Department of Environmental Conservation
Response to Comments

For

Aquaculture Facilities in Alaska

APDES Permit No. AKG130000

Public Noticed October 13, 2017 – November 20, 2017

January 9, 2018

Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

1 Introduction

1.1 Summary of Permit

The Alaska Department of Environmental Conservation (DEC or the Department) proposes to issue an Alaska Pollutant Discharge Elimination System (APDES) statewide general permit for discharges from aquaculture facilities in Alaska. Aquaculture facilities may discharge a variety of pollutants generated from uneaten feed, fish feces, fish carcasses, cleaning chemicals, and medications used to treat disease. The main pollutants of concern include total suspended solids, settleable solids, ammonia, and chlorine. These pollutants have the potential to contribute to a number of water quality impacts such as increased levels of turbidity and residues, elevated temperatures, variable pH, and low dissolved oxygen.

The statewide general permit applies to all concentrated aquatic animal production facilities (CAAP facilities, aquaculture facilities, or hatcheries) in Alaska that produce, hold, or contain 20,000 pounds or more of aquatic animals per year in ponds, raceways, or other similar structures, feed 5,000 pounds or more of food during a calendar month, and discharge at least 30 days per year. The general permit authorizes and sets conditions on the discharge of pollutants from these facilities to waters of the United States (U.S.). In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from these facilities, outlines best management practices to which the facility must adhere, and requires effluent and receiving water monitoring. Applicants may also request a facility-specific zone of deposit (ZOD) for discharges of ground broodstock and mortality fish carcasses into marine waters.

1.2 Opportunities for Public Participation

The Department proposes to issue an APDES wastewater discharge permit for certain aquaculture facilities in Alaska. To ensure public, agency, and tribal notification and opportunities for participation, the Department:

- identified the permit on the annual Permit Issuance Plan posted online at: http://www.dec.state.ak.us/water/wwdp/index.htm
- notified potentially affected tribes and local governments that the Department would be working on this permit via letter, fax and/or email
- posted a preliminary draft of the permit on-line for a 10-day applicant review July 26, 2017, and notified tribes, local governments and other agencies
- formally published public notice of the draft permit on October 13, 2017, in the Anchorage Dispatch News, Fairbanks Daily News Minor, and Juneau Empire and posted the public notice on the Department's public notice web page
- held a public meeting and hearing on the draft permit on November 13, 2017, at the Atwood Conference Center in Anchorage, Alaska
- posted the proposed final permit on-line for a 5-day applicant review

- sent email notifications via the APDES Program List Serve when the preliminary draft, draft, and proposed final permits were available for review

The Department received comments from 26 interested parties on the draft permit and supporting documents, including comments from six people who testified at the public hearing. The Department also solicited comments from the Departments of Natural Resources Fish and Game (ADF&G), the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency (EPA).

This document summarizes the comments submitted and the justification for any action taken or not taken by DEC in response to the comments.

1.3 Final Permit

The final permit was adopted by the Department on **January 19, 2018**. There *were* changes from the public noticed permit. Significant changes are identified in the response to comments and reflected in the final fact sheet for the permit.

2 General Support and Opposition for the Permit

2.1 Comment Summary

The Department received comments of both support and opposition to the permit. The majority of the comments were submitted by aquaculture associations or fisheries-related organizations with the remaining comments being submitted by private individuals, one law firm (on behalf of two clients who also submitted separate written comments), one entity owning a recreational lodge, one non-governmental organization, and NMFS.

Most aquaculture associations, fisheries-related organizations, and NMFS largely support the permit. The aquaculture associations claim that the general permit codifies many of the existing operational and management practices, including routine water quality monitoring, currently used at most facilities. However, some expressed concern that the scope and execution of the general permit is more financially and logistically burdensome than necessary. Specifically, some assert that the monitoring and reporting would be arduous and costly given the limited budgets at smaller facilities and numerous commenters requested that the general permit minimize monitoring and reporting where possible to keep operational costs low.

Those opposing the general permit argued that it lacks adequately restrictive terms and conditions needed to effectively protect water quality. Some concerns were focused on the potential adverse effects from the hatchery industry at large and failed to identify specific problematic general permit conditions. The most commonly expressed concerns with the general permit included: the use of a general permit, as opposed to an individual permit, as the appropriate permitting mechanism, minimal amount of monitoring and reporting, deficiency of the antidegradation analysis, and applicability of the antibacksliding regulation given the Department has historically regulated hatcheries through state permits. Other areas of concern included a list of excluded discharge locations, ZODs, and implementation of Ocean Discharge Criteria, roe stripping, wanton waste, and solid waste permits for carcass disposal.

Response

DEC appreciates all of the comments of support and values the input provided by all of the commenters. DEC has taken the comments into consideration and made adjustments to the general permit and fact sheet when deemed necessary to provide clarification on the permit requirements. DEC did not revise the general permit or fact sheet if the concerns were not tied to specific permit provisions, were outside the scope of the APDES permitting program or DEC's regulatory authority, or did not warrant revisions. Many of the concerns identified above are detailed and responded to more specifically below.

3 Comments on Permit Coverage

3.1 Comment Summary

Four commenters questioned the appropriateness of using a general permit to regulate discharges from aquaculture facilities due to the variability between facility operations, fish production levels, discharge rates and composition, and receiving waters. The commenters claim that aquaculture facilities differ in significant ways and these differences warrant the level of scrutiny typically associated with an APDES individual permit, which generally involves a comprehensive analysis of operations, pollution control measures, and discharges, and allows for customizable permit stipulations. One commenter felt that using a general permit would impede meaningful public participation by not affording the public an opportunity to review and comment on facility-specific proposals, such as the Carcass Disposal Plan, that permittees must submit after the public comment period for the general permit has ended.

Response

General permits allow regulatory agencies to streamline the permitting process and simplify the permit authorization process for applicants. General permits typically provide permit coverage for categories of discharges that share similar qualities and can reasonably be regulated by the same permit conditions. Alaska Statute (AS) 46.03.100(b)(2) provides the Department the legal authority to issue general permits. In addition, as described in Fact Sheet Section 1.1, the APDES implementing regulations in 18 AAC 83.205 further provide DEC the authority to issue a general permit covering one or more categories or subcategories of dischargers or facilities within a geographic area. The Department may use a general permit to regulate one or more categories of point source discharges when the sources:

(A) Involve the same or substantially similar types of operations
(B) Discharge the same types of wastes
(C) Require the same effluent limitations or operating conditions
(D) Require the same or similar monitoring, and
(E) In the opinion of the Department are more appropriately controlled under a general permit than under individual permits

Although some variation (e.g., discharge volume, carcass disposal methods, and receiving water) exists between aquaculture facilities across the state, DEC concluded that, as a group, aquaculture facilities meet the above conditions (i.e., A-E) and can reasonably be regulated using a general permit. In addition, a facility will not be authorized under the general permit if the Department finds upon review of the facility-specific Notice of Intent (NOI) that the facility does not met the terms of the general permit. The review of the facility-specific NOIs provide the Department the opportunity to determine on an individual

site-specific basis the appropriateness of using the statewide general permit to provide coverage in specific water body and operational conditions.

