

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
5 POST OFFICE SQUARE  
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET AND SUPPLEMENTAL INFORMATION

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR DISCHARGES FROM AQUACULTURE FACILITIES TO  
CERTAIN WATERS OF THE COMMONWEALTH OF MASSACHUSETTS, THE  
STATE OF NEW HAMPSHIRE, AND THE STATE OF VERMONT**

**NPDES GENERAL PERMITS: MAG130000, NHG130000, and VTG130000**

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Attachment 1 – AQUAGP List

Attachment 2 – AQUAGP Massachusetts Facilities Map

Attachment 3 – AQUAGP New Hampshire Facilities Map

Attachment 4 – AQUAGP Vermont Facilities Map

## **1.0 Coverage Under This Permit**

### **1.1 Introduction**

The United States Environmental Protection Agency, Region 1 (EPA and EPA New England) is issuing this Draft General Permit for operators of concentrated aquatic animal production (CAAP) facilities (Draft AQUAGP) located in Massachusetts, New Hampshire, and Vermont (federal facilities only), which discharge pollutants to waters of the Commonwealth of Massachusetts, State of New Hampshire, and State of Vermont, unless otherwise restricted.

This Fact Sheet provides the significant factual, legal, and policy issues considered in the development of the Draft AQUAGP. The Draft AQUAGP is organized as a single permit with the effluent limitations and specific conditions for facilities in Massachusetts, New Hampshire, and Vermont in Part 1, Part 2, and Part 3, respectively. Additional State conditions are contained in Parts 1.5 and 2.3. In addition, Part 5 contains narrative effluent limitation requirements which are applicable to all Permittees. The Draft AQUAGP is a new permit intended to cover up to 14 facilities currently regulated by individual permits and may be extended to CAAP facilities not covered by an existing individual permit. Attachment 1 of this Fact Sheet provides a complete listing of all CAAP facilities that meet the requirements for coverage under this general permit and are currently authorized under individual permits. Attachments 2, 3, and 4 of this Fact Sheet provide maps of all currently permitted CAAP facilities in Massachusetts, New Hampshire, and Vermont, respectively.

### **1.2 Coverage of General Permits and Types of Discharges**

Section 301(a) of the Clean Water Act (CWA or the Act) provides that the discharge of pollutants is unlawful except in accordance with a NPDES permit unless such a discharge is otherwise authorized by the Act. EPA's regulations authorize the issuance of "general permits" to one or more categories or subcategories of discharges (see 40 Code of Federal Regulations (CFR) §122.28). EPA may issue a single, general permit to a category of point sources located within the same geographic area whose discharges warrant similar pollution control measures.

The Director of a NPDES permit program is authorized to issue a general permit if there are a number of point sources operating in a geographic area that are characterized by, but not limited to, the following:

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

Authorization for coverage under a general permit requires submittal by an operator of a written notice of intent (NOI) containing certain facility information that is specified in the permit and NOI instructions. Upon receipt of all required information, the permit issuing authority may authorize the

discharge or deny authorization under the general permit and require submission of an application for an individual permit. A violation of a condition of a general permit constitutes a violation of the Act and subjects the discharger to the penalties in Section 309 of the Act.

EPA is proposing to issue the Draft AQUAGP because there are point source discharges from CAAP facilities that require substantially identical effluent limitations and monitoring requirements. Any facility which is currently covered by an individual permit but is meeting the criteria for coverage described in the Draft AQUAGP may request coverage under the Draft AQUAGP as described in 40 CFR §122.28(b)(3)(v) or they may request coverage once their existing individual permit expires.

A CAAP facility, as defined at 40 CFR §122.24, is a hatchery, fish farm, or other facility which meets the criteria in 40 CFR Part 122, Appendix C or which the Director designates on a case-by-case basis. Pursuant to 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:

1. 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:
  - a. Facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and
  - b. Facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.
2. Warm water fish species or other warm water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year, but does not include:
  - a. Closed ponds which discharge only during periods of excess runoff; or
  - b. Facilities which produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.

The Director may designate a facility not meeting the above criteria as a CAAP facility upon a determination that the facility is a significant contributor of pollution to waters of the United States. See 40 CFR §122.24(c). In making such a determination, the Director will consider the following factors:

1. The location and quality of the receiving waters of the United States;
2. The holding, feeding, and production capacities of the facility;
3. The quantity and nature of the pollutants reaching waters of the United States; and
4. Other relevant factors.

CAAP facilities are constructed to simulate natural streams and are used to produce cold and warm water aquatic animals. Source water is usually supplied to CAAP facilities by groundwater, springs, or surface water diversions. Typically, source water continuously enters the CAAP facility and passes through a series of aquatic animal production units (e.g., a series of holding tanks, ponds, or raceways). Wastewater from these production units can be discharged directly to surface waters or treated in settling basins or percolation ponds prior to discharge. Fish rearing operations at a typical CAAP facility can consist of fish spawning, egg incubation, hatching structures, and rearing areas. Additional structures such as an office, shop, or maintenance and storage building are often located at CAAP facilities. Some CAAP facilities have onsite private residences or public restrooms that discharge domestic wastes on site.

The operation of CAAP facilities may introduce a variety of pollutants into receiving waters, including: 1) conventional pollutants (e.g., total suspended solids (TSS), biochemical oxygen demand (BOD), and pH); 2) toxic pollutants (e.g., metals such as copper); and 3) non-conventional pollutants (e.g., ammonia, chlorine, formalin, nitrogen, and phosphorus). Pollutants in all three of these categories are discharged from CAAP facilities. The most significant of these pollutants are solids from fish feces and uneaten feed that settle to the bottom of the raceways. Both of these types of solids are primarily composed of organic matter including BOD, organic nitrogen, and organic phosphorus. Raceway cleaning wastewater is diverted at some CAAP facilities to settling basins prior to discharge to surface waters.

