



**ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM  
GENERAL PERMIT FACT SHEET – FINAL  
AQUACULTURE FACILITIES IN ALASKA**

**Permit Number: AKG130000**

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
Division of Water  
Wastewater Discharge Authorization Program  
555 Cordova Street  
Anchorage, AK 99501**

Public Comment Period Start Date: December 21, 2022

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[Alaska Online Public Notice System](#)

Technical Contact: Anne Weaver  
Alaska Department of Environmental Conservation  
Division of Water  
Wastewater Discharge Authorization Program  
555 Cordova Street  
Anchorage, AK 99501  
(907) 269-7483  
[Anne.Weaver@alaska.gov](mailto:Anne.Weaver@alaska.gov)

Issuance of an Alaska Pollutant Discharge Elimination System (APDES) general permit for

**AQUACULTURE FACILITIES IN ALASKA**

The Alaska Department of Environmental Conservation (the Department or DEC) proposes to issue an APDES general permit (permit) for discharges from aquaculture facilities in Alaska. The permit authorizes and sets conditions on the discharge of pollutants from these facilities to waters of the United States. 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 and outlines best management practices to which each facility must adhere.

This fact sheet explains the nature of potential discharges from aquaculture facilities and the development of the permit, including:

- Information on public comment, public hearing, and appeal procedures
- A listing of effluent limitations and other conditions
- Technical material supporting the conditions in the permit
- Monitoring requirements in the permit

## Appeals Process

The Department has both an informal review process and a formal administrative appeal process for final APDES permit decisions. An informal review request must be delivered within 20 days after receiving the Department's decision to the Director of the Division of Water at the following address:

Director, Division of Water  
Alaska Department of Environmental Conservation  
P.O. Box 111800  
Juneau, AK 99811-1800

Interested persons can review 18 AAC 15.185 for the procedures and substantive requirements regarding a request for an informal Department review. See <http://dec.alaska.gov/commish/review-guidance/informal-reviews> for information regarding informal reviews of Department decisions.

An adjudicatory hearing request must be delivered to the Commissioner of the Department within 30 days of the permit decision or a decision issued under the informal review process. An adjudicatory hearing will be conducted by an administrative law judge in the Office of Administrative Hearings within the Department of Administration. A written request for an adjudicatory hearing shall be delivered to the Commissioner at the following address:

Commissioner  
Alaska Department of Environmental Conservation  
P.O. Box 111800  
Juneau AK, 99811-1800

Interested persons can review 18 AAC 15.200 for the procedures and substantive requirements regarding a request for an adjudicatory hearing. See <http://dec.alaska.gov/commish/review-guidance/adjudicatory-hearing-guidance.aspx> for information regarding appeals of Department decisions.

## Documents are Available

The permit, fact sheet, and related documents can be obtained by visiting or contacting DEC between 8:00 a.m. and 4:30 p.m. Monday through Friday at the addresses below. The permit, fact sheet, and other information are located on the Department's Wastewater Discharge Authorization Program website: <http://dec.alaska.gov/water/wastewater.aspx>.

Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 555 Cordova Street Anchorage, AK 99501 (907) 269-6285	Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 410 Willoughby Avenue, Suite 310 Juneau, AK 99811 (907) 465-5180
Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 610 University Avenue	Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 43335 Kalifornsky Beach Rd. – Suite 11

Fairbanks, AK 99709 (907) 451-2100	Soldotna, AK 99669 (907) 262-5210
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## 1.0 Background

### 1.1 Legal Basis for Issuance of a General Permit

Section 301(a) of the Clean Water Act (CWA) provides that the discharge of any pollutant is unlawful except in compliance with Sections 301, 302, 306, 307, 318, 402, and 404 of the CWA. In addition, as established in Alaska Administrative Code (AAC) 18 AAC 83.015, the discharge of any pollutant to surface water designated as waters of the U.S. in Alaska is unlawful except in accordance with an Alaska Pollutant Discharge Elimination System (APDES) permit.

Per 18 AAC 83.205, the Department may regulate categories or subcategories of point source discharges within an area through the use of a general permit when the sources:

- Involve the same or substantially similar types of operations;
- Discharge the same types of wastes;
- Require the same effluent limitations or operating conditions;
- Require the same or similar monitoring requirements; and
- In the opinion of the Department, are more appropriately controlled under a general permit than under individual permits.

The Department determined that it is appropriate to issue a general permit for aquaculture facilities in Alaska because they have substantially similar operations, discharge the same types of waste, are subject to the same effluent limitations, and have similar monitoring requirements.

### 1.2 Permit Issuance History

Permit coverage for aquaculture facilities in Alaska began in 1998 with the issuance of DEC's statewide Wastewater General Permit for discharges of wastewater from fish hatcheries. The general permit provided coverage for fish hatcheries with a fish food budget of greater than 30,000 pounds per year and authorized discharges of wastewater from normal hatchery operations, domestic wastes, whole and ground carcasses into fresh and marine waters, and disease control chemicals. When the general permit expired on March 1, 2003, DEC requested that aquaculture facilities continue to operate under the conditions of the general permit until the permit was reissued. In 2008, the Environmental Protection Agency (EPA) approved DEC to administer the APDES permitting program, which was subsequently transferred to DEC over four phases, with the fourth and final phase transferring in October 2012. The initial phase included authority to administer wastewater discharge permits associated with aquacultural activities. The Department issued the AKG130000 general permit, the first APDES permit providing coverage for aquaculture facilities in Alaska, on January 19, 2018. The general permit became effective March 1, 2018 and expires on February 28, 2023.

## 2.0 Description of Industry and Receiving Waters

### 2.1 Aquaculture Industry

Aquaculture is the rearing or cultivation of aquatic organisms, such as fish, shellfish, and aquatic plants, under controlled conditions in aquatic animal containment systems. These aquatic animals and plants are used for a variety of purposes including food, pets, bait, and research and testing purposes. Hatcheries are aquaculture facilities that incubate and grow specific species of fish intended for use to enhance natural populations and to supplement recreational and commercial fisheries. Hatcheries greatly improve egg-to-juvenile survival rates; however, hatchery-reared fish are subject to the same survival pressures as their naturally spawned counterparts once they are released into the wild.

Hatcheries began operating in Alaska in 1891 when cannery workers opened the first hatchery aimed at repopulating native salmon stocks on Kodiak's Karluk River. Increased commercial fishing pressure prompted the opening of several additional hatcheries in the early 1900s. Production peaked in 1911 and declined until the mid-1930s when all of the hatcheries closed. Renewed interest in salmon enhancement in the 1950s resulted in construction and operation of several state-run hatcheries. However, salmon populations continually declined and reached historically low numbers in early 1970.

In 1971, the Alaska Legislature established the Division of Fisheries Rehabilitation Enhancement and Development within the Alaska Department of Fish and Game (ADF&G) to further develop the hatchery program in the state and protect the fisheries from cyclical weaknesses in the wild salmon returns. Legislation passed throughout the 1970-80s continued to expand the hatchery program by allowing non-profit privately owned corporations to operate salmon hatcheries. In response, aquaculture associations representing local fishing and community groups were created to assist in regional salmon enhancement programs, with many of these associations operating hatcheries. Today, most state-owned commercial production hatcheries still in operation have been contracted to these private non-profit hatchery operators.

Alaska's modern hatchery program is intended to increase salmon abundance and supplement sustainable natural production while protecting wild stocks. Alaska hatcheries primarily produce pink (75%) and chum (19%) salmon due to their lower production costs, brief freshwater life stage transitioning from incubator to saltwater in 24 hours, and quick return on investment, making them the most economically viable species. Production costs for the remaining three salmon species increase because they must spend a year or more in freshwater before they are developed enough to tolerate salt water. Other species raised in Alaska's hatcheries include arctic char, rainbow trout, coho salmon, and Chinook salmon and are used to stock sport fishing waters throughout the Interior and Cook Inlet regions.

Currently, a total of 27 hatcheries are operating under the AKG130000 general permit throughout Prince William Sound, Cook Inlet, Kodiak, and Southeast regions of the state (see Permit Appendix D). Of those, 26 are operated privately and two sport fish hatcheries in Anchorage and Fairbanks are operated by ADF&G. These hatcheries collectively release between 1.4 and 1.7 billion juveniles per year. From 2011-2015, between 47 million and 111 million adult salmon returned each year. With only 24 million adult salmon returning, 2016 saw the lowest return since 1992. About 69 million adult hatchery salmon returned to Alaska waters in 2021, and hatchery operators forecast a total return of about 44 million salmon in 2022.

Alaska hatcheries must adhere to numerous fish health regulations and are required to collect and cross-fertilize eggs from wild broodstocks endemic to their area to retain genetic diversity. ADF&G authorizes selection of local broodstocks to ensure local genetically adapted stocks. The first life cycle of the hatchery requires harvesting eggs and milt from wild stocks, while second generation broodstock are imprinted to the hatchery water supply and return to the hatchery, where eggs and milt are taken in all future generations. Alaska hatcheries do not grow fish to adulthood but instead incubate fertilized eggs and release progeny as juveniles (i.e., fry or smolt). Some species are then temporarily moved to salt water where they can adapt to marine waters before being released. Juvenile salmon imprint on the release sites and return to those sites as adults.

Alaska's hatcheries also must operate in accordance with ADF&G permits that specify the maximum number of eggs of each species a facility can incubate, specify the authorized release locations, and may identify stocks allowed to be used for broodstock. Each hatchery must develop a basic management plan that outlines the general operations of the hatchery and annual management plans that outline the egg-take goals, fry or smolt releases, expected adult returns, harvest management plans, production strategies, and permits required for the current year. Hatcheries must also obtain fish transport permits for egg collections, transports, and releases. Each hatchery submits annual reports documenting their egg collections, juvenile releases, current year run sizes, contributions to fisheries, and projected run sizes to ADF&G.

## 2.2 Receiving Waters

### 2.2.1 Water Quality Standards

The protection of surface water occurs primarily through the development, adoption, and implementation of water quality standards (WQS) in APDES permits. Regulations in 18 AAC 70 designate specific uses for which water quality must be protected and require that the conditions in permits ensure compliance with the WQS. Alaska's WQS are composed of use classifications, numeric and/or narrative water quality criteria, and an Antidegradation Policy. The use classification system designates the beneficial uses that each waterbody is expected to achieve.

Beneficial uses of freshwater include water supply, water recreation, and growth and propagation of fish, shellfish, other aquatic life, and wildlife. Beneficial uses for marine water include harvesting for consumption of raw mollusks or other raw aquatic life in addition to the uses that apply to freshwater. Waterbodies in Alaska are protected for all uses unless the water has been reclassified under 18 AAC 70.230, as listed under 18 AAC 70.230(e). Some waterbodies in Alaska can also have site-specific water quality criteria per 18 AAC 70.235, such as those listed under 18 AAC 70.236(b). The numeric and/or narrative water quality criteria are the criteria deemed necessary by the state to support the beneficial use classification of each waterbody.