DEC disagrees that the general permitting process impedes meaningful public participation. DEC followed the approved public notice and comment procedures outlined in 18 AAC 83.120 that provide the public at least 30 days to review and provide input on the draft permit. DEC released the draft permit for a 38 day review period and held a public informational meeting and hearing during that time. This review period is a critical step in the overall permit development process because it allows the public, regulatory and resource agencies, and the regulated industry an opportunity to provide feedback on all aspects of the permit, including effluent limitations and monitoring requirements, which plays a large role in informing how DEC regulates the industry through the general permit. DEC will also solicit public comments on a draft authorization when a facility requests a new or modified ZOD in accordance with 18 AAC 83.120. Additionally, the public can gain access to facility-specific information, such as a facility's NOI, Carcass Disposal Plan, and monitoring results, through request made in accordance with the Freedom of Information Act (FOIA) at any time; however, responsibility and authority for technical and legal reviews of such documents for permit compliance purposes belongs with DEC and not with the public as indicated by one commenter.

DEC made no changes to the general permit or fact sheet in response to the comments.

3.2 Comment Summary

One commenter requested that DEC describe the method used to determine the permit applicability threshold of production of 20,000 pounds or more of aquatic animals.

Response

As defined in Appendix C to Title 40 Code of Federal Regulations (CFR) Part 122.24, CAAP facilities include hatcheries, fish farms, or other facilities that produce cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures that discharge at least 30 days per year but does not include facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year and facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding. Only those CAAP facilities meeting this regulatory definition or determined to be a significant contributor of pollution to waters of the U.S. are required to obtain to permit coverage under the general permit. DEC incorporated the federal definition and criteria for determining a CAAP facilities when developing the permit applicability thresholds.

DEC made no changes to the general permit or fact sheet in response to the comment.

3.3 Comment Summary

One commenter interpreted the general permit to exclude smaller facilities with production levels below the CAAP thresholds. Two commenters suggested that all facilities, regardless of production level, should be required to obtain permit coverage.

Response

As stated in comment 3.2 above, CAAP facilities that produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year do not meet the definition of a CAAP facility

and are not required to seek coverage under the general permit. In General Permit Part 1.1.4, DEC included a voluntary coverage option to provide coverage for those facilities with production levels below the permit applicability thresholds who wish to obtain coverage although they are not required to do so under the general permit. Further, DEC may customize general permit applicability criteria as the agency deems appropriate as long as the criteria is consistent with 18 AAC 83.205. Not every potential discharge meeting the definition of a "point source" under the Clean Water Act must be included in a general permit's scope.

DEC made no changes to the general permit or fact sheet in response to the comment.

3.4 Comment Summary

One commenter noted that the fact sheet fails to indicate whether there are any existing CAAP facilities that have operated in Alaska below the volume thresholds.

Response

DEC is not aware of any existing aquaculture facilities in operation that do not meet the regulatory definition of a CAAP facility. However, DEC may not have records for all facilities within a particular industrial sector.

DEC made no changes to the general permit or fact sheet in response to the comment.

3.5 Comment Summary

Several commenters requested that DEC expand the list of exclusions to include the following waters: waters bordering state and national parks, forests, game sanctuary, refuge, wildlife area, or critical habitat area; federally-designated Wild and Scenic Rivers, sensitive aquatic habitat; rare or at risk habitats; lagoons; seaweed harvest areas; shellfish spawning areas; Special Purpose Areas; areas of existing recreational use; areas with poor flushing; small waterways; within three nautical miles of the seaward boundary of a rookery; living substrates; and Orca Inlet.

Response

DEC maintains the general permit provides the necessary framework to protect all high quality waters covered by the permit. DEC also maintains that specifying an extensive list of excluded waters or prohibited discharges would create unnecessary confusion for permittees given the permit is structured to protect water quality in all waters.

DEC made no changes to the general permit or fact sheet in response to the comments.

3.6 Comment Summary

One commenter claimed that State-owned CAAP facilities should be treated differently than privately owned facilities because they are subject to statutory and policy considerations and requirements that do not apply to privately owned facilities. First, the Alaska Constitution imposes on State agencies, not private owners of CAAP facilities, a trust obligation to manage and preserve Alaska's natural resources carefully for present and future generations, which obligates State-owned facilities to accept the most stringent permit conditions that area feasible and protective of water quality. Second, the State has adopted very detailed precautionary principles and criteria in 5 AAC 39.222(c)(1)-(5) that must be considered when authorizing wastewater discharge from State-owned facilities. Third, DEC must promote

solid waste management practices per AS 43.06.021 and 18 AAC 60 for fish hatchery waste. Lastly, State-owned CAAP facilities are subject to the State public records in AS 40.25.110-12 and archives act in AS 40.21.010-150.

Response

DEC maintains that all aquaculture facilities regardless of ownership must be held to the highest standards that are achievable at all facilities to be protective of water quality to the maximum extent practicable. DEC further maintains that the general permit issued under the authority of AS 46.03.100(b)(2) and 18 AAC 83 requires permittees to adhere to rigorous permit conditions that are expected to adequately control discharges of pollutants, including solids (defined as a pollutant in 18 AAC 83.990(49)), from all aquaculture facility types and remain protective of receiving water quality across diverse geographic and ecological settings. In addition, DEC determined that discharges from aquaculture facilities predominately consists of solid wastes from fish food, feces, and carcasses, and specifically designed the general permit to promote water quality protection through conservative solid waste management practices. Permittees are responsible for identifying and adhering to any other state, federal, or local regulatory requirements (e.g., solid waste requirements) and obtaining the necessary permit and approvals. Finally, as mentioned in response 3.1 above, all documents generated by the permittee per the permit and submitted to the Department are available via a FOIA request. The Department follows the record retention policies for permitted wastewater discharges established by the State.

DEC made no changes to the general permit or fact sheet in response to the comment.

3.7 Comment Summary

Two commenters claimed that owners and operators of existing facilities with documented water quality problems should not be allowed to expand or install new net pen sites until the baseline receiving water characteristics are determined or the cause of the impairment is understood and rehabilitated.

Response

The APDES permitting program regulates the discharge of pollutants from any point source into waters of the U.S., and does not apply to industrial activities, such as expanding or siting of new net pen facilities, that do not directly results in a discharge to waters of the U.S. DEC will only issue authorizations that require compliance with permit conditions, which requires compliance with state water quality standards (WQS) that serve the specific purpose of protecting water quality.

DEC made no changes to the general permit or fact sheet in response to the comments.

3.8 Comment Summary

Two commenters suggested that DEC should require an individual permit for facilities requesting a ZOD or have a history of violating WQS.

Response

DEC disagrees that individual permits are warranted for facilities that merely request a ZOD or have experienced any non-compliance event or other water quality violation in the past. DEC recognizes that certain circumstances make non-compliance events or violations unavoidable and these facilities should not be automatically required to obtain individual permit coverage solely based on such circumstances.

Further, it is unclear how DEC would author an individual permit differently than the proposed general permit in this case; the permit provisions would likely be identical requiring compliance with State WQS. However, if DEC determines that a facility is not complying with the conditions of a general APDES permit or otherwise determines that a discharge can no longer be appropriately controlled under the general permit, DEC may terminate or revoke any dischargers coverage under a general permit and require the discharger to apply for and obtain an individual APDES permit in accordance with 18 AAC 83.215.

Additionally, regulations in 18 AAC 70.210 provide DEC the ability to issue or certify a permit that allows deposit of substances (i.e., ZODs) on the bottom of marine water within limits set by the Department. As stated in General Permit Part 6.3.3, DEC will solicit input from the public when a facility requests a ZOD via public notice of the draft authorization.

DEC made no changes to the general permit or fact sheet in response to the comments.