Fish raised in CAAP facilities may become vulnerable to disease and parasite infestations. Various aquaculture drugs and chemicals are used periodically at CAAP facilities to ensure the health and productivity of the confined fish population, as well as to maintain production efficiency. Aquaculture drugs and chemicals are used to clean raceways and to treat fish for parasites, fungal growths, and bacterial infections. Aquaculture drugs and chemicals are also used to anesthetize fish prior to spawning or prior to the annual “tagging” process. As a result of these operations and practices, drugs and chemicals may be present in discharges from CAAP facilities.

### **Cold Water CAAP Facilities**

Cold water CAAP facilities are those CAAP facilities that contain, grow, or hold cold water fish species or other cold water aquatic animals including, but not limited to, the *Salmonidae* family of fish (e.g., trout and salmon). Twelve (12) cold water CAAP facilities are currently discharging pursuant to individual NPDES permits issued by EPA New England. These facilities are owned and operated by state and federal fishery management agencies (i.e., Massachusetts Division of Fisheries and Wildlife, New Hampshire Fish and Game Department, and the U.S. Fish and Wildlife Service (USFWS) for the purposes of conservation, restoration, and fisheries management.

The species produced at these facilities include: brook trout, brown trout, eastern brook trout, lake trout, rainbow trout, tiger trout, and Atlantic salmon. As reported in their NPDES permit applications, annual production at these facilities ranges from 6,700 lbs/year to 226,600 lbs/year. Maximum daily and average monthly permitted flows range from 1.7 million gallons per day (MGD) to 8.1 MGD and 1.7 MGD to 7.5 MGD, respectively.

### **Warm Water CAAP Facilities**

Warm water CAAP facilities are those CAAP facilities that contain, grow, or hold warm water fish species or other warm water aquatic animals including, but not limited to, *Ameiuride*, *Centrarchidae* and *Cyprinidae* families of fish (e.g., respectively, catfish, sunfish, and minnows). Two warm water CAAP facilities are currently discharging pursuant to individual NPDES permits issued by EPA New England.

These facilities, the North Attleboro National Fish Hatchery and Nashua National Fish Hatchery, are owned and operated by the USFWS for the purposes of conservation, restoration, and fisheries management. Both facilities produce cold<sup>1</sup> and warm water species (e.g., American shad). As reported in their NPDES permit applications, annual production at these facilities ranges from 6,700 lbs/year to 12,497 lbs/year. Maximum daily permitted flows range from 1.7 MGD to 2.2 MGD.

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<sup>1</sup> These two facilities are also included in the count (12) of cold water CAAP facilities.

## Other CAAP Facilities

The Draft AQUAGP provides coverage to other, similar types of facilities including, but not limited to, an aquarium and a research/holding facility, as described further below. In addition, facilities with similar operations that do not meet the definition of a CAAP facility at 40 CFR §122.24 (e.g., those not meeting the production/holding or feeding thresholds) may obtain coverage.

EPA issued an individual NPDES permit for the New England Aquarium in Boston, MA. The facility holds cold and warm water aquatic animals such as penguins, grouper, seals/fur seals, sea lions, sharks, rays, lobster, and jellyfish, in tanks and aquaria. The facility reported in its NPDES permit application an annual production of 14,530 lbs/year. The average monthly and maximum daily permitted flows are 0.1 MGD and 0.15 MGD, respectively. Although the weight thresholds for fish production are well below the criteria for designation as a CAAP facility, EPA designated the facility as a CAAP facility because the facility feeds more than 5,000 lbs of feed in the highest feed month.

EPA issued an individual NPDES permit for the New England Aquarium Off-Site Holding Facility in Quincy, MA. The facility provides alternative storage for aquatic animals from the New England Aquarium when tanks are emptied for cleaning, maintenance, or renovation, for aquatic animal rehabilitation, and to quarantine new aquatic animals coming into the Aquarium's collection. The facility reported in its NPDES permit application an annual production of 14,530 lbs/year. The average monthly and maximum daily permitted flows are 0.012 MGD and 0.03 MGD, respectively. Although the weight thresholds for fish production are well below the criteria for designation as a CAAP facility, EPA designated the facility as a CAAP facility subject to NPDES permitting because the facility's effluent contains copper, bacteria, and other pollutants.

## Receiving Waters

The facilities identified for potential coverage under the Draft AQUAGP discharge to a variety of types of receiving waters. Most facilities discharge to inland freshwater streams, but three facilities discharge to coastal and marine waters.

The facilities in Massachusetts discharge to Class B (four facilities), Class SA (one facility), and Class SB (two facilities) waterbodies. The Massachusetts Water Quality Standards at 314 CMR 4.05 describe these classes of waterbodies as follows:

1. Inland Water Class A – These waters include waters designated as a source of public water supply and their tributaries. They are designated as excellent habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation, even if not allowed. These waters shall have excellent aesthetic value. These waters are protected as Outstanding Resource Waters (ORWs).
2. Inland Water Class B – These waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Where designated in 314 CMR 4.06, they shall be suitable as a source of public water supply with appropriate treatment (“Treated Water Supply”). Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.