To prevent unnecessary lowering of water quality, the Antidegradation Policy ensures that the designated and existing water uses and the level of water quality necessary to protect the uses are maintained and protected. The Department conducts an antidegradation analysis to determine the permitted activities' potential effect on water quality and to ensure the activities comply with the Antidegradation Policy and the WQS. Most waterbodies in Alaska are pristine and have water quality that exceeds the criteria established in the WQS. In such cases, a wastewater discharge may comply with the WQS but still cause some degree of degradation of the waterbody. See Part 9.0 for the antidegradation analysis conducted for the general permit.

### 2.2.2 Potential Aquaculture Impacts on Receiving Waters

Most aquaculture facilities rely on a steady water supply from seawater, surface water, or groundwater for production. Surface waters are typically run through fine mesh screens to remove debris and certain contaminants prior to use. Flow through systems are designed to continually move water through the production system, allowing it to exit the facility within an hour. The constant movement of water maintains the level of dissolved oxygen (DO) available for fish while carrying wastes away from the system. Recirculating systems are designed to reuse water before it is discharged. Net pen systems are sited in open water and rely on tides and currents to flush any potential wastes out of the system.

Aquaculture facilities generate a variety of pollutants from uneaten feed, fish feces, fish carcasses, algae, parasites and pathogens, cleaning chemicals, and medications used to treat fish diseases. While the concentrations of pollutants vary by production type, the main pollutants of concern found in wastewater discharges from hatcheries include total suspended solids (TSS), settleable solids (SS), pH, ammonia, DO, and total residual chlorine (TRC). Hatcheries also discharge whole and ground fish carcasses after stripping them of eggs and milt for breeding purposes. Flow through systems discharge high volumes of wastewater, but with relatively low pollutant concentrations. Recirculating systems discharge lower volumes of water, but with higher solids concentrations in the form of sludge. Net pen systems release solids and nutrients directly into the surrounding environment.

Uncontrolled releases of these pollutants have the potential to cause adverse effects on water quality. Elevated levels of TSS and SS increase turbidity, or cloudiness, of the water. Although some turbid waterways can maintain high productivity values for salmon, turbidity can have far-reaching effects on the aquatic

environment. Turbidity can block sunlight from passing through the water column, reducing the amount of light available for photosynthesis, which decreases production of plant material (primary production). High turbidity can adversely affect fish by reducing the abundance of fish food (secondary production), interfering with their ability to avoid predators, increasing the risk of infection or disease, decreasing egg survival rates, increasing water temperature, and reducing levels of DO. Turbid waters can also create a human hazard by carrying disease-causing pathogens, such as viruses and bacteria, or toxic pollutants. High turbidity in drinking water can shield bacteria or other organisms so that chlorine treatment is no longer effective at disinfecting the water. Some pathogens found in water with high turbidity can cause symptoms such as nausea, cramps, and headaches.

Nutrients are naturally found in aquatic systems and support the growth of algae and aquatic plants. However, excess nutrients can lead to eutrophication, a process that stimulates an explosive growth of plants and algae, particularly in estuarine or marine environments, to such an extent that it disrupts normal functioning of the ecosystem. While this is not common in Alaska's waters because they are often low in nutrient content, overgrowth of plants and algae can increase biological oxygen demand (BOD), deplete oxygen levels, and increase temperature, which degrades benthic communities and can stress or kill fish and other organisms.

Variation of pH can dramatically influence the health and growth of fish, especially young fish, by causing mortality, triggering alterations in metabolic processes, and affecting their ability to take in water through their gills. Changes in pH can also influence levels of potentially toxic ammonia and cause loss of equilibrium, hyperexcitability, increased breathing and cardiac output, and decreased swimming performance.

To determine the pollutants of concern for the general permit, DEC evaluated EPA's *Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category* at 40 Code of Federal Regulations (CFR) Part 451, other relevant National Pollutant Discharge Elimination System (NPDES) and state permits, and historical compliance data for facilities covered under the 1998 State of Alaska wastewater general permit for fish hatcheries. Based on DEC's analysis, the pollutants of concern for the general permit are TSS, SS, pH, ammonia, DO, and TRC.

The aquaculture industry uses a variety of best management practices (BMPs) and wastewater treatment technologies to prevent or minimize the release of pollution from their operations. BMPs are activities, procedures, and other management strategies that reduce the effluent volume or concentrations of pollution in the wastewater. BMPs commonly used in the aquaculture industry include feed management, solids control, health management, and mortality removal.

## 3.0 Permit Coverage

### 3.1 Coverage and Eligibility

Coverage under the general permit is limited to concentrated aquatic animal production (CAAP) facilities that discharge aquatic animal rearing waste and wastewater to fresh or marine surface water (located throughout the state) or to a system that discharges to a surface water at least 30 days per year. With respect to cold water, as defined in 40 CFR Part 122, Appendix C, a hatchery, fish farm, or other facility is a CAAP facility if it contains, grows, or holds aquatic animals in either of the following categories:

- Cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which 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.

CAAP facilities that produce, hold, or contain 20,000 pounds or more of aquatic animals per year (any 12-month period) and feed more than 5,000 pounds of fish food in any one calendar month are eligible to apply for coverage under the general permit. If a facility uses more than one production system, the facility is subject to the permit if the total production from any of the regulated production systems meets the production threshold. The facility would need to demonstrate compliance with the management practices required for each of the regulated production systems it is operating.

DEC may require smaller aquaculture facilities to apply for coverage if they are determined to be a significant contributor of pollution to waters of the United States (U.S.). In making this determination, DEC will evaluate the site-specific facility conditions, the quantity and nature of the pollutants, and the potential impacts to the receiving waters. Other smaller facilities that do not meet the eligibility threshold for coverage may also voluntarily request coverage under the general permit. DEC is not currently aware of any hatcheries under the coverage threshold operating without permit coverage in the state, but if some begin operating in the future, the Department may issue a separate general permit for those facilities.

### 3.2 Exclusions

Several types of wastewater discharges require coverage under another general or individual permit because they cannot be adequately controlled under the conditions outlined in the general permit or are outside the scope of the general permit. Facilities utilizing molluscan shellfish operations do not typically meet the definition of a CAAP facility and are not eligible for coverage under the general permit. Facilities that indirectly discharge their process wastewater to privately or publicly owned treatment works (POTWs) are excluded from coverage because POTWs are expected to adequately treat the main pollutants of concern generated from hatcheries (e.g., TSS).

The general permit excludes discharges to sensitive aquatic habitats, such as tidal flats and salt marshes, in an effort to maintain high levels of water quality. Depending on site-specific conditions, permittees may request approval to discharge to a sensitive habitat by submitting documentation demonstrating that the discharge will not cause substantial habitat degradation. The permit excludes discharges to degraded waters unless the subject water is protected from further degradation and the permittee demonstrates that the general permit is adequate to provide the level of protection required by the Total Maximum Daily Load (TMDL) or control plan, including facility-specific wasteload allocations; that the pollutant(s) for which the waterbody is impaired is not present at the facility; or that the discharge is not expected to cause or contribute to an excursion of a WQS.

### 3.3 Prohibited Discharges

The general permit prohibits several types of discharges that may cause or contribute to an excursion of a WQS or may impact an approved use of the waterway. The following discharges are prohibited:

- Atlantic salmon (*Salmo salar*);
- Discharges of ground aquatic animal mortalities or broodstock carcasses to freshwater;
- Discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the Notice of Intent (NOI) and regulated by the permit;
- Residues that, alone or in combination with other substances, make the water unfit or unsafe for the use; cause a film, sheen, or discoloration on the water's surface or any shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the water surface, within the water column, on the seafloor, or upon any shorelines unless authorized by a zone of deposit (ZOD);
- Disease control chemicals and drugs, except as outlined in Permit Part 5.2;

- Hazardous or toxic substances, including unapproved drugs and pesticides, in toxic amounts that may impair designated uses or violate WQS of the receiving water; and
- Biocidal chemicals for cleaning nets in the water, unless prescribed by a veterinarian to prevent the spread of disease.

### 3.4 Obtaining Authorization

In accordance with 18 AAC 83.210, dischargers seeking coverage under a general permit must submit a NOI and any required supporting documentation to DEC. After reviewing the NOI and supporting documentation, DEC will assign each operator a unique authorization number and send each applicant a written authorization stating that coverage has been granted and any special conditions or monitoring requirements specific to the facility's discharge. DEC may notify a discharger that their discharge is covered by this APDES general permit even if the discharger has not submitted an NOI, in accordance with 18 AAC 83.210(h).

Pursuant to 18 AAC 83.215(a), DEC may require any permittee applying for, or covered by, a general permit to apply for and obtain an individual permit. In addition, any interested person may petition the Department to take this action. The Department may consider the issuance of an individual permit when:

- The discharger is not in compliance with conditions of the general permit;
- A change has occurred in the availability of demonstrated technology or practices;
- ELGs are promulgated for point sources covered by the general APDES permit;
- A water quality management plan is approved;
- Circumstances have changed so that the discharger is no longer appropriately controlled under the general permit;
- DEC determines that the discharge is significant; or
- A TMDL has been completed for the impaired receiving water.

APDES regulations at 18 AAC 83.215(b) allow any owner or operator authorized by a general permit to request to be excluded from the coverage of the general permit by applying for an individual permit. The responsible party shall submit an individual permit application (Form 2A and Form 2M, if requesting a mixing zone) with reasons supporting the request to the Department no later than 90 days after the publication of the general permit. The request shall be processed under the provisions of 18 AAC 83.115 and 18 AAC 83.120. The Department will grant the request by issuing an individual permit if the reasons cited by the responsible party are adequate to support the request. Pursuant to 18 AAC 83.215(d), a permittee who already has authorization to discharge under an individual permit may request general permit coverage. If the Department approves coverage under a general permit, the individual permit is revoked.

### 3.5 Notice of Intent Requirements

The general permit requires owners or operators of facilities in Permit Appendix D to submit a complete and accurate NOI (including attachments) to the Department within 90 days after the general permit effective date to continue coverage under this general permit. New applicants must apply at least 30 days prior to the start of discharge. Owners or operators must submit an NOI for each hatchery, which may include the main land-based hatchery, adjacent net pen sites, and discontinuous net pen sites. DEC will issue one authorization for each hatchery that includes unique permit conditions for the land-based hatchery and each net pen site, as appropriate. Net pens are only required to be covered under one authorization even if associated with more than one land-based hatchery.