3.9 Comment Summary

One commenter claimed that DEC's 2003 *Listing Methodology for Determining Water Quality Impairments from Residues Guidance* (Guidance) prohibits residue deposits, or ZODs, in waters that are attaining Alaska's WQSs and doing so would undermine the Clean Water Act's goal of zero discharges. The commenter suggested that the general permit should add qualifying language clarifying that ZODs are subject to the legal requirements that prohibit ZODs in state water that already meet the WQS.

Response

The federal WQS regulation in 40 CFR 131.13 authorizes states to have policies, including variances and ZODs, in their WQS that generally affect the application and implementation of state WQS. Accordingly, the Alaska WQS include a provision in 18 AAC 70.210 that allows DEC to authorize a ZOD for residues in permits in order to maintain WQS that are ultimately attainable. A ZOD is an area permitted to temporarily exceed the residue standard in a limited area that does not significantly degrade the quality of the waterbody as a whole or the designated uses. Permitted ZODs should be able to recover after discharges cease through biodegradation and/or recolonization of any lingering residues on the marine bottom.

The WQS list several factors in 18 AAC 70.210(b), including potential adverse impacts to human health, aquatic life and other wildlife, other uses of the waterbody, duration of the deposition, and potential transport of pollutants, that DEC must consider when deciding whether to allow a ZOD. The regulation nor the Guidance indicate that the waterbody's current water quality status is a critical factor in deciding whether to allow a ZOD. DEC maintains that the general permit complies with the regulations in 18 AAC 70.210 that allow DEC to issue or certify a permit the includes a deposit of substances on the bottom of marine waters within limits set by the Department if WQS can be met at every point outside the ZOD.

DEC made no any changes to the general permit or fact sheet in response to the comment.

4 Comments on Permit Compliance History

4.1 Comment Summary

Two commenters suggested that Fact Sheet Section 2.1 should include an exhaustive permitting and compliance history or for each facility. One commenter suggested that DEC should release the historical compliance data for the facilities regulated under the previous state wastewater discharge general permit.

Response

Because aquaculture facilities have substantially similar types of operations and discharges and are regulated as one unique category of discharges, DEC finds it is unnecessary to include an exhaustive permitting and compliance history for each facility in the fact sheet because this section is aimed at describing the general function, operations, and current status of the aquaculture industry as a whole rather than the those at any one facility. Additionally, DEC believes incorporating this level of facility-specific information in the fact sheet would be impractical because the Department's records generally do not contain full compliance histories for each facility regulated by previous EPA or DEC permits.

DEC made no changes to the general permit or fact sheet in response to the comments.

5 Comments on Effluent Limits and Data

5.1 Comment Summary

Several commenters asserted that numeric limits, as opposed to best management practices, provide a greater degree of specificity and are more appropriate in the general permit for controlling discharges.

Response

The CWA and 40 CFR 122.2 define "effluent limitation" as "any restriction" imposed by the permitting authority on quantities, discharge rates, and concentrations of pollutants discharged into waters of the U.S. As such, DEC is not limited to a single type of restriction, but rather a range of restrictions that may be used to minimize discharges of pollutants. In developing the Effluent Limitation Guideline (ELG) for the CAAP point source category, EPA concluded that a combination of settling technology and feed management control practices will consistently result in low levels of solids released from CAAP facilities. Accordingly, EPA based the final ELG requirements on production and operational controls that include a rigorously implemented feed management program as opposed to establishing numeric limitations. DEC agrees with EPA's conclusions and approach to controlling discharges from CAAP facilities through narrative effluent limitations aimed at minimizing the release of solids.

However, as discussed in comment 5.3 below, the general permit requires permittees to collect water quality data throughout this permit cycle for use in conducting a RPA to ensure discharges do not violate applicable State WQS. If the RPA indicates that production and operational controls are not effectively controlling the release of pollutants from CAAP facilities to ensure compliance with State WQS, DEC will calculate water quality-based effluent limitations in future permit reissuances.

DEC made no changes to the general permit or fact sheet in response to the comments.

5.2 Comment Summary

Three commenters suggested that the same standards should apply to all facilities regardless of production level. One of those commenters suggested that the fact sheet might better explain what differentiates higher and lower volume CAAP facilities such that different limitations are appropriate.

Response

A CAAP facility's potential to adversely impact water quality corresponds to the production levels and risk of environmental degradation proportionally increases as more solids are generated at the facility. It is technically appropriate that permit requirements should be commensurate with the level of risk a facility or industry poses to water quality and developed permit conditions for large and small facilities relative to their anticipated level of risk to degrading water quality.

DEC clarified that higher and lower volume CAAP facilities pose different levels of risk to water quality in Fact Sheet Section 5.1

5.3 Comment Summary

One commenter suggested that DEC undertake a more thorough search for any available monitoring data for use in conducting a reasonable potential analysis (RPA).

Response

According to DEC's APDES RPA and Effluent Limits Development Guide (June 2014), a quantitative analysis of reasonable potential requires representative effluent data collected during the last five years of operation that allows the permit writer to evaluate minimums, maximums, seasonally grouped data, or other site-specific considerations. As discussed in Fact Sheet Section 5.1, DEC does not have access to the types of historical monitoring data needed to conduct a RPA nor would DEC be confident in the Quality Assurance/Quality Control of the data as the samples may or may not have collected and analyzed according to permit mandated 40 CFR 136 methods. DEC is not aware of any complete representative datasets from the aquaculture industry and believes that other available data would be insufficient or otherwise unsuitable for use in conducting a RPA.

In situations where insufficient data exists, the Guide allows DEC to include a requirement in permits for dischargers to collect additional data throughout a permit cycle to produce a robust dataset for use in conducting a RPA. DEC maintains that this approach is appropriate for use in the general permit and that more recent data collection efforts will result in a more accurate and reliable RPA.

DEC made no any changes to the general permit or fact sheet in response to the comment.

5.4 Comment Summary

Several commenters inquired about DEC's lack of historical monitoring and compliance data considering the previous state waste water discharge general permit required submittal of monitoring data and questioned DEC approach to collecting monitoring data throughout this permit term in order to perform a RPA.

Response

DEC's Wastewater General Permit for discharges from fish hatcheries (permit no. 9640-DB005) was issued in 1998 and expired in 2003. The Department's decision not to reissue the permit is not well

documented in agency records; however, current DEC staff assume that the Department chose to focus its efforts on developing permits for other types of discharges that have a greater potential for adversely impacting water quality and these other higher priority permits took precedent over reissuing the general permit for hatcheries.

Recent consultation with aquaculture associations and hatchery operators suggests that while most facilities continued to follow the 1998 permit's operational practices, many did not maintain or submit consistent monitoring records or other documentation demonstrating compliance with the permit. It is reasonable to assume that in the 15 years since the permit expired, facilities have experienced changes, such as personnel turnover or file archiving practices that lead to misplaced or lost documentation.

Similarly, DEC does not appear to have complete records for each facility and concluded that the available data previously submitted by permittees is unrepresentative, incomplete, outdated, or otherwise unsuitable for conducting a meaningful RPA. As stated in comment 5.3 above, DEC asserts that collecting new data throughout the permitting cycle is appropriate in-lieu of using questionable, incomplete and potentially flawed data.

DEC made no changes to the general permit or fact sheet in response to the comments.

5.5 Comment Summary

One commenter suggested that General Permit Part 6.1.1 include a mandatory stepwise reduction of polychlorinated biphenyls (PCBs) with numeric targets. Another commenter suggested the DEC should include reduction activities for mercury, arsenic, and other metals, in addition to the required reduction activities for PCBs, to avoid or minimize bioaccumulation in ecologically valuable pelagic and benthic communities.