3. Coastal and Marine Class SA – These waters are designated as an excellent habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters, excellent habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. Where designated in the tables to 314 CMR 4.00 for shellfishing, these waters shall be suitable for shellfish harvesting without depuration (Approved and Conditionally Approved Shellfish Areas). These waters shall have excellent aesthetic value.
4. Coastal and Marine Class SB – These waters are designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters, habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. Where designated in the tables to 314 CMR 4.00 for shellfishing, these waters shall be suitable for shellfish harvesting with depuration (Restricted and Conditionally Restricted Shellfish Areas). These waters shall have consistently good aesthetic value.

The five facilities in New Hampshire discharge to Class B waterbodies pursuant to Chapter 485-A:8 of the New Hampshire Statutes and Chapter Env-Ws 1703.02(b) of the New Hampshire's Surface Water Quality Regulations. Chapter 485-A:8 states that Class B waters have the following designated uses: The waters of this classification shall be considered as being acceptable for fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies.

The two facilities in Vermont discharge to Class B, Cold Water Fish Habitat waterbodies. The Vermont Water Quality Standards at Environmental Protection Rule Chapter 29(a) require Class B waterbodies to be managed to achieve and maintain the following designated uses: aquatic biota, wildlife, and aquatic habitat; aesthetics; public water supply; irrigation of crops and other agricultural uses; swimming and other primary contact recreation; and boating, fishing, and other recreational uses.

### **1.3 Eligibility**

All CAAP facilities and other, similar facilities that contain, grow, or hold aquatic animals in ponds, raceways, or other similar structures located in Massachusetts, New Hampshire, and Vermont (federal facilities only), which discharge pollutants from the specified operations covered by the Draft AQUAGP are eligible for coverage except those specifically excluded in Part 4.3 of the Draft AQUAGP as described below.

### **1.4 Limitations on Coverage**

The following discharges are not covered by the Draft AQUAGP and such discharges either will need to obtain permit coverage by applying for an individual permit or are not applicable to obtain permit coverage at all.

1. Discharges to ORWs in Massachusetts, New Hampshire, and Vermont:
  - a. as defined in Massachusetts by 314 CMR 4.06(1)(d)2, including Public Water Supplies (314 CMR 4.06(1)(d)1), unless an authorization is granted by the Massachusetts Department of Environmental Protection (MassDEP), under 314 CMR 4.04(5).

- b. as defined in New Hampshire under Env-Wq 1708.04(a), unless allowed by the New Hampshire Department of Environmental Services (NHDES) under Env-Wq 1708.04(c).
  - c. as designated in Vermont by Secretary of the Agency of Natural Resources (ANR) under 10 V.S.A. § 1424a.
2. Discharges to Class A waters in New Hampshire, in accordance with RSA 485-A:8, I. To determine if the proposed receiving water is a Class A waterbody, contact the NHDES at the address listed in Appendix 4 of the Draft AQUAGP.
3. Discharges to Class A waters in Vermont, in accordance with Section 1-04.A.4 of the Vermont Water Quality Standards and 10 V.S.A. §1259. To determine if the proposed receiving water is a Class A waterbody, contact the Vermont Department of Environmental Conservation (DEC) at the address listed in Appendix 4 of the Draft AQUAGP.
4. New or increased discharges to designated reaches of Wild and Scenic Rivers. See links to the National Wild and Scenic River System below:
  - for MA: <http://www.rivers.gov/massachusetts.php>
  - for NH: <http://www.rivers.gov/new-hampshire.php>
  - for VT: <https://www.rivers.gov/vermont.php>
5. New or increased discharges of industrial or commercial waste to Ocean Sanctuaries in Massachusetts in accordance with Massachusetts General Law 132A: The Massachusetts Ocean Sanctuary Act. The boundaries of the five ocean sanctuaries can be found in MGL 132A Section 13: <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter132A/Section13>.
6. Discharges of pollutants identified as the cause of an impairment to receiving water segments identified on the Commonwealth of Massachusetts, the State of New Hampshire, or the State of Vermont approved 303(d) lists, unless the pollutant concentration is at or below a concentration that meets water quality standards. A discharge is eligible if the segment is impaired for a pollutant that will not be present in the discharge. Permittees must include information in their NOI about impairments to receiving waterbodies. Upon review of the NOI, EPA may require the Permittee to conduct additional effluent sampling to determine if any of the facility discharges are contributing to the receiving waterbody impairment.
7. Any facility whose new or increased discharge is not in compliance with the appropriate state's antidegradation policy or the New Hampshire Water Conservation Rules (Env-Wq 2101, or as amended).
8. Discharges to lakes or ponds in New Hampshire as CAAP facilities are known to contain nutrients whose discharge is prohibited in accordance with Env-Wq 1703.14 (d). In addition, there shall be no new or increased discharges to tributaries of lakes or ponds that would contribute to cultural eutrophication or growth of weeds or algae in such lakes or ponds in accordance with Env-Wq 1703.14 (e).

9. Discharge(s) that are likely to adversely affect any species listed as threatened or endangered under the Endangered Species Act (ESA) or result in the adverse modification or destruction of critical habitat.
10. Discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places under the National Historic Preservation Act of 1966 (NHPA), 16 USC Section 470 et seq. See Appendix 3 of the Draft AQUAGP for additional NHPA requirements.
11. Discharges to a Publicly-Owned Treatment Works (POTW) which are permitted under § 402 of the CWA (NPDES).
12. “New Source” dischargers, as defined in 40 CFR §122.2. “New Sources” must comply with New Source Performance Standards (NSPS) and are subject to the National Environmental Policy Act (NEPA) Environmental Review Procedures in 40 CFR § 6.2. Consequently, EPA has determined that it would be more appropriate to address “New Sources” through the individual permit process.
13. Discharges from net pen aquaculture production. Net pens are defined as floating structures in which nets are suspended into the water column in coastal water and the open ocean.
14. Discharges of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operations of CAAP facilities and other similar facilities as described in the Permittee’s NOI, or any pollutants that are not normally present in waste streams.