Applicants must also submit a Carcass Disposal Plan with the NOI describing how the facility will dispose of mortalities and broodstock carcasses, the proposed discharge (i.e., water) or disposal (i.e., upland) location(s), description of tides and currents in the disposal area(s) (either measured or estimated based on the best available

data), maximum daily pounds of carcasses expected to be discharged, and the number of days the discharge is anticipated to occur per season.

If the Department determines that the NOI is incomplete, the Department will request additional information from the applicant. If the Department determines that the facility is not eligible for coverage under the general permit, authorization will be denied and, if appropriate, the applicant will be directed to submit an application for an individual permit. If the NOI is considered complete and the facility is eligible for coverage under the general permit, the Department will send the permittee a written notice of authorization. Authorization to discharge under the general permit does not begin until the permittee receives a written notice of authorization from the Department.

Permittees must comply with 18 AAC 72 regulations relevant to their operations, including 18 AAC 72.600 (nondomestic wastewater system plan review). According to that regulation, “A person who constructs, alters, installs, modifies, or operates any part of a nondomestic wastewater treatment works or disposal system must first have written department approval of engineering plans submitted under this section.” Those reviews are handled by the Department’s [Engineering Support and Plan Review](#) section, and questions about whether a specific project requires review should be directed to that group.

### **3.6 Continuation of an Expired General Permit**

If the general permit is not reissued prior to the expiration date, it will remain in force and effect for discharges that were authorized prior to the expiration date provided permittees submit an application for a new permit in accordance with the provisions of 18 AAC 83.155(c). Permittees wishing to continue coverage under the new permit must submit a new NOI to DEC within six months (180 days) prior to the expiration of the general permit.

## **4.0 Compliance History**

The compliance histories of the existing facilities authorized by the 2018 AKG130000 permit over the last five years were evaluated. Violations identified included delayed Operations and Maintenance Plan implementation and monitoring initiation, sampling at the incorrect locations, failure to report INAD study participation, discharging undisclosed waste streams, outfall breakage, unauthorized discharge of domestic wastewater and drinking water filtration backwash, use of unapproved chemicals, carcass disposal outside of approved locations, failure to use approved analytical test methods, incomplete annual reporting, and failure to maintain required documents and logs onsite. Two of the non-profit hatchery operators have entered formal enforcement agreements with the Department.

Due to the large number of existing authorized facilities, a detailed breakdown of the instances of non-compliance is not provided in the Fact Sheet. Details regarding the compliance history of a specific facility can be found by visiting the EPA’s Enforcement & Compliance History Online at <https://echo.epa.gov/>. Permit Appendix D provides a list of facility permit numbers and facility names that can be used to search for summary and detailed information about a facility’s compliance and enforcement status and history.

## **5.0 Limitations**

### **5.1 Basis for Permit Effluent Limits**

The CWA requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are intended to require a minimum level of treatment for industrial point sources based on currently available treatment technologies and are set according to the level of treatment that is achievable using available technology. WQBELs are designed

to ensure that the WQS of a waterbody are met. DEC first determines which TBELs apply to a discharge in accordance with applicable national effluent limitation guidelines (ELGs) and standards. DEC then evaluates the expected effluent quality to determine whether WQS may still be exceeded. If exceedances could occur, DEC must include WQBELs in the permit.

On August 23, 2004, EPA published technology-based ELGs for the CAAP point source category in the Federal Register. These regulations, codified in 40 CFR Part 451, became effective one month later on September 22, 2004 and have not been updated since. The ELGs apply to all CAAP facilities that produce, hold, or contain 100,000 pounds or more of aquatic animals during any 12-month period. While facilities producing fewer than 100,000 pounds of aquatic animals per year are not subject to the ELGs, as CAAP facilities they still require APDES permits. Facilities not covered by the ELGs include aquaria and net pens rearing native species released after a growing period of no longer than four months to supplement commercial and sport fisheries. This exclusion applies primarily to Alaskan non-profit facilities which raise native salmon in flow through systems and then hold them for a short time in net pens preceding their release. The flow through portions of these facilities are subject to the ELGs if they produce 100,000 pounds or more of aquatic animals per year, but the net pen portions would be excluded from the ELGs. However, despite this exclusion from the ELGs, all CAAP facilities, including net pens, are subject to APDES permitting requirements regardless of species produced or the duration held.

The ELGs establish technology-based narrative limitations and standards for wastewater discharges from new and existing CAAP facilities that use flow through, recirculating, or net pen production systems. The type of production system determines the nature, quantity, and quality of effluents from each facility type. The limitations and standards vary for different production facility types and production levels and are designed to be commensurate with the amount of pollutants expected to be discharged at each facility. The ELGs are largely based on production and operational controls and BMPs that will minimize the generation and discharge of solids from the facility, including rigorously implemented feed management, proper storage of material, adequate solids control, and proper operation and maintenance. EPA chose not to include specific numeric limitations for any pollutants of concern based on their expectation that proper use of BMPs would provide an acceptable level of pollutant control and that minimizing TSS would effectively control concentrations of other pollutants. Table 1 below lists the activities required by the ELGs for flow through, recirculating, and net pen facilities.

**Table 1: Comparison of Limitations for Flow Through, Recirculating, and Net Pen Facilities**

Limitations and Best Management Practices	Flow Through and Recirculating	Net Pens
Solids Control	x	
Feed Management		x
Materials Storage	x	x
Structural Maintenance	x	
Recordkeeping	x	x
Training	x	x
Waste Collection and Disposal		x
Transport or Harvest Discharge		x
Carcass Removal		x

DEC agrees with EPA's conclusion that permit limitations and standards should vary for different production facility types and production levels and designed the permit requirements to be commensurate with the amount of pollutants expected to be discharged at each facility. Larger facilities with higher production levels are expected to generate more solids than facilities with lower production levels and, therefore, pose a higher risk to

water quality. Because the ELGs applicable to larger facilities apply BMPs and reporting practices in lieu of numeric standards that translate to practicable water quality protections, DEC determined that select ELG requirements were not overly burdensome to smaller facilities (e.g., with less than 100,000 pounds release weight) and incorporated those ELGs into the general permit for smaller facilities.

In order to determine whether WQBELs are needed and to develop those limits when necessary, DEC typically conducts a reasonable potential analysis (RPA). The RPA is a water quality-based analysis that identifies the applicable water quality criteria, determines whether there is a “reasonable potential” for the discharge to cause or contribute to an excursion of WQS in the receiving water, and develops effluent limits, if needed. Based on the monitoring conducted over the previous permit term, DEC determined that WQBELs are necessary for pH, DO, and TRC. The general permit applies limits for those parameters and requires hatcheries to continue to monitor for other water quality parameters (TSS, SS, and ammonia).

## **5.2 Flow Through and Recirculating Facilities Producing 100,000 Pounds or More Total Annual Release Weight from the Facility**

Flow through and recirculating facilities producing large quantities of aquatic animals are required to implement a combination of BMPs aimed at minimizing the release of solids from the facility. Solids control practices are expected to reduce the concentration of solids while also reducing the loadings being discharged. The main action permittees must take to control solids is employing efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth. To further control solids, permittees must identify and implement procedures for cleaning rearing units, inspecting and repairing the production and wastewater treatment systems, and removing and disposing of aquatic animal mortalities.

The general permit requires permittees to ensure that drugs, pesticides, disinfectants, and feed are stored in a manner designed to prevent spills that may result in a discharge of those materials to waters of the U.S. and to implement procedures for properly containing, cleaning, and disposing of any spilled material. Permittees must also conduct regular structural maintenance activities, including conducting weekly inspections of the production and wastewater systems and performing maintenance as needed. Permittees must maintain records documenting feed amounts and estimates of the numbers and weights of aquatic animals for each rearing unit and the frequency of cleaning, inspections, maintenance, and repairs performed at the facility. Additionally, permittees must provide staff training on the proper operation and cleaning of production and wastewater treatment systems and spill prevention and response measures.

## **5.3 Flow Through and Recirculating Facilities Producing 20,000 to 100,000 Pounds Total Annual Release Weight from The Facility**

Flow through and recirculating facilities producing smaller quantities of aquatic animals are also required to implement BMPs that minimize the release of solids from the facility. Because the nature of the discharge is similar, the solids control measures required for smaller facilities are comparable to those for larger facilities. As mentioned above, permittees must employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals, identify and implement procedures for cleaning rearing units, and remove and dispose of aquatic animal mortalities. DEC determined that the solids control practices were achievable by all facilities and would not likely deviate from current practices. Smaller facilities are also required to manage spills by containing, cleaning, and disposing of any spilled materials.

#### **5.4 Net Pen Facilities Producing 100,000 Pounds or More Total Annual Release Weight from the Facility, Except Those Facilities Rearing Native Species Released After a Growing Period of Four Months or Less**

Like flow through and recirculating systems, net pen facilities producing large quantities of aquatic animals are required to follow several BMPs designed to minimize the discharge of pollutants to waters of the U.S. Controlling the accumulation of solids through feed management is a key element in managing the discharge of pollutants. Permittees are required to use feed management strategies that optimize the amount of feed needed to sustain targeted rates of aquatic animal growth while minimizing the accumulation of uneaten food and solids beneath the pens. Permittees must implement strategies to collect and dispose of waste materials, including feed bags, packing materials, waste rope, and netting, and store all other substances in a manner designed to prevent spills. Permittees must also remove and dispose of other animal matter, such as mortalities, blood, or viscera, encountered during daily operations or transport of aquatic animals. The general permit requires permittees to ensure that drugs, pesticides, disinfectants, and feed are stored in a manner designed to prevent spills that may result in a discharge of those materials to waters of the U.S. and to implement procedures for properly containing, cleaning, and disposing of any spilled material.

To control discharges from net cleaning, permittees must conduct several routine maintenance activities. Permittees must inspect the nets to identify damage and promptly perform corrective actions. Whenever possible, permittees should allow the nets to dry over water and transfer them to upland areas for cleaning. If infeasible to move the net pens to an upland location prior to cleaning, *in situ* cleaning is only allowed under conditions that will disperse solids and minimize bottom settling to the extent practicable. Cleaning of discreet portions of the net must be phased over a sufficient period of time in order to avoid an influx of materials during a single cleaning event.

Also, like other large facilities, permittees must maintain records documenting feed amounts and estimates of the numbers and weight of aquatic animals for each rearing unit and document the frequency of net changes, inspections, and repairs performed at the facility. Permittees must provide staff training on the proper operation and cleaning of production and wastewater treatment systems and spill prevention and response measures.

Due to the mobile nature of net pens, permittees must situate net pens in waters with adequate current velocity relative to water depth from the bottom of the net pens to the seafloor to avoid degradation of water quality and benthic conditions below the nets. Proper siting of net pens will ensure an adequate supply of oxygenated water is available for maintaining overall fish health and performance as well as for flushing wastes away from the nets, which will lessen potential adverse impacts to the benthic communities near and under the nets.