Response

DEC has not historically required permittees to report the contents of fish food used at their facilities and does not have accurate data from permittees or food suppliers. As such, the general permit requires permittees to submit this information each year in the facility's Annual Report. Requiring a mandatory reduction of PCBs with numeric targets in the proposed general permit is premature considering the lack of reliable data. After reviewing the data submitted throughout the permit cycle, DEC will determine if more stringent requirements are necessary to reduce the discharge of PCBs or other contaminants. In the interim, the permit still requires that PCB content in feed be minimized.

DEC made no changes to the general permit or fact sheet in response to the comments.

5.6 Comment Summary

One commenter suggested that the general permit identify specific strategies, including feed formulation, scientific estimation of feed requirements prediction models, feeding practices, and biological approaches to waste output estimation, that may be used to determined efficient feed management and feeding strategies in General Permit Parts 2.1.1.1, 2.3.1, and 2.4.1.

Response

The APDES permitting program is charged with developing permits that establish effluent limitations aimed at minimizing the release of pollutants to waters of the U.S., and monitoring requirements to ensure

that those limitations are consistently being met. Permittees are required to demonstrate compliance with the effluent limitations and other permit provisions using the means and methods they deem appropriate for use at their facility. DEC maintains that the permittee bears the ultimately responsibility for identifying specific strategies that enable them to meet the permit conditions as the APDES program is a performance-based program.

DEC made no changes to the general permit or fact sheet in response to the comment.

5.7 Comment Summary

Several commenters suggested that the general permit should include more limitations for net pen facilities.

Response

As stated in comment 5.2 above, DEC used a risk-based approach in developing permit provisions for large and small facilities. Given that net pens are generally located in energetically dynamic waters capable of flushing solids and are solely used to hold fish for relatively short spans of time (i.e., 2-4 months) prior to their release, DEC has determined that net pens generally pose a lower risk to water quality. If evidence collected during the permit cycle indicates that net pens as a whole or certain net pen operations pose a higher risk to water quality than expected, DEC will revise the effluent limitations and monitoring requirements in future permit reissuances for all net pens or select net pens that meet certain criteria.

DEC made no changes to the general permit or fact sheet in response to the comments.

5.8 Comment Summary

One commenter suggested that the general permit should incorporate solid waste management practices in AS 43.06.021, which specifies a prioritized list of management practices required by the Department including (1) waste source reduction, (2) recycling of waste, (3) waste treatment, and (4) waste disposal, because fish food and carcasses meet the statutory definition of solid waste.

Response

An overarching purpose of the APDES permitting program is to reduce the generation and release of pollutants, including pollutants in a solid form, from point sources into waters of the U.S. This fundamental goal drives development of APDES permits that require permittees to reduce, reuse, treat, or discharge wastewater in the most efficient and practicable methods achievable. DEC maintains that the emphasis of the general permit is on reducing the generation and release of solid wastes discharged as point sources and incorporates numerous requirements in the form of operational and control practices aimed at minimizing the discharge of solids from all facility types.

DEC made no changes to the general permit or fact sheet in response to the comment.

5.9 Comment Summary

Two commenters suggested that DEC use more specific language when discussing spills in General Permit Part 2.1.3 and require permittees to properly store fuel and hazardous materials and develop a Spill Response Plan describing implementation procedures, response equipment, and reporting protocol for

spills of hazardous substances or sewage. One commenter suggested the DEC require permittees to analyze the reasons a spill occurred and demonstrate corrective measures.

Response

DEC's Division of Spill Prevention and Response is charged with preventing spills of oil and hazardous substances, preparing for when a spill occurs, and responding to spills to protect human health and the environment. The regulations in 18 AAC 75 outline permittee responsibilities in relation to spill response planning, response, and reporting. Permittees are responsible for determining which requirements apply to their facilities and adhering to the applicable requirements in 18 AAC 75.

DEC made no changes to the general permit or fact sheet in response to the comments.

5.10 Comment Summary

One commenter requested that DEC revise the Limitations section to include cross-references to each ELG requirement with the applicable 40 CFR 451 and 18 AAC 83 references.

Response

The ELG requirements listed in 40 CFR 451 apply to larger CAAP facilities that produce, hold, or contain 100,000 pounds or more of aquatic animals per year. Smaller CAAP facilities producing fewer than 100,000 pounds of aquatic animals per year are not subject to the ELG requirements; however, they are required to obtain APDES permit coverage. As such, the general permit provides coverage for smaller flow through, recirculating, and net pen facilities and includes appropriate control measures and limitations based on best professional judgement that may not directly correspond to an ELG requirement.

DEC made no changes to the general permit or fact sheet in response to the comment.

6 Comments on Monitoring Requirements

6.1 Comment Summary

Numerous commenters claimed that the monitoring and reporting requirements create unnecessary cost and burden for the industry and requested that the permit minimize the monitoring and reporting requirements where possible to keep operational costs low.

Response

As discussed in comment 5.3 above, a quantitative analysis of reasonable potential requires representative effluent data collected during the five years of operation for the future permit writer to evaluate minimums, maximums, seasonally grouped data, and other considerations. DEC has determined that the general permit requires the necessary level of monitoring and reporting needed to create a robust dataset for pollutants of concern for use in conducting a RPA to more fully evaluate whether discharges are in compliance with State WQS.

DEC made no changes to the general permit or fact sheet in response to the comments.

6.2 Comment Summary

Several commenters claimed that the monitoring and reporting requirements should be increased for receiving waters, flow through facilities, net pen facilities, and ZODs. One commenter suggested that

DEC require benthic infaunal analysis sampling to evaluate the effects of disinfection on receiving waters. Another commenter suggested that the monitoring frequency should be increased for the first few years of operations with the option of allowing permittees to apply for a reduction in the frequency thereafter.

Response

As stated the above comments, DEC maintains that the general permit requires the necessary level of monitoring and reporting needed to create a robust dataset for use in conducting a future RPA and is commensurate with the level of risk from the proposed discharges. DEC will revise the effluent limitations and monitoring requirements in future permit reissuances as needed to ensure compliance with WQS.

DEC made no changes to the general permit or fact sheet in response to the comments.

6.3 Comment Summary

One commenter requested clarification in General Permit Part 3.2.2 about where to collect the disinfection wastewater samples.

Response

Footnote B in Table 4 directs permittees to collect samples prior to mixing with receiving waters or any other flows. Within the context of Footnote B in Table 4, permittees are responsible for determining the most appropriate sampling location(s) given the configuration of the facility and safe access to sampling locations.

DEC made no changes to the general permit or fact sheet in response to the comment.

6.4 Comment Summary

One commenter suggested that DEC require additional monitoring in General Permit Part 3.3.2.3 if fungal mats extend beyond 150 feet to determine its full extent and to evaluate the length of time needed to return to original conditions.

Response

General Permit Part 3.3.2.3 is intended to require permittees to document the presence or absence of benthic bacterial or fungal mats and to estimate the relative size of the mats, not to limit monitoring to 150 feet of the perimeter of the net pen nor evaluate the length of time needed to return to original conditions. The general permit requires visual observations of the seafloor, which will document the actual length of time any generated mat takes to attenuate. Further, DEC has the ability to take enforcement action and require remediation planning and action should a facility be out of compliance with its permit.

DEC removed the reference to 150 feet from the perimeter of net pens and revised it to “Provide an estimate of the percent coverage of these mats beneath the net pens *and any mats extending outward*.”

6.5 Comment Summary

One commenter suggested that DEC stipulate that all visual benthic assessments must be conducted by those with expertise in aquatic biology of the benthos.