## **1.5 Individual Permit Issuance**

The administrative aspects for general permits are provided at 40 CFR §122.28(b) and include the procedure for requesting and requiring an individual permit. Any owner or operator authorized by a general permit may request to be excluded from coverage of a general permit by applying for an individual permit. This request may be made by submitting a NPDES permit application, consisting of Forms 1 and 2B, together with reasons supporting the request to the Director. The Director may also require any person authorized by a general permit to apply for and obtain an individual permit as provided by 40 CFR §122.28(b)(3). Additionally, any interested person may petition the Director to take this action. However, individual permits will not be issued for sources covered by the Draft AQUAGP unless it can be clearly demonstrated that inclusion under the Draft AQUAGP is inappropriate or individual permit coverage is requested by the Permittee. The issuance of individual permits may be required when:

1. The discharge(s) is/are a significant contributor of pollution or is/are in violation of State Water Quality Standards for the receiving water;
2. Receiving water body characteristics, including possible or known water quality impairment(s);
3. The discharger is not in compliance with the conditions of the Draft AQUAGP;
4. In the opinion of the Director, the discharge is more appropriately controlled under an individual or different general permit; or
5. The point source(s) covered by this permit no longer:

- a. Involves the same or substantially similar types of operations;
- b. Discharges the same types of wastes;
- c. Requires the same effluent limitations or operating conditions; or
- d. Requires the same or similar monitoring.

The applicability of the general permit is automatically terminated on the effective date of individual permit coverage in accordance with 40 CFR §122.28(b)(3)(iv).

## **2.0 Permit Basis: Statutory and Regulatory Authority**

### **2.1 Statutory Requirements**

The CWA prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs) and other requirements, including monitoring and reporting, required by the Act. This Draft AQUAGP was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. Section 402 of the Act, 33 U.S.C. 1342, authorizes EPA to issue NPDES permits allowing discharges that will meet certain requirements, including CWA sections 301, 304, and (33 U.S.C. 1331, 1314, and 1341). Those statutory provisions state that NPDES permits must include effluent limitations requiring authorized discharges to: (1) meet standards reflecting specified levels of technology-based treatment requirements; (2) comply with State Water Quality Standards; and (3) comply with other state requirements adopted under authority retained by states under CWA Section 510, 33 U.S.C. 1370.

During development of the Draft AQUAGP, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in existing individual permits for facilities identified for potential coverage under the Draft AQUAGP. The regulations governing the EPA NPDES permit program are generally found at 40 CFR §§ 122, 124, 125, and 136. The standard conditions of the Draft AQUAGP, found in Appendix 6, are based on 40 CFR § 122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 CFR § 122.41(j), § 122.44(i) and § 122.48.

EPA is required to consider technology and water quality-based requirements when developing permit limits. 40 CFR Part 125, Subpart A sets the criteria and standards that EPA must use to determine which technology-based requirements (i.e., requirements under Section 301(b) of the CWA and/or requirements established on a case-by-case basis under section 402(a)(1) of the CWA) should be included in permits.

#### **2.1.1 State Certification**

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards and to the conditions of State Certification under Section 401 of the CWA. Appropriate effluent limitations and monitoring conditions are established according to numerical and narrative standards adopted under state and/or federal law for each stream-use classification. The CWA

requires that NPDES permits include requirements to assure compliance with State water quality standards. Regulations governing State Certification are set forth in 40 CFR §§ 124.53 and 124.55.

During development of the Draft AQUAGP, NHDES has communicated to EPA the need to include additional ambient nutrient monitoring requirements in the AQUAGP and intends to include the requested requirements in its State Certification. According to Env-Wq 1703.14 (b), “Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring.” In addition, Env-Wq 1703.14 (c) requires that, “Existing discharges containing phosphorus or nitrogen, or both, which encourage cultural eutrophication shall be treated to remove the nutrient(s) to ensure attainment and maintenance of water quality standards.” Fish hatcheries are known dischargers of elevated nutrient concentrations and therefore could lead to noncompliance with these state regulations.

In order to determine if the discharges covered under EPA’s AQUAGP are discharging phosphorus and/or nitrogen in concentrations that would impair any existing or designated uses or encourage cultural eutrophication, NHDES is requiring increased monitoring for phosphorus and nitrogen, including both effluent and receiving water sampling. NHDES is also requiring that each permittee that receives coverage under the AQUAGP implement a nutrient stressor-response monitoring program to determine potential responses by the biological community to nutrient stressors from the fish hatchery.

EPA has incorporated the NHDES proposed monitoring requirements into Section 2.0 of the Draft AQUAGP for dischargers in New Hampshire. If the State believes that any conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either the CWA §§ 208(e), 301, 302, 303, 306 and 307, and the appropriate requirements of State law, the State should include such conditions in its State Certification and, in each case, cite the CWA or State law reference upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. Reviews and appeals of limitations and conditions attributable to State Certification shall be made through the applicable procedures of the State and may not be made through the applicable procedures of 40 CFR Part 124.

In addition, the State should provide a statement of the extent to which any condition of the Draft AQUAGP can be made less stringent without violating the requirements of State law. Since the State’s Certification is provided prior to permit issuance, any failure by the State to provide this statement waives the State’s right to certify or object to any less stringent condition.