Appropriate site selection and configuration can also contribute to a safer working environment and lower production costs by creating easily accessible and stable areas for routine activities such as feeding and conducting inspections. Facility operators are responsible for obtaining all other local, state, and federal permits and approvals for siting net pens.

#### **5.5 All Other Net Pen Facilities Producing 20,000 Pounds or More Total Annual Release Weight from the Facility, Regardless of Species or Duration Held**

Net pen facilities producing smaller quantities of aquatic animals are required to develop and implement some of the same BMPs designed to minimize the discharge of pollutants to waters of the U.S. as larger net pen facilities. Because solids control is such a critical part of controlling pollutants from all facilities, smaller net pen facilities must also employ efficient feed management and feeding strategies by limiting the amount of feed while still achieving production goals. Permittees must remove and dispose of aquatic animal mortalities to prevent discharge to waters of the U.S., except in cases where DEC authorizes such discharge.

Because potential impacts from cleaning operations are comparable for all net pen facilities, permittees must adhere to the same net cleaning practices as larger facilities. When the nets are empty, they should be allowed to dry over the water and transported to an upland location for cleaning. If it is infeasible to move the net pens to an upland location prior to cleaning, *in situ* cleaning is only allowed under conditions that will disperse solids and minimize bottom settling to the extent practicable. Cleaning of discreet portions of the net must be phased over a sufficient period of time in order to avoid an influx of materials during a single cleaning event.

Similar to larger net pen facilities, smaller net pen facilities are also expected to be situated in locations with adequate current velocity relative to the depth from the bottom of the net pens to the seafloor to avoid degradation of water quality and benthic conditions below the nets. Also, facility operators are responsible for obtaining all other local, state, and federal permits and approvals for siting net pens.

## **6.0 Monitoring**

### **6.1 Basis for Effluent and Receiving Water Monitoring**

In accordance with Alaska Statutes (AS) 46.03.110(d) and 18 AAC 83.430, the Department may specify in a permit the terms and conditions under which waste material may be disposed. Monitoring in permits is required to determine compliance with effluent limits, to gather effluent and surface water data, to determine whether additional effluent limits are required, and/or to evaluate whether the effluent is causing or contributing to an instream excursion of water quality criteria. Permittees are responsible for conducting the monitoring and for reporting results in Discharge Monitoring Reports (DMRs) and an Annual Report or on the application for permit reissuance, as appropriate, to the Department.

### **6.2 Monitoring Frequencies**

The general permit requires permittees operating flow through and recirculating facilities to monitor several water quality parameters, including flow, TSS, SS, pH, ammonia, DO, and chlorine once per month. Permittees operating net pens are required to monitor the water column within and outside the net pens for dissolved oxygen at least once per month when aquatic animals are present in the nets and to visually assess the benthos prior to releasing aquatic animals each season.

During this permit cycle, DEC will review and analyze the data to identify trends, pollutants with a reasonable potential to cause an excursion above the WQS, or other areas of concern. If the analysis indicates specific pollutants with a reasonable potential to cause an excursion above the WQS, DEC will develop effluent limitations for those parameters and incorporate them into future general permits.

Permittees discharging effluent outside of pH 6.5 – 8.5 to fresh water must also sample in the receiving water, to collect data for DEC to ascertain whether the ‘pH may not vary more than 0.5 pH unit from natural conditions’ WQS is being met. Permittees discharging effluent outside of pH 6.5 – 8.5 to marine water must apply for a mixing zone, under Permit Part 3.4.

Monitoring frequencies are based on the nature and effect of the pollutant as well as a determination of the minimum sampling necessary to adequately monitor the facility’s performance and compliance. Permittees have the option of taking more frequent samples than are required under the general permit. These samples must be reported in the DMR if they are conducted using the Department-approved test methods (generally found in 18 AAC 70 and 40 CFR Part 136 [adopted by reference in 18 AAC 83.010]).

### **6.3 General Monitoring Requirements**

The general permit allows DEC to require additional influent, effluent, or receiving waterbody monitoring for site-specific purposes related to, but not limited to, application requirements, the protection of WQS, gathering

data to support TMDL development, evaluation of receiving water impairments, or evaluation of effects on threatened or endangered species. Likewise, monitoring frequency may be adjusted for site-specific purposes. The permittee will be notified of any additional or site-specific monitoring when issued authorization to discharge under the general permit.

Permittees must use a sufficiently sensitive EPA-approved test method that quantifies the level of pollutants to a level lower than applicable limits or WQS, or use the most sensitive test method available, per 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), adopted by reference at 18 AAC 83.010(f). For purposes of reporting on the DMR for a single sample, if a value is less than the method detection limit (MDL), the permittee must report “less than (<) {numeric value of MDL}” and if a value is less than the minimum level (ML) (also called a minimum reporting level (MRL), practical quantitation limit (PQL), or limit of quantitation (LOQ)), the permittee must report “less than (<) {numeric value of the ML}.” Effluent samples must be collected from the effluent stream after all commingling has occurred and after the last treatment unit prior to discharge to waters of the U.S.

The permittee shall record monitoring results on a monthly DMR and submit the DMR by the 15th day of the following month. Copies shall be kept at the facility and made available upon request.

#### **6.4 Flow Through and Recirculating Facilities Monitoring**

Because CAAP facilities are known to generate TSS, SS, pH, ammonia, low DO, and chlorine, DEC has identified them as pollutants of concern in wastewater discharges from hatcheries. All flow through and recirculating facilities must sample and analyze the wastewater discharge for the water quality parameters at the frequencies listed in Table 2. If a facility is authorized mixing zone(s), the effluent limits in Table 2 for which a mixing zone is authorized are superseded by the corresponding modified effluent limits in the individual authorization to discharge.

**Table 2: Flow Through and Recirculating Systems Monitoring Requirements**

Parameter	Units <sup>a</sup>	Effluent Limits		Sample Type	Sample Frequency	Sample Location <sup>b</sup>
		Minimum Daily	Maximum Daily			
Flow	mgd	---	---	Flow meter, calibrated weir, or other approved method <sup>c</sup>	Monthly	Effluent
Total Suspended Solids (TSS)	mg/L	---	---	Composite <sup>d</sup>	Quarterly <sup>e</sup>	Effluent
		---	---	Grab		Influent
Settleable Solids (SS)	ml/L	---	---	Composite <sup>d</sup>	Quarterly <sup>e</sup>	Effluent
		---	---	Grab		Influent
pH	S.U.	6.5 <sup>f</sup>	8.5 <sup>f</sup>	Grab	Monthly <sup>e</sup>	Effluent
		---	---			Influent
		---	---			Receiving Water <sup>g</sup>
Total Ammonia	mg-N/L	---	---	Grab	Annual	Effluent
Dissolved Oxygen	mg/L	6 (marine)	17	Grab	Monthly	Effluent
		7 (fresh)				
Total Residual Chlorine (TRC)	mg/L	---	0.013 (marine) <sup>h</sup>	Grab	Monthly <sup>i</sup>	Effluent
		---	0.019 (fresh) <sup>h</sup>			

**Footnotes:**

- a. Units: mgd = million gallons per day, mg/L = milligrams per liter, ml/L = milliliters per liter, S.U. = standard units, and mg-N/L = milligrams nitrogen per liter.
- b. Effluent sampling must occur at all outfalls listed in the authorization to discharge.
- c. Other flow measurement methods must be requested in writing and approved in the facility's authorization to discharge prior to use.
- d. For TSS and SS, the quarterly sampling event shall occur during cleaning operations. Samples shall consist of at least four grab samples taken at evenly spaced intervals during the cleaning period which will result in a composite sample representative of the discharge during the cleaning operations. If multiple outfalls discharge to a single waterbody, the samples from each outfall may be combined on a flow-weighted basis prior to analysis.
- e. Influent, effluent, and receiving water (if applicable) sampling must occur on the same day.
- f. For discharges to fresh water, the effluent pH may not vary more than 0.5 pH unit from natural conditions.
- g. Only permittees discharging effluent outside of pH 6.5 – 8.5 to fresh water must sample in the receiving water. Receiving water sampling must occur at a location within the receiving water that is not influenced by the facility's discharge.
- h. Chlorine monitoring is required only if used as a disinfectant or otherwise introduced in the rearing or egg take process. Monitoring must occur during discharge of the disinfectant water. Compliance with the receiving water limits for TRC cannot be determined using EPA-approved analytical methods. DEC will use 0.1 mg/L as the compliance evaluation limit for this parameter.
- i. Facilities that conduct egg takes for roe sales are required to sample the outfall that discharges the egg take effluent weekly during egg take periods.

## 6.5 Net Pen Facilities Monitoring

All net pen facilities are required to conduct analytical and visual monitoring to evaluate the water column beneath and around the net pens while aquatic animals occupy the net at each net pen site. At least once per month when aquatic animals are present in the nets, permittees must analyze the water column within and outside the net pens for DO. At a minimum, permittees are required to take one sample within the net pen structure (15 feet or more below the water surface, if possible) and one sample outside the perimeter of the net pen structure. Because the net pen facilities in use across the state are in a variety of ecoregions with distinctive site-specific conditions, DEC may require the permittee to conduct additional monitoring depending on the site-specific characteristics of the net pen site. DEC will specify the number, locations, and depths of required monitoring in each written general permit authorization. Dissolved oxygen monitoring is not required at floating marine bag systems.

Permittees must also visually assess the benthos below the net pens prior to releasing the aquatic animals each season. Within 60 days after last releasing aquatic animals for the season, permittees must assess the sediment types and color, the presence of feed or other debris, and the presence of benthic bacterial or fungal mats. The permittees must provide an estimate of the areal extent (acres) of these debris beneath the net pens and extending outward. For detectable residues accumulation on the seafloor, the permittee shall submit a noncompliance notification report in accordance with Permit Appendix A, Part 3.5 unless the net pen site has an approved ZOD (see Part 11.3). Each week when the aquatic animals are present in the nets, permittees must visually assess the water column around the nets for floating debris or other sign of solids, sheens, or discoloration originating from the net pens. Permittees must report residues in violation of WQS as noncompliances in accordance with Permit Appendix A, Part 3.5.

## 6.6 Mixing Zones

In accordance with state regulations at 18 AAC 70.240, the Department may authorize a mixing zone in a permit. According to 18 AAC 70.990(38), a mixing zone is an area in a waterbody surrounding, or downstream of, a discharge where the effluent plume is diluted by the receiving water within which specified water quality criteria may be exceeded. Water quality criteria may be exceeded within a mixing zone. A mixing zone can be authorized only when adequate receiving waterbody flow exists, and the concentration of the pollutant of concern in the receiving waterbody is below the numeric criterion necessary to protect the designated uses of the waterbody. A discharge can neither partially nor completely eliminate an existing use of the waterbody outside the mixing zone and shall not impair the overall biological integrity of the waterbody.