Response

The general permit requires permittees to visually assess the benthos and describe the sediment type and color, presence of feed or other debris, and the presence of benthic or fungal mats, but does not require permittees to interpret the potential impacts to aquatic biology. DEC also does not have a legal requirement to mandate that a person with certain qualifications conduct the assessments; however, DEC can require additional assessments and reporting should the submitted results be found to be incomplete or in error.

DEC made no changes to the general permit or fact sheet in response to the comment.

6.6 Comment Summary

One commenter reported that the chlorine reporting level of 0.1 mg/L in Table 4 is not the lowest reliable reporting level and that other analytical methods with a 0.05 mg/L detection limit are available. However, the commenter did not identify the alternative method or provide additional information about the method.

Response

APDES Permit Standard Conditions Section 1.11.4 requires the use of test procedures approved under 40 CFR 136, adopted by reference at 18 AAC 83.010, for pollutants with approved test procedures. DEC maintains that the chlorine reporting level of 0.1 mg/L complies with the approved method found in regulation.

DEC made no changes to the general permit or fact sheet in response to the comment.

6.7 Comment Summary

One commenter claimed that the text in Fact Sheet Section 6.4.2 and Table 3 are inconsistent. Fact Sheet Section 6.4.2 states “samples must be collected at different times of the year and from different locations within the receiving waterbody each year” while Table 3 specifies sample frequency as “1/year”. The commenter also questioned the value of annual sampling of a receiving water for pH, temperature, and salinity when the sample is taken “at a location that is outside the influence of the facility’s discharge”. They suggested monthly sampling taken on the same days as the influent and effluent monitoring.

Response

DEC’s intention in requiring samples to be collected at different times and locations throughout the year is to identify seasonal fluctuations in the amount of ammonia present in the water during different times of year. As briefly discussed in Fact Sheet Section 6.4.2, the proportion of ammonium (NH_4^+) and the more toxic ammonia (NH_3) present in water are dependent on pH and water temperature in freshwater and pH, water temperature, and salinity in saltwater. If deemed necessary based on the RPA, DEC plans to use the methods described in the *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances* to calculate acute and chronic ammonia criteria for freshwater and marine waters during the next permit cycle and will believes the results from five sampling events will provide the necessary additional receiving water monitoring results to perform the calculations.

DEC expects permittees to collect samples during different seasons and from different locations outside the influence of the facility’s discharge. For example, during the first year of the permit cycle the sampling event would occur during the summer and at a point 500 feet from the outfall while the

sampling event during the second year would occur during the fall at a point 750 feet from the outfall, and so on.

DEC added a footnote to Table 3 clarifying how sampling events are expected to occur.

7 Comments on Net Pens

7.1 Comment Summary

One commenter suggested that DEC should consider the physical barriers and limitations some permittees may experience when attempting to conduct visual benthic assessments below net pens.

Response

DEC agrees with the comment and maintains that permittees are responsible for determining safe and effective methods for conducting visual assessments and demonstrating compliance with the monitoring requirement. Because the general permit does not dictate specific methods or procedures, DEC maintains that the general permit provides flexibility in how permittees conduct visual assessments as long as the content required in General Permit Part 3.3.2 is collected and timely reported to the Department.

DEC made no changes to the general permit or fact sheet in response to the comment.

7.2 Comment Summary

One commenter expressed concern that the effluent from net pen operations will result in negative impacts to the aquatic biology, natural substrate, aquatic vegetation, and water quality in Tutka Bay and Lagoon. The commenter suggested that DEC include several additional requirements for siting of net pens in General Permit Part 2.3.9.1 and Part 2.4.4.1, including good water exchange through all tidal fluctuations or currents dependent on topographical size, type, presence of sills or underwater blockages of flow, living substrate, and ecologically viable species. Several other commenters suggested that DEC require permittees to conduct baseline studies of benthic and pelagic communities before approving new net pen sites and/or require permittees to take underwater photographs of the subsurface immediately underneath, nearby the net pens before and after they are anchored in place, and of the water surface.

Response

A central purpose of the APDES permitting program is to ensure that receiving waters maintain achievement of WQS. APDES permits contain limitations on the types of pollutants or substances that can be discharged, monitoring and reporting requirements, and other provisions to ensure that discharges do not adversely impact water quality through exposure to effluent. The APDES program is not legally structured or technically equipped to approve the location of net pens, which does not involve the direct discharge of wastewater, but rather to ensure the effluent does not harm water quality. DEC will evaluate the current conditions and potential water quality impacts from each facility's net pen and assign special provisions, if necessary, to minimize impacts to water quality in each facility's written authorization.

As previously stated, DEC applied a risk-based approach in developing the effluent limitations and monitoring requirements for all aquaculture facilities. The Department maintains the proposed general permit requires the necessary level of monitoring and reporting needed to create a robust dataset and conduct a RPA. If the RPA or other evidence collected during the permit cycle indicates net pens are

causing WQS concerns, DEC will revise the effluent limitations and monitoring requirements as needed to ensure compliance with WQS.

DEC made no changes to the general permit or fact sheet in response to the comment.

7.3 Comment Summary

Two commenters inquired about the definition of "concentrated bottom settling" in General Permit Part 2.3.6.3.

Response

DEC is not aware of a regulatory definition of "concentrated bottom settling" used in General Permit Part 2.3.6.3 and 2.4.3. DEC's intention in using the terminology is to establish net cleaning practices that disperse solids to an extent that minimizes bottom settling to the extent practicable.

DEC revised the general permit and fact sheet to clarify that cleaning practices should be used that minimize bottom settling to the extent practicable.

7.4 Comment Summary

One commenter asked DEC to quantify in Permit Part 2.3.9.1 what constitutes an "adequate current velocity relative to depth from the bottom of the net pens to the sea floor" when considering appropriateness of new net pen sites. The commenter indicated that more data on the benthos and broader food web are needed before approval of new net pen sites.

Response

DEC asserts that adequate current velocity relative to depth from the bottom of the net pens varies between sites and cannot be quantified for all net pen sites, but the provision indicates siting should be in areas capable of flushing and that minimize pollutant build-up. DEC will evaluate the current velocity, tidal fluctuations, and other relevant factors at each facility's net pen sites and assign special provisions, if necessary, to minimize impacts to water quality in each facility's written authorization.

DEC made no changes to the general permit or fact sheet in response to the comment.

8 Comments on Reporting and Recordkeeping Requirements

8.1 Comment Summary

One commenter suggested that DEC allow aquaculture facilities to submit the annual reports they provide to the ADF&G for the purpose of supplementing DEC's annual report.

Response

DEC agrees with the comment and maintains that permittees may submit additional supplemental data or information as necessary to demonstrate compliance with the permit's recordkeeping provisions.

DEC made no changes to the general permit or fact sheet in response to the comment.

8.2 Comment Summary

One commenter suggested that DEC post all Annual Reports on its website for public review.

Response

DEC does not post each facility's Annual Report for public review on their website due to the sheer volume of submittals provided for the entirety of the APDES permitting program. However, DEC will provide facility-specific information in accordance with requests made in compliance with FOIA procedures.

DEC made no changes to the general permit or fact sheet in response to the comment.

8.3 Comment Summary

One commenter suggested that DEC should require permittees to document "every step" taken to comply with the permit, every violation, and their response to violations.

Response

The APDES permitting program is a self-monitoring and reporting program and relies on permittees to perform sampling and analysis to demonstrate compliance with permit provisions. DEC asserts that permittees are not responsible for documenting each activity that is taken in an effort to comply with permit provisions, but only those required to demonstrative compliance with a specific permit condition.