It should be noted that under CWA Part 401, EPA’s duty to defer to considerations of State law is intended to prevent EPA from relaxing any requirements, limitations or conditions imposed by state law. Therefore, “[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition.” *See* 40 CFR § 124.55(c). In such an instance, the regulation provides that, “The Regional Administrator shall disregard any such certification conditions or denials as waivers of certification.” *Id.* EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR § 122.4(d) and 40 CFR § 122.44(d).

## 2.2 Technology-based Effluent Limitations

The CWA requires that all discharges, at a minimum, must meet effluent limitations based on pollutant reduction technologies that are available to the industry to control pollutants in their discharge. Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (See 40 CFR § 125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than 3 years after the date such limitations are established and in no case later than March 31, 1989 [See 40 CFR § 125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

On August 23, 2004, EPA promulgated technology-based effluent limitations guidelines (ELGs) for the CAAP Point Source Category at 40 CFR Part 451, Subpart A, Flow-through and Recirculating Systems Subcategory for facilities that contain, hold, or produce more than 100,000 pounds of aquatic animals per year (69 FR 51906). The ELGs became effective on September 22, 2004. The promulgated ELGs contain narrative effluent limitations with specific provisions for solids control, materials storage, structural maintenance, recordkeeping, and training. Part 5 of the Draft AQUAGP includes narrative effluent limitation requirements, including requirements for development and implementation of a Best Management Practices (BMP) Plan containing the elements specified in the ELGs at 40 CFR § 451.11. These limitations represent application of BPT, BAT, and BCT for flow-through and recirculating CAAP facilities. Additional information relating to development of the ELGs can be found in “*Technical Development Document for the Final Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (Revised August 2004)*,” EPA 821-R-04-01; and “*Economic and Environmental Benefits Analysis of the Final Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Industry Point Source Category*,” June 2004 (EPA-821-R-04-013).

In addition to CAAP facilities, the Draft AQUAGP will provide coverage to facilities that do not meet the feeding thresholds specified in the ELGs. Although the ELGs are not directly applicable to these facilities, the operations and wastes generated at these facilities are similar to those addressed in 40 CFR Part 451. Most of the individual permits for CAAP facilities identified for potential coverage that did not meet the feeding thresholds in the established narrative effluent limitations included permit conditions similar to those contained in 40 CFR § 451.11 based on best professional judgment (BPJ). Accordingly, the Draft AQUAGP requires facilities that do not meet the production or feeding thresholds specified in the definition of a CAAP facility to comply with narrative effluent limitations requirements from the ELGs, included in Part 5 based on BPJ.

In addition to the narrative effluent limitation requirements, the Draft AQUAGP also includes technology-based effluent limitations in the form of BMPs for TSS for certain facilities based on BPJ. The basis of these effluent limitations is discussed further in Section 3.3 of this Fact Sheet.

## 2.3 Water Quality-Based Effluent Limitations

WQBELs are required in NPDES permits when EPA and the States determine that effluent limitations more stringent than technology-based effluent limitations are necessary to attain or maintain State or Federal water quality standards. See CWA §301(b)(1)(C). Water quality standards consist of three (3) parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) antidegradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards at 314 CMR 4.00, the New Hampshire Surface Water Quality Standards at NH RSA 485-A:8 and Env-Wq 1700, and the Vermont Water Quality Standards at Environmental Protection Rule Chapter 29(a) include these elements. The State will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless site specific criteria are established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR § 122.44(d).

### **2.3.1 Reasonable Potential**

The Draft AQUAGP must limit any pollutant or pollutant parameter (conventional, non-conventional, and toxic) that is or may be discharged at a level that “causes, or has the reasonable potential to cause, or contribute” to an excursion above any water quality standard [40 CFR §122.44(d)]. An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining reasonable potential, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) pollutant concentration and variability in the effluent and receiving water based on available information including, but not limited to, a Permittee’s NPDES application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; 3) sensitivity of the indicator species used in toxicity testing; 4) known water quality impacts of processes on wastewaters; and 5) where appropriate, dilution of the effluent in the receiving water. EPA typically follows a quantitative approach based on the guidance in *Technical Support Document for Water Quality-based Toxics Control (TSD EPA/505/2-90-001, 1991)* to determine if any pollutant or pollutant parameter (conventional, non-conventional, and toxic) is or may be discharged causes or has the reasonable potential to cause or contribute to an excursion above any water quality standard [40 CFR §122.44(d)]. EPA’s quantitative approach statistically projects concentrations based on available effluent data, which are then compared to the applicable water quality criteria.

WQBELs may be established according to numerical and narrative standards adopted under state law and/or federal law for each stream use classification. Section 401 of the CWA requires that EPA obtain State certification which ensures that the effluent limitations and other requirements contained in permits are stringent enough to assure that the discharges will not cause the receiving water to violate State water quality standards. Regulations governing State certification are set forth in 40 CFR §124.53 and § 124.55. The effluent limits and narrative requirements established in the Draft AQUAGP assure that the water quality standards of the receiving waters will be protected, maintained, and/or attained.

## **2.4 Antidegradation Provisions**

Federal regulations found at 40 CFR § 131.12 require states to develop and adopt a statewide antidegradation policy which maintains and protects existing in-stream water uses and the level of water quality necessary to protect these existing uses, and maintains the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the waterbody. The environmental regulations pertaining to the State antidegradation provisions are found in 314 CMR 4.04 (Massachusetts), Env-Wq 1708 (New Hampshire), and Environmental Protection Rule Chapter 29(a), Section 1-03 (Vermont). These regulations apply to any new or increased discharge that would lower water quality or affect existing or designated uses, including increased loadings to a water body from an existing activity. The antidegradation provisions focus on protecting high quality waters and maintaining water quality necessary to protect existing uses. The conditions of the Draft AQUAGP were developed to reflect the goal of the CWA and to maintain and protect existing in-stream water uses and water quality.