- If a permittee proposes a mixing zone, the permittee is required to perform a reasonable potential analysis and submit form 2M and 2G, and the proposed mixing zone will be public noticed.

When determining whether the requested mixing zone size is appropriate, the Department will include the following in its consideration (see 18 AAC 70.240(b)(1-5) for the list in its entirety):

- The effects that the discharge might have on the uses of the receiving water,
- The flushing and mixing characteristics of the receiving water, and
- The cumulative effects of multiple mixing zones and other inputs affecting the receiving water.

All water quality criteria shall be met at the boundary of the mixing zone. The written authorization will specify whether a mixing zone has been authorized, the size of the authorized mixing zone, and the water quality criteria that may be exceeded within the authorized mixing zone.

If through the review of a NOI the Department determines that it has insufficient information to determine whether a mixing zone is appropriate to ensure compliance with 18 AAC 70.240, a permittee may be required to submit additional information or may be required to submit an individual permit application and mixing zone application. The burden of proof for providing the required information is on the applicant seeking a mixing zone.

## **7.0 Carcass Disposal**

### **7.1 General Requirements**

The general permit authorizes the discharge of whole and ground carcasses but places certain restrictions on the discharge. Discharge of carcasses that causes the following nuisance conditions is not authorized under the general permit:

- Receiving water unfit or unsafe for a beneficial use;
- A film, sheen, or discoloration on the surface of the water or adjoining shorelines;
- Leaching of toxic or deleterious substances; or
- A sludge, solid, or emulsion deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines unless authorized by a ZOD.

The general permit requires permittees to obtain approval from DEC for each discharge location before discharge begins. To obtain approval, permittees must submit a Carcass Disposal Plan for each discharge location with the NOI. The disposal plan must include a description of the proposed disposal method and practicable alternatives, proposed discharge location, tides and currents in the area of discharge, and an estimate of the maximum poundage and duration of discharge. DEC will consider site-specific factors, such as remoteness of the facility, when evaluating the plan and developing special conditions associated with mortalities or broodstock carcass disposal. Also, permittees must maintain a daily log of each discharge occurrence and approximate weight of carcasses discharged and provide it to DEC upon request.

### **7.2 Broodstock Whole Carcass Disposal**

Aquaculture facilities that convert aquatic animals from a raw to marketable form, including but not limited to roe removal for sale or sale of whole, partial, or packaged aquatic animals which involves more than evisceration of fish or other seafood at sea, are not authorized to discharge whole carcasses resulting from this activity to marine water.

Carcasses not generated from converting aquatic animals from a raw to marketable form may be discharged whole in marine waters at least 300 feet deep that are suitable for dispersing the carcasses while the vessel is underway. If the depth requirement cannot be met due to site-specific conditions, permittees may request a waiver of the depth requirement. Permittees are responsible for providing adequate information to justify the waiver, such as bathymetric data, average and maximum current speeds, and historical impacts from carcass disposal.

DEC will consider discharges of whole carcasses to freshwater on a case-by-case basis depending on site-specific factors and receiving water characteristics. Discharges of whole carcasses to freshwater is prohibited within a public water system drinking water protection area. Drinking water protection areas can be identified using the interactive web map application Alaska DEC Drinking Water Protection Areas, located at:

<http://dec.alaska.gov/das/GIS/apps.htm>.

### 7.3 Ground Carcass Disposal

The general permit authorizes discharge of ground carcasses to marine waters only. Marine waters typically have tidal velocities and depths sufficient to disperse carcasses, and large volumes of ground carcasses are not expected to accumulate on the seafloor. Because freshwater is often less dynamic and mixes at a slower rate than marine water, the general permit prohibits the discharge of ground carcasses to freshwater to prevent or minimize the accumulation of large volumes of ground carcasses in freshwater systems. Additionally, APDES regulations at 18 AAC 70.210 allow DEC to authorize a deposit of substances on the bottom of marine waters only, within limits set by the Department (see Part 11.3).

Aquaculture facilities 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 which involves more than evisceration of fish or other seafood at sea, must grind all carcasses resulting from this activity to smaller than 0.5 inches in any dimension prior to discharging to marine waters.

Discharges of ground carcasses to marine waters must be through an outfall pipe with a depth terminus of at least 60 feet below mean lower low water (MLLW). Discharges of ground carcasses to estuarine waters must be through an outfall pipe with a depth terminus of at least 10 feet below MLLW or ordinary high water, whichever is deeper.

If the depth requirement cannot be met due to site-specific conditions, permittees may apply for a reduction of the depth requirement. Permittees are responsible for providing adequate information to justify the request, including receiving water bathymetry, current or flow, historic effect of past discharges, length of pipe needed to meet the required depth, and estimated costs for the modification to meet the required depth.

During grinding operations, permittees are required to inspect the grinder system daily to ensure ground residues are smaller than 1.27 cm (0.5 inch) in any dimension. If 10 or more waste particles in a five-gallon bucket of wastewater exceed 1.27 cm (0.5 inch), permittees must take corrective action. Corrective actions may include replacing or sharpening the grinder plates, adjusting the pump speed, reducing the size of the cutting plate, or adding an auto grinder. Permittees must keep a daily log documenting the inspection and any corrective actions taken. The daily log must be made available to DEC upon request.

In accordance with 18 AAC 70.210, permittees may request a ZOD for accumulations of ground carcasses beneath the outfall when they submit an NOI. DEC will specify the limits of the ZOD and may include requirements for implementation of additional control measures or monitoring in each written general permit authorization. Refer to Part 11.3 for additional information.

### 7.4 Compliance Schedules

Per 18 AAC 70.910, the Department has authority to include compliance schedules as conditions of a permit, certification, or approval. Schedules under this provision require compliance by the permittee as soon as possible and may not extend beyond the compliance date established by the Department in the permittee's written authorization. Compliance schedules shall not extend past the expiration date of the permit. The compliance schedule will include an enforceable date for its achievement that is within the timeframe allowed by the permit.

In order to grant a compliance schedule under this permit, the Department must make a reasonable finding, adequately supported by the administrative record and including factors listed in Permit Part 7.3.2, that the compliance schedule will lead to compliance with a permit and/or effluent limitation to meet WQS by the end of the compliance schedule.

The permittee shall demonstrate that they cannot immediately comply with the new limits and conditions upon the effective date of the permit. The Department cannot issue a compliance schedule for a permit limitation and

condition that was included in the previous AKG130000 General Permit, which includes the requirement that all discharges shall comply with the Alaska WQS found in 18 AAC 70.

A permittee who fails to comply with an interim or final compliance date set out in a compliance schedule will be in violation of the permit, certification, or approval to which the compliance schedule applies and is subject to enforcement action by the Department, including modification, suspension, or revocation of the permit, certification, or approval.

## 8.0 Antibacksliding

Regulations at 18 AAC 83.480 require that “effluent limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit.” Regulations at 18 AAC 83.480(c) also state that a permit may not be reissued “to contain an effluent limitation that is less stringent than required by effluent guidelines in effect at the time the permit is renewed or reissued.”

The previous AKG130000 permit did not include a mechanism that allowed permittees the option of applying for a mixing zone, while the reissued permit does. This could result in a relaxation of effluent limits, as under the previous AKG130000 permit all WQS were required to be met at the point of discharge. Per CWA Section 303(d)(4)(B), limitations based on WQS can only be relaxed where the action is consistent with the state’s antidegradation policy. This requirement will be fulfilled through the application process for individual authorizations, as the permit requires permittees requesting a mixing zone to submit Form 2M, perform a reasonable potential analysis, submit Form 2G, and include sufficient information for the Department to complete an antidegradation analysis and make findings under 18 AAC 70.016(b), (c), and (d). The proposed mixing zone will be public noticed.

All other conditions in the permit are at least as stringent as in the previously issued permit and are consistent with 18 AAC 83.480. Accordingly, no further backsliding analysis is required for this permit.

## 9.0 Antidegradation

Section 303(d)(4) of the CWA states that, for waterbodies where the water quality meets or exceeds the level necessary to support the waterbody’s designated uses, WQBELs may be revised as long as the revision is consistent with the State’s Antidegradation policy. The State’s Antidegradation policy is found in the 18 AAC 70 WQS regulations at 18 AAC 70.015. The Department’s approach to implementing the Antidegradation policy is found in 18 AAC 70.016 *Antidegradation implementation methods for discharges authorized under the federal Clean Water Act*. Both the Antidegradation policy and the implementation methods are consistent with 40 CFR §131.12 and approved by EPA. This Part analyzes and provides rationale for the Department’s decisions in the permit issuance with respect to the Antidegradation policy and implementation methods.

Using the policy and corresponding implementation methods, the Department determines a Tier 1 or Tier 2 classification and protection level on a parameter by parameter basis. A Tier 3 protection level applies to a Tier 3 designated water. At this time, no Tier 3 waters have been designated in Alaska.

Regulatory requirements of 18 AAC 70.015(a)(1) state that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected (Tier 1 protection level).

There are no marine waters covered under the general permit listed as impaired (Category 4 or 5) on DEC’s most recent *2020 Integrated Water Quality Monitoring and Assessment Report*; therefore, no marine parameters have been identified where only the Tier 1 protection level would apply. Accordingly, this antidegradation

analysis conservatively assumes that the Tier 2 protection level applies to all marine parameters, consistent with 18 AAC 70.016(c)(1).

Regulations at 18 AAC 70.015(a)(2) state that if the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected, unless the Department authorizes a reduction in water quality (Tier 2 protection level).

The Department may allow a reduction of water quality only after the specific analysis and requirements under 18 AAC 70.016(b)(5)(A-C), 18 AAC 70.016(c)(7)(A-F), and 18 AAC 70.016(d) are met. The Department's findings are as follows:

**9.1. 18 AAC 70.016(b)(5)**

*(A) existing uses and the water quality necessary for protection of existing uses have been identified based on available evidence, including water quality and use related data, information submitted by the applicant, and water quality and use related data and information received during public comment;*

*(B) existing uses will be maintained and protected; and*

*(C) the discharge will not cause water quality to be lowered further where the department finds that the parameter already exceeds applicable criteria in 18 AAC 70.020(b), 18 AAC 70.030, or*

*18 AAC 70.236(b).*

Per 18 AAC 70.020 and 18 AAC 70.050, all waters are protected for all uses; therefore, the most stringent water quality criteria found in 18 AAC 70.020 and in the Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances (DEC 2008) apply and were evaluated. This will ensure existing uses and the water quality necessary for protection of existing uses of the receiving waterbody are fully maintained and protected.