DEC made no changes to the general permit or fact sheet in response to the comment.

8.4 Comment Summary

One commenter suggested that DEC should require a detailed map of all facility outfalls and precise GPS locations of each net pen and make an electronic GIS map of all permitted discharges available to the public.

Response

The NOI is designed to provide DEC with the information necessary to fully describe the facility's operations, source and receiving waters, wastewater discharge, and chemical usage and to analyze the facility's potential impact on water quality to determine permit eligibility. Section VIII of the NOI requires permittees to provide a variety of information about the facility's outfalls such as the number of outfalls, depth, latitude, longitude, frequency, duration, and volume of discharge, and other waste streams. Section XI of the NOI, which describes the additional information permittees are required to attached to the NOI, requires permittees to submit a site map showing the exact location (latitude and longitude) of all facilities associated with the hatchery and net pens which can include a topographic map and/or aerial photograph showing the general location of the facility, expected flow direction of the discharge, and the discharge area. DEC has not historically made a comprehensive GIS map showing the locations of all aquaculture facilities publicly available; however, DEC will evaluate available staff resource and provide a GIS map, if feasible.

DEC made no changes to the general permit or fact sheet in response to the comment.

8.5 Comment summary

One commenter requested clarification on what constitutes a reportable spill.

Response

APDES Standard Conditions Part 3.4.1 states that permittees shall report any noncompliance event that *may endanger health or the environment* orally within 24 hours after the permittee becomes aware of the circumstances and in writing within five days after the permittee becomes aware of the circumstances. DEC maintains that permittees are responsible for evaluating the potential threat to health or the environment when deciding when to report a spill to DEC.

DEC made no changes to the general permit or fact sheet in response to the comment.

9 Comments on Carcass Disposal

9.1 Comment Summary

One commenter claimed that the general permit does not require adequate controls for the disposal of fish carcasses and other solid wastes.

Response

The commenter failed to identify any specific permit provisions that may be insufficient or that call into question a technical or legal error. DEC maintains that the general permit complies with applicable federal and State legal requirements, is technically accurate, and provides adequate control for discharges associated with aquaculture facilities.

DEC made no changes to the general permit of fact sheet in response to the comment.

9.2 Comment Summary

Two commenters suggested that DEC should require permittees to submit a Dead Egg Disposal Plan that describes how the facility will dispose of eggs, fry, adults, and roe stripped carcasses with the Carcass Disposal Plan. The commenters assumed that the mortality rate for eggs may be as high as 50 percent and, depending on the amount of eggs taken, could equate to sizeable discharges of dead eggs that had been treated with antifungals and formalin. One commenter inquired about the release of this biomass that contains antifungals and the potential effect it could have on ecologically valuable species and sensitive habitats.

Response

DEC assumes that proper use and application of chemicals will prevent or minimize any deleterious effects on aquatic species and habitats. Accordingly, DEC incorporated requirements in General Permit Part 5.2.1 that authorize permittees to only use disease control chemicals and drugs approved by the Food and Drug Administration and EPA for use in aquaculture applications and in Part 5.2.2 that requires all drugs, pesticides, and other chemicals to be applied in accordance with label instructions or under the order of a licensed veterinarian.

While the Carcass Disposal Plan requires permittees to describe how the facility will dispose of mortality and broodstock carcasses, which includes fry, adults, and roe-stripped carcasses, DEC agrees that the discharge of eggs may be a significant portion of a facility's discharge and facilities should disclose how and where they plan to discharge non-viable eggs. DEC has incorporated egg disposal informational requirements into the Carcass Disposal Plan in-lieu of creating an additional Dead Egg Disposal Plan.

While DEC does not currently have information that egg disposals are causing deleterious effects, this informational gathering effort should provide the Department additional information when conducting future decision making on the disposal of unutilized eggs.

DEC defined "mortality" to include non-viable eggs, fry, smolt or other carcasses that perish during incubation or growing cycles and replaced the term "mortality carcass" with "mortalities" throughout the general permit and fact sheet. DEC also changed "broodstock carcasses" to "ground waste" in General Permit Part 4.3.2 and expects permittees to maintain daily logs of discharges of all whole and ground wastes.

9.3 Comment Summary

One commenter claimed that permittees must be responsible for the entire biomass of fish generated at the facility and returning to their facilities by removing or processing of all excess aquatic animals that have not been harvested for food, cost recovery, broodstock, egg stripping, or sustainable escapement to ensure they do not enter the fresh water river systems used by wild stocks. The commenter claimed that the discharge of mortality carcasses or returning fish is a negligent wanton waste violation and violates the antidegradation regulations.

Response

General Permit Part 2.4.2 requires permittees to remove and dispose of aquatic animals that perish in the facility during the incubation or growing periods prior to being released. DEC fails to see how the discharge of mortality carcasses is a wanton waste as described in AS 16.30.101; however, a determination of compliance with that statute is more appropriately an ADF&G determination and DEC ultimately defers to ADF&G on the subject matter. An assessment of compliance with AS 16.30.101 is beyond the scope of this APDES permitting action, which is derived from the powers provided to DEC in AS 46.03.

Fish returning to the hatchery from the open ocean in the years after their release are not point source discharges regulated under the CWA or the APDES permitting program. Point sources as defined in 40 CFR 122.2 (adopted by reference in 18 AAC 83) include any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are discharged. DEC does not consider the ocean as a whole to meet the aforementioned regulatory definition of a point source that would be regulated under the APDES permitting program including being subject to antidegradation or other WQS provisions.

DEC made no changes to the general permit or fact sheet in response to the comment.

9.4 Comment Summary

One commenter suggested that DEC accept ADF&G requirements that carcasses be returned to the waterway in which they were taken.

Response

As stated in General Permit Part 1.5.4, permittees are required to describe in their Carcass Disposal Plan how the facility will dispose of mortalities and broodstock carcasses and the proposed discharge location.

DEC will consider the facility-specific factors, including input from ADF&G, when deciding to approve disposal locations.

DEC made no changes to the general permit or fact sheet in response to the comment.

9.5 Comment Summary

One commenter expressed concerned about carcass disposal during the cost recovery fisheries and also when low-value salmon are caught and discarded after roe stripping. Because cost recovery fisheries are associated with particular hatcheries, they believed that best management practices or guidance should be made part of the general permit to ensure that activities associated with hatcheries do not cause water quality problems in waters near the hatcheries.

Response

DEC assumes that most aquaculture facilities perform roe stripping as part of cost recovery activities or to acquire reproductive materials for breeding purposes. Accordingly, the general permit includes requirements permittees must follow when discharging whole or ground carcasses to marine and fresh water. Additionally, General Permit Part 4.3.1 also requires permittees to grind all solids wastes greater than 0.5 inches in size if they perform activities that convert aquatic animals from a raw to marketable form, including but not limited to roe removal for sale and/or sale of whole, partial, or packaged aquatic animals. DEC does not typically include facility-specific requirements or guidance in a general permit to avoid confusion, but rather stipulates special provisions, if necessary, to minimize impacts to water quality in each facility's written permit authorization.

DEC made no changes to the general permit or fact sheet in response to the comment.

10 Comments on Operations and Maintenance

10.1 Comment Summary

One commenter suggested DEC add fungicides to the requirement in General Permit Part 5.2.2 that the disease control chemicals be applied in accordance with label directions or under the order of a licensed veterinarian.