New discharges to ORWs in Massachusetts, are not eligible for permit coverage because the Massachusetts Water Quality Standards, 314 CMR 4.04(3)b, prohibit discharges to these waters. MassDEP's antidegradation policy could allow an existing discharger to an ORW currently covered by an individual permit to qualify for coverage under the Draft AQUAGP if the resulting antidegradation review is favorable. The State of New Hampshire does not authorize discharges to Class A waters under the Draft AQUAGP and discharges to ORWs in New Hampshire are only authorized under very limited conditions. See Env-Wq 1708.04 and 05. The State of Vermont does not authorize discharges to Class A waters or ORWs under the Draft AQUAGP. See Sections 1-03.D and 1-04.A.4 of the Vermont Water Quality Standards and 10 V.S.A. § 1259.

On a case-by-case basis, the Commonwealth of Massachusetts, the State of New Hampshire, and the State of Vermont may conduct antidegradation reviews for facilities that submit NOIs to discharge under the Draft AQUAGP into Class B or SB waters (provided they are not ORWs in Massachusetts) with any new or increased discharges, in accordance with appropriate State antidegradation implementation. Should the State determine that an antidegradation review is necessary, EPA will not authorize discharges under the Draft AQUAGP without a completed and favorable antidegradation review from the appropriate State.

## **2.5 Anti-backsliding**

A permit may not be renewed, reissued, or modified with less stringent limitations or conditions than those contained in a previous permit unless in compliance with the anti-backsliding requirements of the CWA. *See* § 402(o) and § 303(d)(4) of the CWA and 40 CFR § 122.44(l)(1) and (2). Effluent limits based on BPJ, water quality, and state certification requirements must also meet the anti-backsliding provisions found at § 402(o) and § 303(d)(4) of the CWA.

As discussed in more detail in Section 3.3, EPA has chosen to replace the numeric limits in the existing permits with technology-based BMPs requirements which have proven effective for controlling pollutants such as TSS and BOD for these facilities. Since the data shows that the Permittees' existing numeric limits are met with BMPs, EPA is replacing the numeric limits with equivalent, narrative, technology-based effluent limits in the form of BMPs and is including a TSS benchmark reporting requirement to monitor the effectiveness of the BMPs. Because the narrative limits are equivalent to the

numeric limits and EPA has included a benchmark requirement to ensure compliance with the narrative limits, the change from numeric to narrative limits is not less stringent.

As discussed in more detail in Section 3.7.2, EPA is establishing WQBELs for formaldehyde at Massachusetts and Vermont facilities consistent with the effluent limits previously applied to New Hampshire facilities. Based on review of the original derivation of the effluent limit, EPA believes that the effluent limits in the Draft AQUAGP are consistent with the exceptions to anti-backsliding in that technical errors were made. In addition, without the technical errors, the acute and chronic values derived for catfish are less stringent than the Draft AQUAGP's average monthly limit of 1.6 mg/L and maximum daily limit of 4.6 mg/L. Finally, the WQBELs in the Draft AQUAGP are expected to meet the States' water quality standards for toxic pollutants. See 40 CFR § 122.44(1)(2)(ii).

Therefore, all proposed limitations in the Draft AQUAGP are at least as stringent as the limitations included in the individual permits for the facilities identified for potential coverage or, in the case of the formaldehyde limits in Massachusetts and Vermont, are as stringent as the limitations in the individual permits if the limitations had it not been for technical errors in the calculations and implementation of the limits.

## 2.6 Monitoring and Reporting Requirements

EPA has the authority in accordance with several statutory and regulatory requirements established pursuant to the CWA, 33 USC § 1251 *et seq.*, the NPDES program (*see* § 402 and the implementing regulations generally found at 40 CFR §§ 122, 124, 125, and 136), CWA § 308(a), 33 USC § 1318(a), and applicable state regulations to include requirements such as monitoring and reporting in NPDES permits.

The monitoring requirements included in the Draft AQUAGP have been established to yield data representative of the discharges under the authority of §§ 308(a) and 402(a)(2) of the CWA, and consistent with 40 CFR §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The monitoring requirements included in this permit specify routine sampling and analysis, which will provide ongoing, representative information on the levels of regulated constituents in the wastewater discharge streams. The monitoring program is needed to assess effluent characteristics, evaluate permit compliance, and determine if additional permit conditions are necessary to ensure compliance with technology-based and water quality-based requirements, including water quality standards. EPA and/or the State may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to § 304(a)(1) of the CWA, State water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 CFR § 122. Therefore, the monitoring requirements in the Draft AQUAGP are included for specific regulatory use in carrying out the CWA.

NPDES permits require that the approved analytical procedures found in 40 CFR § 136 be used for sampling and analysis unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*.<sup>2</sup> This Rule requires that

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<sup>2</sup> Federal Register, Vol. 79, No. 160, Tuesday, August 19, 2014; FR Doc. 2014-19557.

where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 CFR § 122.21(e)(3) (completeness), 40 CFR § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 CFR § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level<sup>3</sup> (ML) is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or
- The method has the lowest ML of the EPA-approved analytical methods.

The Draft AQUAGP requires Permittees to electronically report monitoring results obtained during each reporting period as a DMR to EPA and the State no later than the 15<sup>th</sup> day of the month following the completed reporting period.

