Washington's Applied Physics Lab and Executive Director of NANOOS, and 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 stations, in order to learn more about how processed seafood waste could impact these long-term monitoring efforts. In sum, 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. Please see Section II.C. Scientific Study Sites of the 2017 Re-proposal Fact Sheet for more detail.

ODFW 2015/5:

Oregon's Territorial Sea

References to Oregon's Territorial Sea and Oregon state waters throughout the draft permit and supporting documents are either incomplete or oversimplified and suggest that the shoreward boundary of the Oregon territorial sea is a consistent 3 nautical miles from the mainland shoreline. In fact, in areas where there are emergent offshore rocks and islands, Oregon's Territorial Sea extends seaward 3 nm from the seaward low tide shoreline of the offshore rocks and islands. In these instances, the seaward boundary extends beyond 3 nm from the mainland shoreline. The greatest distance is off Orford Reef, where Territorial Sea boundary is approximately 8 nm from the mainland shoreline. Oregon's Territorial Sea is described in the Oregon's Territorial Sea Plan, Part 1 (1994). The Territorial Sea Plan, along with the Oregon Ocean Plan, are parts of the Oregon Coastal Management Program, which has been approved by NOAA under the Coastal Zone Management Act (33 USC§§ 1451 -1465).

An accurate description of Oregon's Territorial Sea boundary in EPA's General Permit will help ensure permit holders are in compliance during disposal operations.

EPA Response to ODFW 2015/5*:*
The EPA has included a definition of the Oregon Territorial Sea in the Definitions section of the General Permit and has clarified that in the case of emergent offshore rocks and islands, the General Permit's jurisdiction begins 3 nm seaward from the seaward shoreline of offshore rocks and islands, with Figure 1 showing the 3 nm boundary from Fox Rock on Orford Reef. See Section III.A. Area of Coverage.

ODFW 2015/6:
Recommendation #5: Provide a complete description of the Oregon Territorial Sea in the General permit under "Definitions" as well as in Section III.B.4. Provide the complete description of the Territorial Sea wherever it occurs in the supporting documents (BE and ODCE).

EPA Response to ODFW 2015/6*:*
See response above.

10. Comments from Perkins Coie 2015:

Perkins 2015/1:
Section IV.C.6. d. Description of discharges. d. Process Flow Diagram or Schematic. Provide a diagram or schematic showing the processes of the treatment plant, including by-product recovery ...

COMMENT: In this sentence, "treatment plant" is not defined and unclear. We believe that "grinding system and waste management system" provides more clarity.

EPA Response to Perkins 2015/1*:*
The EPA has made this change in order to provide further clarity. Please see the Fact Sheet I.B.5. Terminology Clarification.

Perkins 2015/2:
Section IV.C.7 Refueling capability and proximity to fueling stations.

An NOI must include information about whether a Permittee has the capability to refuel fishing vessels and, if so, the capacity of its refueling tank.

COMMENT: Currently our facilities do not engage in re-fueling fishing vessels and do not contain "refueling tanks". In the event we were to provide fuel to a fishing vessel we would do so from our own fuel tanks. Each permittee will so note on its NOI.

EPA Response to Perkins 2015/2*:*
The EPA notes that facilities do not currently engage in refueling fishing vessels, but made no change to the General Permit as a result of this comment.

Perkins 2015/3:

Section V.B.4 Outfall System. The Permittee must discharge seafood processing wastes to or below the sea surface. A pre-operational check of the outfall system must be performed at the beginning of each processing season to ensure that the outfall system is operable. Logs of this daily inspection must be kept on-board the vessel until the end of the calendar year and then maintained at the business office thereafter ....

COMMENT. We believe that Logs of this "daily inspection" should be changed to Logs of this "pre-operational check".

EPA Response to Perkins 2015/3*:*
The EPA has made this change to the General Permit.

Perkins 2015/4:
Section VI.C.3. a.3. (3) The sea surface monitoring must enumerate the occurrence and numbers of animals attracted to the discharge identified within the survey areas.

COMMENT. We note that the Alaska General Permit covering offshore seafood operations (AKG524000) identifies specific animals of concern for recording purposes. We suggest that this general permit contain a similar specific requirement.

EPA Response to Perkins 2015/4*:*
See EPA Response to Perkins 5.