Response

General Permit Part 5.2.2 requires that all drugs, pesticides, and "other chemicals" be applied in accordance with label directions or under the order of a licensed veterinarian. DEC asserts that the term "other chemicals" is all inclusive and applies to fungicides.

DEC made no changes to the general permit or fact sheet in response to the comment.

10.2 Comment Summary

One commenter suggested the DEC limit the use of licensed veterinarians to those not associated with the aquaculture industry.

Response

DEC disagrees that certain licensed veterinarians should be excluded from practicing within the aquaculture industry and asserts that any veterinarian licensed by the State of Alaska meets the intent of the general permit.

DEC made no changes to the general permit or fact sheet in response to the comment.

11 Comments on Antibacksliding Regulation

11.1 Comment Summary

Several commenters claimed that the draft general permit violates the Clean Water Act's Antibacksliding provision and 18 AAC 83.480 by not including numeric limitations for total suspended solids or settleable solids at least as stringent as those in the previous state wastewater general permit for hatcheries.

Response

As stated in Fact Sheet Section 8.0, DEC concluded that an Antibacksliding analysis is not required as this is the first issuance of the APDES general permit under the authority of the CWA. To the extent that DEC is aware based on an internal records search and review of internal DEC and EPA wastewater permits tracking databases, this permitting effort marks the first CWA permit issued to any of the entities for the discharge of hatchery wastes. Antibacksliding is a CWA construct found in CWA Section 402(o) and further expanded on in 40 CFR 122.22 and 122.44 and detailed in 18 AAC 83.480. Given no previous CWA authority permits were issued to these facilities, antibacksliding provisions would not legally appropriately be applied in this permitting effort.

A commenter also references specific antibacksliding language included in the APDES Program Description, which is a document that was generated as a requirement of the State's application package to EPA to receive authority to administrator the NPDES Program in Alaska. Per the commenter, the referenced language indicates that DEC will apply antibacksliding provisions in permits either issued by EPA or DEC. Section 6.1 of the Program Description is instructive in this regard as the language plainly indicates that antibacksliding provisions shall be applied to CWA derived permits. Section 6.1 includes, "In accordance with 18 AAC 83.480, upon reissuance of an EPA-issued NPDES permit as a state-issued APDES permit, the Department will include effluent limits, standards, conditions at least as stringent as in the previous permit." This approach makes logical sense in that permits derived in compliance with CWA provisions are subject to antibacksliding, but that wastewater permits previously issued that did not incorporate CWA considerations for whatever reason (e.g., EPA never acted on a permit application, but the state issued a permit to comply with state statutes and regulations such as the case with the previously state-issued general permit) should be not held to a standard that was not a consideration in the previous permitting regime. Nevertheless, while the proposed permit does not carry forward numerical limitations included in a historical general permit solely issued under state legal authorities, the proposed permit does require that robust and representative data be collected for future RPA purposes at permit reissuance. This data will also be more complete and representative of current operations and associated discharges as well as collected according to CWA mandated protocols for high quality data.

DEC made no changes to the general permit or fact sheet in response to the comments.

12 Comments on Antidegradation Analysis

12.1 Comment Summary

Several commenters claimed that the Antidegradation Analysis is insufficient because it is based on generalizations about the aquaculture industry as opposed to discharges from specific facilities and it considers hatchery fish and wild fish equally.

Response

In developing the general permit and the Antidegradation Analysis in the fact sheet, DEC evaluated point source discharges from the aquaculture industry as a whole and incorporated minimum requirements that can be reasonably expected to control the discharge of pollutants from flow through, recirculating, and net pen facilities to waters of the U.S. authorized by the permit. DEC assumed that the control measures are stringent enough to conclude there would be no lowering of water quality as long as permittees comply with permit conditions or that localized lowering of water quality would be temporary and limited due to natural attenuation and dispersion.

DEC asserts it is appropriate to apply this approach to the Antidegradation Analysis as outlined in the *Interim Antidegradation Implementation Methods*, dated July 14, 2010, when evaluating whether the level of water quality necessary to support existing uses would be maintained and protected. DEC will evaluate potential water quality impacts from each facility after reviewing the facility's NOI, Carcass Disposal Plan, and any other relevant information and require the facility to seek individual permit coverage if they are found to be ineligible for permit coverage.

With respect to considering wild and aquaculture stocks equally, the State's WQS do not distinguish between wild or aquaculture stocks. As such, the Department is charged with maintaining and protecting water quality equally for the growth and propagation of either stock.

DEC made no changes to the Antidegradation Analysis in response to the comments.

12.2 Comment Summary

Two commenters disagreed with DEC's assumption that a "Tier 2" analysis was appropriate and one commenter questioned where the analysis was conducted. One commenter suggested that DEC conduct a "Tier 3" analysis because many of the receiving waters qualify as Tier 3 waters and should be protected from any diminution of their water quality.

Response

As described in Fact Sheet Section 9.0, DEC's Antidegradation Policy and *Interim Antidegradation Implementation Methods*, dated July 14, 2010, affords water bodies one of three levels, or tiers, of protection depending on the designated uses of the water body and its existing water quality. The lowest level of protection, or Tier 1, applies to water bodies whose existing quality is no better than water quality criteria for the designated uses of growth and propagation of fish, shellfish, or other aquatic life and wildlife and contact recreation in 18 AAC 70.020, referred to as the "fishable/swimmable uses". The next level of protection, or Tier 2, applies to water bodies who quality is better than the criteria applicable to the "fishable/swimmable uses". The highest level of protection, or Tier 3, applies to waters designed as outstanding natural resource waters.

The first step in conducting an Antidegradation Analysis in a general permit is determining which tier of protection applies to the category of dischargers. As stated in Fact Sheet Section 9.0, no water bodies have been designated as Tier 3 waters in Alaska. Absent any designated Tier 3 waters, DEC conservatively assumed that the majority of waters within Alaska warrant the second highest level of protection and qualify as Tier 2 waters. The corresponding analysis follows the procedures outlined in DEC's *Interim Antidegradation Implementation Methods*, dated July 14, 2010, for conducting a Tier 2 analysis. DEC maintains that the decision to conduct a Tier 2 analysis remains valid.

DEC made no changes to the Antidegradation Analysis in response to the comments.

12.3 Comment Summary

Two commenters disagreed with Finding A because the analysis makes broad scale assumptions about the operations used within the aquaculture industry and fails to quantify how localized water quality impacts from hatcheries negatively impact indigenous aquatic species, such as crab or shellfish, or the ecological disruption caused by the release of hatchery fish. One commenter suggested that the analysis should have 1) used regional or finer scale economic figures because the proportion of hatchery fish contribution varies greatly from region to region, 2) fully account for the impacts of the released hatchery salmon, and 3) examine peer-reviewed literature in order to conduct a comprehensive analysis of actual economic costs and benefits of particular salmon hatcheries.

Response

DEC develops the Antidegradation Analysis for general permits based on a wide variety of information, including peer-reviewed literature about the aquaculture and commercial fishing industries in Alaska, their potential to effect water quality, and the economic and social impacts of these industries in the entirety of the waters authorized by the permit. DEC views analysis of the full range of potential impacts of hatchery produced salmon on indigenous aquatic species to be outside the scope of the APDES permitting program as many of the potential effects are not directly related to the impacts of discharges to water quality.

DEC maintains that the analysis relied on the best available data and the conclusion that the activities authorized under the general permit are necessary and important for economic development within the state remains valid. DEC will assess site-specific characteristics to determine the appropriateness of general permit coverage or if an individual permit is necessary.

DEC made no changes to the general permit or fact sheet in response to the comments.