The permit places limits and conditions on the discharge of pollutants. The limits and conditions are established after comparing TBELs and WQBELs and applying the more restrictive of these limits. The water quality criteria serve the specific purpose of protecting the existing and designated uses of the receiving water. The permit also requires ambient water quality monitoring to evaluate possible impacts to the receiving waters and existing uses.

Aquaculture facilities generate a variety of pollutants from uneaten feed, fish feces, fish carcasses, algae, parasites and pathogens, cleaning chemicals, and medications used to treat fish diseases. The main pollutants of concern found in wastewater discharges from hatcheries and net pen facilities include TSS, SS, pH, ammonia, DO, and chlorine.

In addition to discharges from regular operation of aquaculture facilities, these facilities may also discharge large volumes of whole or ground fish carcasses after spawning each season. The general permit requires permittees to obtain DEC approval for each discharge site and lists several general prohibitions, including causing the receiving water to be unfit or unsafe for a beneficial use, and specific conditions on discharges. Disposal of ground fish waste to freshwater is not authorized under any circumstances, and disposal of whole carcasses to freshwater will be authorized on a case-by-case basis. The general permit also restricts the discharge of whole carcasses within a drinking water protection area. Facilities that grind fish waste are required to take corrective action if the grinding operation fails to consistently grind to the required size of 1.27 cm (0.5 inch).

The general permit includes narrative effluent limits and BMPs addressing the pollutants of concern. The permit requires facilities to implement BMP plans to minimize the production of waste and the

discharge of pollutants to waters of the U.S. to ensure that the aquaculture facilities provide for the protection or attainment of existing and designated uses. No evidence suggests discharges from aquaculture facilities have caused largescale or widespread harm to water quality nor altered existing uses of any waters despite operation for several decades. Alaska's aquaculture facilities are often found near turbulent marine waters where rapid mixing and dilution occurs. The general permit requires that net pen facilities be situated in locations with adequate current velocity to avoid degradation of water quality and benthic conditions around the nets.

Part 1.3.1 of the permit requires that the discharge shall not cause or contribute to a violation of the WQS at 18 AAC 70. The permit also prohibits the discharge of potentially hazardous or toxic waste streams, untreated cleaning wastewater, and certain disease control chemicals and drugs such that compliance with the permit will ensure compliance with 18 AAC 70.030. Discharges to degraded waters are excluded from coverage unless certain conditions are met, such as demonstrating that the discharge is not expected to cause or contribute to a WQS violation. Waters covered under the general permit are not listed under 18 AAC 70.236(b) as subject to site-specific criteria.

Permittees may request authorization for a ZOD for accumulations of residues in marine waters. The general permit does not authorize a standardized ZOD that would apply to all discharges, but DEC will define specific limits for ZODs on a case-by-case basis after thoroughly evaluating a variety of factors, such as the site-specific characteristics, reasonable alternatives to the ZOD, and potential direct and indirect impacts to human health, aquatic species, or other wildlife. Discharges from hatcheries shall meet all water quality criteria at the boundary of any authorized ZOD, although water quality criteria and antidegradation requirements for residues may be exceeded within the ZOD.

The general permit requires permittees to monitor and report discharges and enables DEC to require additional monitoring of the influent, effluent, or receiving water for several purposes. DEC will collect the monitoring data during this permit term and analyze the data to further refine which pollutants have a reasonable potential to cause a violation of Alaska's WQS. DEC will perform permit compliance inspections to evaluate the facilities' ability to adhere to the conditions outlined in the general permit.

The Department concludes that the terms and conditions of the permit will be adequate to fully protect and maintain the existing uses of the water and that the findings under 18 AAC 70.016(b)(5) are met.

## **9.2. 18 AAC 70.016(c)(7)(A-F)**

**9.2.1 18 AAC 70.016(c)(7)(A)** *the reduction of water quality meets the applicable criteria of 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b), unless allowed under 18 AAC 70.200, 18 AAC 70.210, or 18 AAC 70.240;*

As previously stated, Part 1.3.1 of the permit requires that the discharge shall not cause or contribute to a violation of the WQS at 18 AAC 70. WQBELs are set equal to the most stringent water quality criteria available under 18 AAC 70.020(b) for any of the protected water use classes. Because of the nature of the permitted discharges, pollutants are not expected to be present in the discharges at levels that would cause, have the reasonable potential to cause, or contribute to an exceedance of any Alaska WQS, including the whole effluent toxicity limit at 18 AAC 70.030. The Department will not authorize a discharge under the general permit to waters that have established or adopted site-specific criteria in the vicinity of the discharge. Currently, waters covered under the general permit are not listed under 18 AAC 70.236(b) as subject to site-specific criteria.

Except where a mixing zone or a ZOD has been authorized by the Department, all parameters at the point of discharge must meet the most stringent water quality criteria available for any of the protected water use classes. In addition, if a mixing zone is authorized, all water quality criteria must be met at the boundary of the mixing zone to ensure all criteria are met in the waterbody and the waterbody as a whole is protected. The water quality criteria in 18 AAC 70.020 is a legal basis for the permit effluent limits, of which serve the specific purpose of protecting the existing and designated uses.

The Department has determined that the reduction of water quality meets the applicable criteria of 18 AAC 70.020(b), 18 AAC 70.030, and 18 AAC 70.236(b), and that the finding is met.

9.2.2 **18 AAC 70.016(c)(7)(B)** *each requirement under (b)(5) of this section for a discharge to a Tier 1 water is met;*

See 18 AAC 70.016(b)(5) analysis and findings above.

9.2.3 **18 AAC 70.016(c)(7)(C)** *point source and state-regulated nonpoint source discharges to the receiving water will meet requirements under 18 AAC 70.015(a)(2)(D); to make this finding the department will (i) identify point sources and state-regulated nonpoint sources that discharge to, or otherwise impact, the receiving water; and (ii) consider whether there are outstanding noncompliance issues with point source permits or required state-regulated nonpoint source best management practices, consider whether receiving water quality has improved or degraded over time, and, if necessary and appropriate, take actions that will achieve the requirements of 18 AAC 70.015(a)(2)(D); and (iii) coordinate with other state or federal agencies as necessary to comply with (i) and (ii) of this subparagraph;*

The requirements under **18 AAC 70.015(a)(2)(D)** state:

*(D) all wastes and other substances discharged will be treated and controlled to achieve (i) for new and existing point sources, the highest statutory and regulatory requirements; and (ii) for nonpoint sources, all cost-effective and reasonable best management practices;*

The highest statutory and regulatory requirements are defined at **18 AAC 70.015(d)**:

*(d) For purposes of (a) of this section, the highest statutory and regulatory requirements are (1) any federal technology-based effluent limitation identified in 40 C.F.R. 122.29 and 125.3, revised as of July 1, 2017 and adopted by reference;*

*(2) any minimum treatment standards identified in 18 AAC 72.050;*

*(3) any treatment requirements imposed under another state law that is more stringent than a requirement of this chapter; and*

*(4) any water quality-based effluent limitations established in accordance with 33 U.S.C. 1311(b)(1)(C) (Clean Water Act, sec. 301(b)(1)(C)).*

The first part of the definition includes all federal TBELs. The permit requires permitted CAAP facilities to comply with 40 CFR Part 451, Concentrated Aquatic Animal Production Point Source Category. The effluent limitation guidelines (ELGs) set standards of performance and are incorporated in the permit.

The second part of the definition references the minimum treatment standards found at 18 AAC 72.050, which refers to domestic wastewater discharges only. The permit does not authorize the discharge of domestic wastewater (Permit Part 1.2.6). Therefore, a finding under this part is not applicable.

The third part of the definition refers to treatment requirements imposed under another state law that are more stringent than 18 AAC 70. Other regulations beyond 18 AAC 70 that apply to this permitting action include 18 AAC 15 and 18 AAC 72. Neither the regulations in 18 AAC 15 and 18 AAC 72 nor another state law that the Department is aware of impose more stringent requirements than those found in 18 AAC 70.

The fourth part of the definition refers to WQBELs. A WQBEL is designed to ensure that the WQS of a waterbody are met and may be more stringent than TBELs. Section 301(b)(1)(C) of the CWA requires the development of limits in permits necessary to meet WQS by July 1, 1977. WQBELs included in APDES permits are derived from EPA-approved 18 AAC 70 WQS. APDES regulation 18 AAC 83.435(a)(1) requires that permits include WQBELs that can “achieve water quality standards established under CWA Section 303, including state narrative criteria for water quality.” The permit requires compliance with the 18 AAC 70 WQS, including monitoring for applicable pollutants.

The Department reviewed available information on known point source discharges to receiving waters covered under the permit and found no outstanding noncompliance issues. There are no state regulated nonpoint sources that discharge to, or otherwise impact, the receiving waters covered under the permit.

After review of the methods of treatment and control and the applicable statutory and regulatory requirements, including 18 AAC 70, 18 AAC 72, and 18 AAC 83, the Department finds that the discharge authorized under this general permit meets the highest applicable statutory and regulatory requirements; therefore, the 18 AAC 70.016(c)(7)(C) finding is met.

9.2.4. **18 AAC 70.016(c)(7)(D)(i-ii)** *the alternatives analysis provided under (4)(C-F) of this subsection demonstrates that*

*(i) a lowering of water quality under 18 AAC 70.015(a)(2)(A) is necessary; when one or more practicable alternatives that would prevent or lessen the degradation associated with the proposed discharge are identified, the department will select one of the alternatives for implementation; and*

*(ii) the methods of pollution prevention, control, and treatment applied to all waste and other substances to be discharged are found by the department to be the most effective and practicable;*

The Department performed an alternatives analysis and found that temporary lowering of water quality to accommodate important economic development throughout the State of Alaska is necessary. Alternatives were evaluated based on practicability, as defined at 18 AAC 70.990(48). Alternatives were determined to be non-practicable. Therefore, discharge under the limitations and requirements of the permit is identified as the practicable alternative, and the 18 AAC 70.016(c)(7)(D)(i) finding is met.

Permit requirements include the implementation of BMPs and effluent and ambient monitoring to evaluate the need for updated limits in future permits.

The permit requires aquaculture facilities to follow prescribed BMPs to minimize pollutant discharges, as well as to comply with 40 CFR Part 451, Concentrated Aquatic Animal Production Point Source Category. The ELGs express effluent limitations in the form of narrative standards rather than numeric

values and are based on the technologies EPA determined are the best practicable control technology currently available. In developing the ELGs, EPA considered several treatment options for controlling pollutants at aquaculture facilities and found that although it would be feasible to calculate numeric effluent limitations for TSS based on treatment technologies alone, a combination of operational and management requirements would provide comparable discharge levels and other treatments may not be practicable for all facilities. EPA based the final requirements on production and operational controls that include a rigorously implemented feed management program, proper storage of materials, solids controls, and proper operational and maintenance activities.