11. Comments from Trident Seafoods 2015:

Trident 2015/1:
IV.A Submittal of a Notice of Intent
Please confirm that if an approved eNOI system becomes available during the time period of the permit that an eNOI will satisfy the "Permittee… must submit… an updated and amended NOI when there is any material change" as required in part IV.A.3

EPA Response to Trident 2015/1:
At the time of permit issuance, there is no available eNOI for this General Permit. If one becomes available for this General Permit, the EPA will notify Permittees accordingly. Otherwise, Permittees must follow the NOI submittal instructions outlined in this General Permit.

Trident 2015/2:
IV.C.5.d
By-product is a seafood material that has value and can be converted into a finished product. By-product should not be labeled as "waste product" until it is sent to the waste treatment system for discharge. It is requested that IV.C.5.d be changed to "The design capacity of the quantity (in pounds) of raw or by-product that can be processed in by-product recovery lines in a 24-hour day;"

EPA Response to Trident 2015/2*:*

The EPA has made this change to the General Permit.

Trident 2015/3:
IV.6.a
Grinders are used to treat the seafood processing waste solids not wastewater. See part V.A.1. Please change the description to keep consistency through the permit.

EPA Response to Trident 2015/3*:*
The EPA has amended the wording of this section.

Trident 2015/4:
IV.6.d
It is requested that this section be clarified to more clearly separate the processing systems of the raw and by-products and the treatment system of the seafood processing waste solids. The following suggested language is provided.
Process Flow Diagram or Schematic. Provide a diagram or schematic showing the processes of the processing facility, including by-product recovery processes and the seafood waste treatment system. Also provide a water balance showing all processing units or treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent points and discharge points and approximate daily flow rates between processing units, by-product processing units and seafood waste treatment units. Include a brief narrative description of the diagram.

Line drawing. A line drawing of the water flow through the facility with a water balance, showing operations that contribute waste/wastewater to the effluent and treatment units. Similar processes, operations, or production areas may be indicated as a single unit, labeled to correspond to more detailed identification.
The third paragraph of section "d" includes a narrative identification of the various contributing streams to an outfall, including stormwater run-off. Would "deck runoff" be a more appropriate term "Deck Runoff" means the precipitation, washdowns, and seawater falling on the weather deck of a vessel and discharged overboard through deck openings (2013 VGP definition)." If directed to an outfall?

EPA Response to Trident 2015/4*:*
The EPA has made this change to the General Permit.

Trident 2015/5:
V.A.5
Please edit "treatment process" to "by-product recovery processes" to maintain consistency through the permit. See Parts IV.C.5.d and VI.B.2. c.4.

EPA Response to Trident 2015/5*:*
The EPA has made this change to the General Permit.

Trident 2015/6:
VI.B.2.c.4

Please edit to be more consistent with the other permit parts that discuss by-product recovery and waste utilization. The following suggestion is provided. “Type and amount of by-product (pounds) utilized through a by-product recovery line (if available), such as fishmeal or fish oil per month. If by-product is not utilized through an available by-product recovery line, explain why.”

EPA Response to Trident 2015/6*:*
The EPA amended the byproduct recovery and waste discharge reporting sections of the Annual Report in the draft General Permit that was re-proposed in June of 2017.

12. Comments from Washington Department of Ecology 2015:

Ecology 2015/1:
High nutrients and warm water temperatures (increasing due to climate change) are linked to harmful algal bloom outbreaks. When large algal blooms occur, this can cause high levels of toxins that, in turn, make fish and shellfish unsafe for people to eat. These harmful algal bloom outbreaks are often triggered when warm water temperatures combine with high nutrients from coastal upwelling. Coastal waters off Washington are already suffering the consequences of harmful algal blooms, which this year severely impacted recreational razor clam digging, commercial Dungeness crab fishing causing harvest closures and delays in openings for recreational harvest and affected commercial shellfish aquaculture in Willapa Bay and Grays Harbor. Ecology is concerned that the additional nutrient loading allowed in this draft permit may increase the likelihood for future harmful algal bloom outbreaks.