Permittees in all three states shall submit DMRs using NetDMR. NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR is accessed from the following website: <https://netdmr.zendesk.com/hc/en-us>. Further information about NetDMR can be found on the EPA New England NetDMR website.<sup>4</sup>

NetDMR has allowed Permittees to discontinue mailing in hard copy forms to EPA under 40 CFR §§ 122.41 and 403.12. With the use of NetDMR, Permittees are no longer required to submit hard copies of DMRs and reports to EPA and the State unless otherwise specified in the Draft AQUAGP. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit such as for providing written notifications required under the Part II Standard Conditions in Appendix 6.

### **3.0 Explanation of Effluent Limitations and Requirements**

The WQBELs proposed for the discharges authorized by the Draft AQUAGP are for ammonia, bacteria, copper, dissolved oxygen, formaldehyde, hydrogen peroxide, pH, total nitrogen, total phosphorus, total residual chlorine, and whole effluent toxicity (WET). The limits for pH apply to all discharges. The WQBELs for dissolved oxygen, formaldehyde, hydrogen peroxide, and total residual chlorine apply to all discharges, but monitoring is only required during drug or chemical use. The

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<sup>3</sup> The term "minimum level" (ML) refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). MLs may be obtained in several ways: they may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor. EPA is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "level of quantitation," and "minimum level." See Federal Register, Vol. 79, No. 160, Tuesday, August 19, 2014; FR Doc. 2014-19557.

<sup>4</sup> <https://netdmr.zendesk.com/hc/en-us/articles/209616266-EPA-Region-1-NetDMR-Information>

WQBELs for copper, ammonia, bacteria, total nitrogen, total phosphorus, and WET apply only to certain facilities and under certain circumstances.

If, using available information or information submitted in the NOI, it is determined by EPA or the applicable State that a particular discharge may contain additional pollutants in amounts which would have the reasonable potential to cause or contribute to violations of the applicable state water quality standards, the discharger may not be granted coverage under the Draft AQUAGP. For those discharges, EPA and the State will require that the discharger apply for an individual NPDES permit.

The Draft AQUAGP authorizes discharges to waters of the United States within Massachusetts, New Hampshire, and Vermont subject to limitations and requirements described in this section.

### **3.1 Effluent Flow**

A limitation on effluent flow is within EPA's authority to condition a permit in order to carry out the objectives of the CWA. See CWA §§ 402(a)(2) and 301(b)(1)(C); 40 CFR §§ 122.43 and 122.44(d). A condition on the discharge designed to protect EPA's WQBELs and reasonable potential calculations is encompassed by the references to "condition" and "limitations" in CWA Sections 402 and 301 and implementing regulations, as they are designed to assure compliance with applicable water quality regulations, including antidegradation. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is consistent with the overall structure and purposes of the CWA.

Some, but not all, individual permits for facilities identified for potential coverage under the Draft AQUAGP include effluent limitations for flow. For the reasons discussed above, the Draft AQUAGP establishes effluent flow limitations for all Permittees. The specific flow limitations will be specified in the written notice of authorization from EPA. For existing facilities, the effluent flow limitations will be the same as those in their individual permit, unless the Permittee has requested an increased flow limit and EPA and the State determine that the increased discharge is consistent with antidegradation requirements.

### **3.2 Ammonia**

Ammonia (NH<sub>3</sub>) is the unionized form of ammonia nitrogen. CAAP facilities discharge nitrogen in the form of nitrate, ammonia, and organic nitrogen. Elevated levels of ammonia can be toxic to aquatic life. The toxicity of ammonia increases as temperature increases and ammonia concentration and toxicity increase as pH increases. In addition, ammonia converts to nitrate, which can result in excessive plant and algal growth, which can cause eutrophication. Ammonia can also affect dissolved oxygen through nitrification, in which oxygen is consumed as ammonia is oxidized. Low oxygen levels can then, in turn, increase ammonia by inhibiting nitrification.

High concentrations of ammonia can be toxic to aquatic life and could potentially violate State water quality standards. For hatcheries with individual permits eligible for coverage under the AQUAGP, EPA and the states conducted reasonable potential analyses, where data was available, to evaluate the potential to violate State water quality standards. For Massachusetts hatcheries ammonia data was either not available (MA0110035, MA0005398, MA0110051), no reasonable potential was found (MA0110027) or a previous assessment found no reasonable potential (MA0110043). For New

Hampshire hatcheries ammonia data was either not available (NH0023515 and NH0000736) or no reasonable potential was found (NH0000744, NH0110001, and NH0000752). Given the results for these two states, the Draft AQUAGP establishes monitoring requirements for total ammonia with the intention of using that data to either confirm, deny, or provide an initial assessment of the potential for effluent discharges to violate State water quality standards during future permit reissuances. Exemptions from these requirements include hatcheries with permit limits already in place, see below, and the two aquarium facilities. Historically low ammonia values provided in permit applications are the basis for exempting the Massachusetts aquarium and aquatic animal holding facilities (MA0003123 and MA0040380) from monitoring requirements.

The existing individual permits for two Vermont hatcheries, Pittsford and White River National Fish Hatcheries, include effluent limitations for ammonia. The Draft AQUAGP retains and updates these effluent limitations to satisfy anti-backsliding requirements and updated state WQS, as discussed below.