The general permit requires facilities that produce over 100,000 pounds of aquatic animals to comply with the non-numeric effluent limits defined in the ELGs and requires smaller facilities to implement measures determined to be reasonable, practical, and feasible based on best professional judgement. While some of the chosen BMPs apply to all facility types, the BMPs were customized to meet the needs of different facility types and levels of aquatic animal production and are intended to be commensurate with the amount of pollutants expected to be discharged at each facility.

All facilities are required to control solids through efficient feed management, adhere to proper operation and maintenance procedures, use only Food and Drug Administration (FDA) or EPA-approved disease control chemicals, and implement a plan to reduce polychlorinated biphenyls (PCBs) in the facility discharge. Larger flow through and recirculating facilities must also ensure proper materials storage and spill response, promptly perform structural maintenance, keep records, and train employees. Larger net pen facilities must also properly collect and dispose of solid wastes (e.g., waste rope and netting), minimize discharges associated with the transport of aquatic animals, routinely remove mortalities, promptly perform structural maintenance, keep records, and train employees.

With the permit-required implementation of BMP controls and the requirement to meet grind size limitations and WQS, the methods of pollution prevention, control, and treatment applied to all waste and other substances to be discharged are found by the Department to be the most effective and practicable; therefore, the 18 AAC 70.016(c)(7)(D)(ii) finding is met.

9.2.5. **18 AAC 70.016(c)(7)(E)** *except if not required under (4)(F) of this subsection, the social or economic importance analysis provided under (4)(G) and (5) of this subsection demonstrates that a lowering of water quality accommodates important social or economic development under 18 AAC 70.015(a)(2)(A); and*

Alaska's hatcheries were created to support the commercial fishing industry by supplementing wild fish stocks to benefit the people of the state. Alaska's hatcheries play a significant role in maintaining reliable and sustainable salmon harvests by contributing millions of pounds of fish to the commercial, sport, and subsistence fisheries each year. The commercial fishing industry is a major economic engine throughout the state with an estimated total economic value of \$5.9 billion annually. In 2015, a nationwide high of 6 billion pounds of salmon, valued at \$1.7 billion, was harvested in Alaska's waters. According to the Alaska Fisheries Enhancement Annual Report 2016, hatcheries contributed an annual average of about one-third of the total Alaska commercial salmon harvest between 2007 and 2016.

While Alaska produced half of the world's salmon in 1980, now Alaska typically accounts for only 12 to 15 percent of the global supply of salmon. However, Alaska has created a niche market for higher quality wild salmon and salmon roe, which is generally not available from salmon farmed elsewhere

because they are not reared to maturity. Over the last decade, roe accounted for about one-third of the wholesale value of chum salmon and one-fifth of the first wholesale value of pink salmon. Alaska salmon roe is sold worldwide with strong markets in Russia, Japan, and Ukraine.

The overall economic value, exvessel, and first wholesale values of the hatchery harvest have steadily increased since 2003. The 2013 season was a record harvest with 283 million fish, which was the second highest catch for wild stocks (176 million fish) and the highest catch for hatchery stocks (107 million fish) in Alaska's history. The 2015 season was the second highest harvest overall, with 263 million fish consisting of the third highest catch for wild stocks (107 million fish) and the second highest catch for hatchery stocks (93 million fish). The hatchery harvest alone in both 2013 and 2015 were greater than the entire statewide commercial salmon harvest in most years. Exvessel value of the commercial hatchery harvest averaged \$146 million over the past decade with a peak of \$209 million in 2010. First wholesale value of the hatchery harvest averaged \$370 million over the last decade, with peak years of over half a billion dollars in 2010 and 2013.

In 2016, Alaska's hatcheries collected roughly 1.9 billion eggs and released a nearly historic high of 1.7 billion juvenile salmon. The 2016 season saw a return of 24 million hatchery raised fish (released in 2015 or earlier) and accounted for approximately 22 percent of the statewide commercial salmon harvest of 109 million fish. Despite being the lowest hatchery harvest since 1992, 2016 was in the top third of all time harvests. The majority of returning hatchery fish were harvested in the common property commercial fisheries (78 percent) and the cost recovery fisheries (17 percent). The 24 million hatchery fish harvested as part of the commercial fishery in 2016 had an exvessel value of \$85 million and a commercial first wholesale value of \$187 million. Roughly 227,000 hatchery-produced salmon, rainbow trout, arctic char, and grayling were harvested by sport, personal use, and subsistence users in 2016.

The commercial fishing industry is the largest private-sector employer in the state and provides jobs for over 60,000 individuals in both rural and urban areas and generates \$1.6 billion in annual labor income. Of those, hatcheries provide nearly 3,000 full and part-time jobs across the state with an estimated labor income of \$204 million. In areas with lower populations, hatcheries comprise a large portion of the labor market and provide viable employment opportunities for local residents.

Issuance of the permit will allow existing aquaculture facilities to continue to operate, allow new aquaculture facilities to begin operations, and establish standards for controlling wastewater discharges from these facilities to protect water quality. The localized lowering of water quality is temporary and limited due to natural attenuation and dispersion.

The Department has determined that the operation of the aquaculture facilities and discharges authorized by the permit demonstrate that the lowering of water quality accommodates important economic development; therefore, the 18 AAC 70.016(c)(7)(E) finding is met.

9.2.6. **18 AAC 70.016(c)(7)(F)** *18 AAC 70.015 and this section have been applied consistent with 33 U.S.C. 1326 (Clean Water Act, sec. 316) with regard to potential thermal discharge impairments.*

Discharges authorized under the permit are not associated with a potential thermal discharge impairment; therefore, the finding is not applicable.

## **10.0 Operation and Maintenance**

### **10.1 General Operating Requirements**

Permittees are required to develop an Operations and Maintenance Plan within 60 days of obtaining authorization under the general permit that describes the general operating and maintenance activities and management practices used at the facility to achieve compliance with the terms and conditions of the general permit. Permittees are expected to safely and efficiently operate and maintain their facilities by following several general operating procedures aimed at eliminating or minimizing discharges of pollutants to waters of the U.S. Permittees must properly handle and dispose of solid wastes, including fish mortalities, sludge, filter backwash, and other debris, to minimize the extent to which such materials enter receiving waters. Permittees should avoid removing dam boards in raceways or ponds or sweeping accumulated solids from raceways or ponds into receiving waters. Rearing ponds should be cleaned within one week prior to drawdown for fish release. The cleaning water must be treated as necessary to meet the Alaska WQS. Additionally, permittees must dispose of aquatic animal mortalities, broodstock carcasses, egg taking wastes, and other processing wastes in a manner that minimizes those materials from entering waters of the U.S. Permittees must keep a copy of the facility's Operations and Maintenance Plan at the facility and make it available to all employees and to DEC upon request.

### **10.2 Chemical Usage**

The general permit authorizes the use of certain disease control chemicals, including Investigational New Animal Drugs (INADs) and Low Regulatory Priority (LRP) compounds, provided they have been approved by the FDA and/or EPA for use in aquaculture applications. The permit also authorizes extralabel drug use when prescribed by a licensed veterinarian. Permittees must apply all drugs, pesticides, and other chemicals according to label directions or under the order of a licensed veterinarian. When drugs, pesticides, or other chemicals are used, permittees must document the use and the proper disposal of all spent materials. Details pertaining to the use, including the amount used, concentration, detention time, type of treatment, and flow, must be reported to DEC in the Annual Report.

### **10.3 Production Changes**

To allow DEC to maintain an accurate account of the permitted aquaculture facilities in the state, permittees must notify DEC of any proposed significant production increase (20 percent or greater) or change in the nature of the discharge which substantially deviates from the information submitted in the NOI. Permittees must continue complying with the general permit requirements, including monitoring and submitting DMRs and Annual Reports, if the pounds of fish at a facility drops below 20,000 and the monthly pounds of feed drops below 5,000 until a Notice of Termination (NOT) is submitted and processed. Once the NOT is processed by the Department, the facility is no longer covered under the general permit. A new NOI would be required for the facility if the pounds of fish again reached 20,000 pounds and the monthly pounds of feed reached 5,000 pounds.

## **11.0 Special Conditions**

### **11.1 Polychlorinated Biphenyls Reduction Activities**

PCBs are a group of persistent organic chemicals that do not readily degrade in the environment and cycle between air, soil, and water for extended periods of time. PCBs are easily taken up by fish and other small organisms and accumulate in the organs and fat tissue. Despite being banned in the U.S. in 1979, PCBs are still commonly found in fish feed, which is made largely from ground-up small fish and is designed to have high amounts of fish oils. With few other food sources, PCBs will further bioaccumulate and bioconcentrate in

tissues of hatchery raised fish and may pose a health risk to people who frequently eat fish. PCBs are known to increase the risk of developing cancer, disrupt hormonal regulation, increase the risk of preterm delivery and low birth weight, and increase the risk that babies will develop neurodevelopmental effects from maternal consumption of PCBs.

To minimize the spread of PCBs, permittees are required to develop and implement a plan to reduce PCBs in the facility discharge within 60 days of obtaining coverage under the general permit. At a minimum, the plan should address limiting the amount of PCBs in the fish food used at the facility, minimizing the discharge of unconsumed food, and removing accumulated fish feed prior to discharge. Permittees must obtain information about PCB levels in fish food from suppliers and submit it to DEC with the Annual Report.

## **11.2 Quality Assurance Project Plan**

Permittees are required to develop procedures to ensure that the monitoring data submitted are accurate and to explain data anomalies whenever they occur. The permittee is required to develop or update the Quality Assurance Project Plan (QAPP) within 60 days of obtaining coverage under the general permit. The QAPP shall consist of standard operating procedures the permittee must follow for collecting, handling, storing, and shipping samples; laboratory analysis; and data reporting. The plan shall be retained onsite and made available to the Department upon request.

## **11.3 Zone of Deposit**

A ZOD is defined as a limited area where substances may be allowed to be deposited on the seafloor of marine waters. In accordance with state regulations at 18 AAC 70.210, the Department may authorize a ZOD, within limits set by the Department, in a permit as long as toxic conditions are prevented and the designated uses of the water as a whole are not impaired. The water quality criteria for residues in 18 AAC 70.020(b) and the antidegradation requirements of 18 AAC 70.015 may be exceeded in a ZOD. However, the standards must be met at every point outside the ZOD.

As stated in 18 AAC 70.210(b), the Department will consider the following when deciding whether to authorize a ZOD in a permit:

- Alternatives that would eliminate, or reduce, any adverse effects of the deposit;
- The potential direct and indirect impacts on human health;
- The potential impacts on aquatic life and other wildlife, including the potential for bioaccumulation and persistence;
- The potential impacts on other uses of the waterbody;
- The expected duration of the deposit and any adverse effects; and
- The potential transport of pollutants by biological, physical, and chemical processes.