Coastal waters off Washington are also subject to seasonal hypoxia and increasingly low pH waters. Coastal upwelling plays a role in these processes as do global carbon dioxide emissions. Ocean acidification has been a major focus for Washington, given its potential for large impacts to the marine environment, especially shellfish. Again, Ecology is concerned that additional nutrients provided for in this permit may exacerbate both hypoxic and low pH conditions in coastal waters.
For example, using figures obtained from Glacier Fish Company's web page the 3 vessels they operate in the area proposed for permit coverage can process the following volumes of finished product per day.
The *FIT* Alaska Ocean at 376 feet can process 225 metric tons of finished product per day, the *FIT* Pacific Glacier at 276 feet can process 155 metric tons of finished product per day, and the *FIT* Northern Glacier at 201 feet can process 93 metric tons of finished product per day. These production rates were extrapolated to include all the vessels that have applied for the permit, using the effluent limits promulgated for a shore based processor (which are far more stringent than those proposed for the offshore processors), and a shore based meal plant that serves this processor and pre-treats for ammonia only. The amount of pollutants that can be discharged 3 miles off the coasts of Washington and Oregon each day could be as high as, but is likely far higher, than the following:

- Biological Oxygen Demand: 1,068,239 lbs/day

- Total Suspended Solids: 73,698 lbs/day
- Oil and Grease: 79,053 lbs/day

This represents over 610 tons per day combined pollutant loading, and with a pacific whiting season lasting 53 days (spring, and fall seasons combined) 32,330 tons of combined pollutant loading each year.

Despite a large record, the fact sheet and supporting documentation suggest the permit is based almost entirely on EPA's Alaska permit.

> "Grinding seafood waste to 0.5 inch has been the technology-based effluent limitation applicable to offshore seafood processing facilities in offshore waters around Alaska for over 30 years. The majority, if not all, of the vessels that would likely apply for coverage under the Draft Permit also operate in Alaskan waters and, thus, have the equipment on board to grind their waste to 0.5 inch. The 0.5 inch limitation was originally used for remote Alaska locations in consideration of the expense and logistical difficulties associated with much of Alaska. The 0.5 inch grind effluent limitation was also the BPJ effluent limit that was established in an individual NPDES permit for a seafood processing vessel that discharges to the Atlantic Ocean. Ground wastes should disperse rapidly in the waters covered by the Permit."

The fact sheet does not explain how the statement highlighted above is applicable to Washington and Oregon waters that are not remote. Both states have shore based processing plants that can accommodate the Pacific whiting fleet without causing them unnecessary expense and logistical difficulties.

To meet the all known, available, and reasonable methods of treatment requirement of the state's regulations (WAC 173-220-130) the offshore seafood processing ships must apply the same level of treatment, and meet the same federally promulgated effluent limits, as Washington shore based processors.

- Shore based pacific whiting processors in Washington have spent millions of dollars installing treatment to meet federally promulgated effluent limits. Shore based processors are held to more stringent effluent guidelines that produce a much cleaner effluent, but at an increased cost for treatment putting them at an economic disadvantage compared to offshore seafood processing ships. For the reasons stated above offshore seafood processing ships operating within the contiguous zone (24 miles from the Washington Coast) should be held to standards as stringent as shore based processors in Washington to: Prevent water quality degradation and its impacts on the recreational razor clam harvest, commercial Dungeness crab harvest, associated economic consequences, and to;
- Provide a level playing field between the offshore seafood processing ships and the shore based processors.

Finally, Ecology does not agree with EPA's statements in Sections 8.1 Coastal Zone Management and Section 10.1.8 Criterion 8, that EPA does not need to evaluate the draft permit against Washington's Coastal Management Plan (CMP) and enforceable policies because the permitted activities are in federal waters. The Coastal Zone Management Act (CZMA) requires that Federal activities and projects affecting the coastal zone of a state, including Federally-permitted activities, must be consistent with the enforceable policies of the approved state CZMP. CZMA consistency determinations apply not only to permits for activities that occur within the coastal zone, but also to permits for activities outside the coastal zone that may affect any land or water use or natural resource of the coastal zone. For the reasons stated herein, Ecology believes the federally permitted activity here does affect Washington's coastal resources and therefore does require CZMA consistency review.

EPA Response to Ecology 2015/1*:*

The EPA has substantially revised the General Permit to address concerns regarding how nutrients discharged by seafood processing vessels could contribute to hypoxic conditions in order to be protective of ocean conditions off the coast of Washington and Oregon. The EPA has addressed Ecology's other comments, including the applicability of shore-based effluent limits and AKART, in its response to Ecology's 2017 comments, (see EPA Response to Ecology 4). Following the August 2015 public notice of this draft General Permit, the EPA has worked with Ecology and Oregon to meet understand and meet their CZMA requirements, and submitted CZMA consistency determinations to both states concurrent with the June 2017 public notice period.