12.4 Comment Summary

Two commenters disagreed with Finding C because DEC claims that it has little to no evidence of adverse effects from hatcheries on the receiving waters while also claiming a lack of historical monitoring data.

Response

As discussed in comments above, DEC based the Antidegradation Analysis on the assumptions that most receiving waters have exceptional water quality and that the aquaculture industry collectively has limited potential for adversely impacting water quality. DEC's intention in this discussion was to demonstrate a lack of qualitative or quantitative evidence indicating that discharges from aquaculture facilities have

caused large scale or widespread harm to water quality nor altered existing uses of any waters despite continually discharging for several decades. As more water quality monitoring data is generated through the permit cycle, DEC will be able to further refine the evaluation of cumulative effects on water quality from the aquaculture industry as well as localized effect from individual facilities.

DEC revised the fact sheet to clarify that DEC is not aware of any "qualitative or quantitative evidence" of adverse effects on the uses of receiving waters as a whole.

12.5 Comment Summary

Two commenters disagreed with Finding D because it is based on incomplete analysis of the relative pros and cons of hatcheries and appears to disregard the historical compliance data DEC should presumably have on hand from the state permit, facility inspections, and other information on these facilities and receiving waters.

Response

As previously discussed, DEC reviewed the available data from hatcheries and found the data to be unrepresentative, incomplete, outdated, or otherwise not appropriate for conducting a RPA or determining specific numeric water quality-based effluent limitations. The purpose of conducting an antidegradation analysis is to evaluate a discharge's or discharges' potential for causing degradation to water quality rather than contrasting the relative pros and cons of hatcheries. DEC's APDES program is tasked with ensuring that discharges do not harm overall water quality and is not tasked with evaluating the pros and cons of a particular industry.

DEC made no changes to the general permit or fact sheet in response to the comments.

12.6 Comment Summary

One commenter noted that Finding E does not discuss the solid waste management priorities in AS 46.06.021. The commenter suggested that the topic should be approached on a site-specific and facility-specific basis.

Response

DEC maintains that the emphasis of the general permit is on reducing the generation and release of solid wastes from a CWA pollutant point source perspective and incorporates numerous requirements in the form of operational and control practices aimed at minimizing the discharge of solids from all regulated facility types into waters of the U.S. subject CWA Section 402 permitting. DEC agrees with the suggestion made by the commenter regarding site-specific assessment and will conduct individual assessments of all viable alternatives to discharges of solid wastes from each facility during the NOI and authorization process.

DEC made no changes to the general permit or fact sheet in response to the comment.

13 Comments on Ocean Discharge Criteria

13.1 Comment Summary

One commenter asserted that the general permit appears to violate EPA's Ocean Discharge Criteria in 40 CFR 125, Subpart M, because it fails to analyze unreasonable degradation of the marine environment.

The commenter suggested that the general permit adopt the format of the *Alaska Ship and Drydock, LLC* APDES permit as it pertains to the ocean discharge.

Response

Given that the general permit requires compliance with Alaska WQS, unreasonable degradation to the marine environment is not expected per 40 CFR 125.122(b) and further analysis under 40 CFR 125 is not required for the permitting action. In addition, the commenter appears to be referencing the existing version of the *Alaska Ship and Drydock, LLC* APDES permit; however, the existing individual permit is currently being reissued (was public noticed through January 5, 2018) and includes an approach for Ocean Discharge Criteria identical to the proposed general permit.

DEC made no changes to the general permit or fact sheet in response to the comment.

14 Comments on Essential Fish Habitat

14.1 Comment Summary

The NMFS requested that DEC list the following essential fish habitat (EFH) areas and web link, which would enhance the permit with regard to EFH information:

- Bering Sea and Aleutian Island Groundfish
- Gulf of Alaska Groundfish
- Bering Sea and Aleutian Island King and Tanner Crabs
- Alaska Scallops
- Alaska Stocks of Pacific Salmon
- https://www.habitat.noaa.gov/protection/efh/newInv/index.html.

Response

DEC revised the fact sheet as requested.

15 Comment on the Notice of Intent

One commenter suggested that DEC should add several additional questions to the NOI pertaining to the facilities proximity to herring and shellfish spawning areas and roe stripping practices.

Response

DEC will evaluate discharges to potentially sensitive habitats on a case-by-case basis after reviewing the site-specific characteristics at each discharge location.

DEC assumes the commenter is referring to roe stripping practices that are considered to be seafood processing activities (i.e., converts carcasses from a raw to marketable form, etc.) and is recommending that the NOI require permittees to better describe their seafood processing activities. DEC agrees that the NOI should require permittees to disclose if they are performing seafood processing activities, the anticipated discharge weight, and the outfall location.

DEC added several questions to the NOI to identify which facilities are performing seafood processing activities (i.e., converting aquatic animals from a raw to marketable form), the expected discharge weight, and outfall location.

16 Comments Not Directly Related to the Applicable Regulations

16.1 Comment Summary

One commenter suggested that DEC should add several appendices and definitions similar to those found in the APDES permit for seafood processing activities including a seafloor survey protocol, biological survey, list of excluded waters, excluded areas, and ecological valuable species. Another commenter suggested that the general permit should define the terms “marine” and “estuarine” to eliminate any potential for confusion about the application of these terms to particular waterbodies. Several commenters provided input on salmon enhancement program requirements under the purview of ADF&G and solid waste requirements under the purview of DEC’s Solid Waste Program. Two commenters also referenced U.S. Army Corp of Engineer (USACE) regulations on the placement of dredge and fill regulations.

Response

While some hatcheries perform seafood processing activities, the general nature of discharges from aquaculture facilities differ by type, composition, and discharge method from those associated with various seafood processing activities. In developing APDES permits, DEC evaluates the pollutants of concern and other unique characteristics of particular types of discharge and customizes the limitations and control measures to minimize the discharge of those pollutants of concern. DEC disagrees that this general permit warrants the level of additional information that may be found in the appendices of other referenced APDES permits.

DEC is not aware of regulatory definitions for “marine” or “estuarine” that would apply to this general permit. DEC generally considers estuaries to be transitional areas of brackish water where river systems merge with the ocean and marine waters to encompass coastal areas dominated by salt water. Because these areas are transitional nature, identifying clear boundaries between the two areas can be challenging and variable between sites. DEC asserts that geographic, ecological, or other environmental differences between sites limits the use of a standardized delineation methodology that can consistently produce accurate results across all settings. DEC believes it is more appropriate to determine which criteria applies after evaluating the site-specific characteristics at each discharge location.

As mentioned throughout this comment document, comments directed to legal authorities beyond the scope of the APDES program are not appropriately responded here or addressed in the proposed permit. Categories of topics not regulated by the APDES permit include the regulation of the aquaculture activity itself, which is under the authority of ADF&G, and inclusion of solid waste legal requirements in a wastewater only permit. Another example of comments outside the applicable regulations includes commenters referencing USACE regulations for the placement of fill into waters of the U.S., which stem from CWA Section 404 but are not part of the legal framework of the discharge of pollutants waters of the U.S. CWA Section 402. Nevertheless, should applicants conduct activities that warrant consideration of these other requirements, (also as mentioned above) they are responsible for identifying and adhering to any other state, federal, or local regulatory requirements and obtaining the necessary permit and approvals.

DEC made no changes to the general permit or fact sheet in response to the comments.

16.2 Comment Summary

One commenter noted that Fact Sheet Section's 1.0 and 3.0 were both titled Permit Coverage in error and contained two sections labeled 5.1.

Response

DEC revised the fact sheet to correct the mislabeled headings.