The general permit provides permittees who discharge to marine waters the opportunity to request a ZOD for residues accumulations. The permit does not authorize a standardized ZOD that would apply to all discharges. DEC will define specific limits for ZODs on a case-by-case basis after reviewing information provided in the NOI and soliciting comments from the public. Permittees are responsible for providing an analysis of alternatives to marine discharges, the flushing and mixing characteristics of the receiving water, and an evaluation of the potential environmental impacts associated with the ZOD. According to 18 AAC 70.210(c), the burden of proof for justifying a ZOD rests with the applicant.

When authorizing a ZOD, DEC will require monitoring of the seafloor to determine the extent of residues accumulation and to evaluate the impacts to the benthic community.

## 12.0 Reporting and Recordkeeping Requirements

### 12.1 Annual Report

Permittees are required to submit a signed Annual Report to DEC by March 15 of each calendar year. The Annual Report must include general hatchery operations, chemical usage, and monitoring results. At a minimum, the Annual Report must include the following information, as listed in Permit Part 7.1.1:

- Number of days the facility site(s) operated;
- Amount of feed used by month at each rearing site;
- Date that aquatic animals were added to the net pens and date the aquatic animals were released from the net pens;
- Total weight of the aquatic animals upon leaving each flow through or recirculating site and upon leaving each net pen site;
- Species of aquatic animals in the net pens during the season;
- Method, total pounds, dates, and location(s) of aquatic animal mortality disposal;
- Method, total pounds, dates, and location(s) of broodstock carcass disposal;
- Chemical usage information as required in Permit Part 5.2.4;
- PCB content of feed as required in Permit Part 6.1.1.4;
- Monitoring results (including net pen dissolved oxygen monitoring, net pen benthic monitoring, net pen water column monitoring, and ZOD seafloor surveying).
- Summary of noncompliance, including the reasons for such noncompliance and any corrective actions and preventative steps taken.

In situations where permitted facilities do not discharge during certain months, permittees must still submit Annual Reports stating that no discharge occurred. If permittees monitor the influent, effluent, or receiving water characteristics more frequently than required by the general permit, permittees must include the results of those samples in the DMR.

Permittees must retain a copy of the general permit, NOI and supporting data used to complete the NOI, monitoring information, documentation used in the preparation of the DMRs and Annual Reports, and the DMRs and Annual Reports for a minimum of three years from the date of the sample, event, or activity.

### 12.2 Electronic Reporting (E-Reporting Rule)

#### 12.2.1 E-Reporting Rule - Phase I (DMRs).

The permittee must submit a Discharge Monitoring Report (DMR) for each month by the 15th day of the following month. DMRs shall be submitted electronically through NetDMR per Phase I of the E-Reporting Rule (40 CFR Part 127). For access to the NetDMR Portal, go to <https://cdxnodengn.epa.gov/oeca-netdmr-web/action/login>. DMRs submitted in compliance with the E-Reporting Rule are not required to be submitted as described in Appendix A – Standard Conditions unless requested or approved by the Department. Any data required by the Permit that cannot be reported in a NetDMR field (e.g., mixing zone receiving water data, etc...) shall be included as an attachment to the NetDMR submittal. DEC has established an e-Reporting Information website at <http://dec.alaska.gov/water/compliance/electronic-reporting-rule> which contains general information about this new reporting format. Training modules and webinars for NetDMR can be found at [https://usepa.servicenowservices.com/oeca\\_icis](https://usepa.servicenowservices.com/oeca_icis).

### 12.2.2 E-Reporting Rule - Phase II (Other Reports).

Phase II of the E-Reporting rule will integrate electronic reporting for all other reports required by the Permit (e.g., Annual Reports and Certifications) and implementation is expected to begin during the permit cycle. Permittees should monitor DEC's E-Reporting website (<http://dec.alaska.gov/water/compliance/electronic-reporting-rule>) for updates on Phase II of the E-Reporting Rule and will be notified when they must begin submitting all other reports electronically. Until such time, other reports required by the Permit may be submitted in accordance with Appendix A – Standard Conditions.

## 12.3 Reporting Drug Usage

If a permittee agrees to participate in an INAD study, they must notify DEC of the INAD's impending use in writing within seven days of agreeing to participate in the study. The written notification must identify the INAD used, method of use, dosage, and the reason for using the INAD. For any drug use not listed on the NOI, the permittee must notify DEC orally within seven days after initiating use of the drug and in writing within 30 days of initiating use of the drug. The reports should identify the drug used, date and time of application, method of application, amount used, and reason for using the drug.

## 13.0 Other Considerations

### 13.1 Endangered Species Act

The National Marine Fisheries Service (NMFS) is responsible for administration of the Endangered Species Act (ESA) for listed cetaceans, seals, sea lions, sea turtles, anadromous fish, marine fish, marine plants, and corals. All other species (including polar bears, walrus, and sea otters) are administered by the USFWS.

The ESA requires federal agencies to consult with NOAA, NMFS, and the USFWS if their actions could beneficially or adversely affect any threatened or endangered species. As a state agency, DEC is not required to consult with these federal agencies regarding permitting actions. However, DEC voluntarily contacted the agencies on May 18, 2017 to notify them of the proposed permit issuance and to obtain listings of threatened and endangered species near the discharge. NMFS and USFWS responded by providing lists of threatened and endangered species for their respective agencies. Species of concern that inhabit or that have inhabited Alaskan waters at least at one time and that are listed as threatened or endangered are included in Table 3.

An interactive endangered species map maintained by NMFS may be accessed at <https://www.fisheries.noaa.gov/alaska/sustainable-fisheries/alaska-fisheries-figures-maps-boundaries-regulatory-areas-and-zones>. The USFWS has further information regarding ESA at <https://ipac.ecosphere.fws.gov/>.

Authorizations may incorporate site-specific water quality-based and threatened or endangered species-related requirements, as established in the permit.

This fact sheet and the permit will be submitted to the agencies for review during the public notice period, and any comments received from these agencies will be considered prior to issuance of the permit.

**Table 3: Threatened and Endangered Species in Alaska**

<b>Species Name</b>	<b>Scientific Name</b>	<b>Listing Status</b>
Albatross, short-tailed	<i>Phoebastria albatrus</i>	Endangered
Bear, polar	<i>Ursus maritimus</i>	Threatened
Bison, wood	<i>Bison bison athabascae</i>	Threatened
Curlew, Eskimo	<i>Numenius borealis</i>	Endangered
Eider, spectacled	<i>Somateria fischeri</i>	Threatened
Eider, Stellar's	<i>Polysticta stelleri</i>	Threatened
Fern, Aleutian shield	<i>Polystichum aleuticum</i>	Endangered
Otter, northern sea Southwest Alaska distinct population segment	<i>Enhydra lutris kenyoni</i>	Threatened
Sea turtle, green	<i>Chelonia mydas</i>	Threatened
Sea turtle, leatherback	<i>Dermochelys coriacea</i>	Endangered
Sea turtle, loggerhead	<i>Caretta caretta</i>	Threatened
Sea turtle, Olive Ridley	<i>Lepidochelys olivacea</i>	Threatened
Sea lion, Stellar Western distinct population segment	<i>Eumetopias jubatus</i>	Endangered
Whale, beluga Cook Inlet distinct population segment	<i>Delphinapterus leucas</i>	Endangered
Whale, blue	<i>Balaenoptera musculus</i>	Endangered
Whale, bowhead	<i>Balaena mysticetus</i>	Endangered
Whale, fin	<i>Balaenoptera physalus</i>	Endangered
Whale, humpback Western North Pacific distinct population segment	<i>Megaptera novaeangliae</i>	Endangered
Whale, North Pacific Right	<i>Eubalaena japonica</i>	Endangered
Whale, sei	<i>Balaenoptera borealis</i>	Endangered
Whale, sperm	<i>Physeter macrocephalus</i>	Endangered

### 13.2 Essential Fish Habitat

Essential fish habitat (EFH) includes the waters and substrate (sediments, etc.) necessary for fish from commercially-fished species to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires federal agencies to consult with NOAA when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH.

As a state agency, DEC is not required to consult with NOAA on EFH. However, DEC voluntarily contacted NOAA on May 18, 2017 to notify them of the proposed permit issuance and to obtain listings of EFH in the area. NOAA responded that the following EFH areas may be affected by discharges under the general permit:

- Bering Seas and Aleutian Island Groundfish
- Gulf of Alaska Groundfish
- Bering Sea and Aleutian Island King and Tanner Crabs
- Alaska Scallops
- Alaska stocks of Pacific Salmon

More information regarding EFH species in Alaska can be found at:

<https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

DEC will provide NMFS with copies of the permit and fact sheet during the public notice period. Any comments received from NMFS regarding EFH will be considered prior to issuance of the permit.

### **13.3 Ocean Discharge Criteria Evaluation**

The Ocean Discharge Criteria establish guidelines for permitting discharges into the territorial seas, the contiguous zone, and the ocean.

EPA regulations, 40 CFR §125.122(b) and adopted by reference at 18 AAC 83.010(C)(8), state that discharges found to be in compliance with CWA Section 303 WQS will be presumed to also be in compliance with CWA Section 403 ocean discharge criteria. As such, EPA itself equated ocean discharge criteria with WQS, a fact it emphasized when promulgating ocean discharge criteria rules in 1980: “the similarity between the objectives and requirements of [state WQS] and those of CWA section 403 warrants a presumption that discharges in compliance with these [standards] also satisfy CWA section 403.” (Ocean Discharge Criteria, 45 Fed. Reg. 65,943 (proposed Oct. 3, 1980) (codified at 40 CFR Part 125)) As with any permit, the CWA requires the general permit to contain any applicable TBELs as well as limits and conditions necessary to meet applicable state WQS. State WQS apply in the territorial seas, defined in the CWA Section 502(8) as extending three miles from the baseline (*Pacific Legal Foundation v. Costle*, 586 F.2d 650, 655-656 (9th Cir. 1978); *Natural Resources Defense Council, Inc. v. U.S. EPA*, 863 F.2d 1420, 1435 (9th Cir. 1988)). Unlike ocean discharge criteria, however, state WQS trigger additional requirements under the CWA, including WQBELs requirements under Section 302. Specifically, state WQS established pursuant to CWA Section 303 are designed to preserve the quality of waters under State jurisdiction, including the territorial seas, and compliance with these standards should ensure protection of the uses for which the waters are designated with respect to pollutants for which standards have been established. The State of Alaska WQS protect all uses, and the permit requires authorized discharges to be in compliance with WQS. Therefore, discharges in compliance with the permit shall be presumed not to cause unreasonable degradation of the marine environment, for any of the pollutants or conditions specified.

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