### 3.2.1 Ammonia Limitations for Pittsford National Fish Hatchery

High concentrations of ammonia can be toxic to aquatic life and could potentially violate the State water quality standards. The concentrations of ammonia measured previously in the discharge from the Pittsford National Fish Hatchery (NPDES Permit No. VT0000451) have generally been low (maximum concentration of 0.28 mg/L). However, because ammonia is contained in the metabolic wastes of fish, the individual permit established a monthly average limit of 1.6 mg/L and daily maximum limit of 6.9 mg/L, consistent with the WQBELs (current at the time) included in the facility's draft permit (#3-1188) prepared by the State of Vermont. Since then, Vermont has updated its Water Quality Standards (WQS) for Ammonia from EPA criteria published in 1999 to revised 2013 criteria. The effluent limitation has been updated in the Draft AQUAGP to comply with the most recent state WQS. The effluent limitation was calculated as follows.

Chronic Ammonia Water Quality Criterion = 0.6 mg/L (pH = 8, Temp. = 24°C)

Acute Ammonia Water Quality Criterion = 2.8 mg/L (pH = 8, Temp. = 24°C)

7Q10 Flow ( $Q_{7Q10}$ ) = 1.05 cubic feet per second (cfs)

Effluent Flow ( $Q_{\text{discharge}}$ ) = 4.6 cfs

$$\begin{aligned} \text{Dilution Factor} &= (Q_{7Q10} + Q_{\text{discharge}}) / Q_{\text{discharge}} \\ &= (1.05 \text{ cfs} + 4.6 \text{ cfs}) / 4.6 \text{ cfs} \\ &= 1.22 \end{aligned}$$

Ammonia Limit = Water Quality Criteria x Dilution Factor

Monthly Average Ammonia Limit = 0.6 mg/L x 1.22

Monthly Average Ammonia Limit = 0.7 mg/L

Daily Maximum Ammonia Limit = 2.8 mg/L x 1.22

Daily Maximum Ammonia Limit = 3.4 mg/L

### 3.2.2 Ammonia Limitations for White River National Fish Hatchery

High concentrations of ammonia can be toxic to aquatic life and could potentially violate the State water quality standards. The concentrations of ammonia measured previously in the discharge from the White River National Fish Hatchery (NPDES Permit No. VT0020711) have generally been low (maximum

concentration of 0.28 mg/L). However, because ammonia is contained in the metabolic wastes of fish, the individual permit established a monthly average limitation of 5.0 mg/L, consistent with the WQBEL (current at the time) included in the facility's final permit (#3-1142) issued by the State of Vermont. Since then, Vermont has updated its Water Quality Standards (WQS) for Ammonia from EPA criteria published in 1999 to revised 2013 criteria. The effluent limitation has been updated in the Draft AQUAGP to comply with the most recent state WQS and the appropriate criterion. The effluent limitation was calculated as follows:

Acute Ammonia Water Quality Criterion = 2.8 mg/L (pH = 8, Temp.= 24°C)

7Q10 Flow ( $Q_{7Q10}$ ) = 30.5 cfs

Effluent Flow ( $Q_{\text{discharge}}$ ) = 10.9 cfs

$$\begin{aligned} \text{Dilution Factor} &= (Q_{7Q10} + Q_{\text{discharge}}) / Q_{\text{discharge}} \\ &= (30.5 \text{ cfs} + 10.9 \text{ cfs}) / 10.9 \text{ cfs} \\ &= 3.8 \end{aligned}$$

Ammonia Limit = Water Quality Criteria x Dilution Factor

Ammonia Limit = 0.6 mg/L x 3.8

Ammonia Limit = 2.3 mg/L

### 3.3 BOD<sub>5</sub> and TSS

#### 3.3.1 BOD<sub>5</sub> and TSS Limitations for Fish Hatcheries

In its proposed rule, published on September 12, 2002, EPA proposed to establish numeric limitations for TSS while controlling the discharge of other constituents through narrative requirements. In the final rule, however, EPA determined that, for a nationally applicable regulation, it would be more appropriate to promulgate qualitative TSS limitations in the form of solids control BMP requirements.

In the process of developing the ELG, EPA identified an extensive list of pollutants of concern in discharges from the aquaculture industry, including several metals, nutrients, solids, BOD, bacteria, drugs, and residuals of federally registered pesticides. EPA did not include specific numeric limitations in the ELG for any pollutants on this list, believing that BMPs would provide acceptable control of these pollutants. EPA did conclude during the development of the ELG that control of TSS would also effectively control concentrations of other pollutants of concern, such as BOD, metals, and nutrients, because other pollutants are either bound to the solids or are incorporated into them. See 69 FR 51899, 51920.

The individual permits for several facilities identified for potential coverage under the Draft AQUAGP include numeric effluent limitations for BOD<sub>5</sub> and TSS, which were initially established based on BPJ prior to promulgation of the ELGs in 2004 as a means of controlling the discharge of solids in discharges from aquaculture operations. The magnitude of the effluent limits included in the individual permits varied, as follows:

- BOD<sub>5</sub> maximum daily limits
  - 5 mg/L (one facility)
  - 10 mg/L (six facilities)
- BOD<sub>5</sub> average monthly limits

- 5 mg/L (one facility)
- TSS maximum daily limits
  - 10 mg/L (seven facilities)
  - 15 mg/L (four facilities)
- TSS average monthly limits
  - 5 mg/L (one facility)
  - 10 mg/L (four facilities)

Part 5 of the Draft AQUAGP establishes narrative effluent limitations for the control of solids, in the form of BMPs, based on the ELGs. As part of the BMP requirements, EPA Region 1 is also establishing a single benchmark concentration of 10 mg/L for TSS, as a daily maximum. In lieu of the variable effluent limitations established in certain individual permits, EPA Region 1 is applying the benchmarks to all cold water and warm water CAAP facilities to provide for consistent permit requirements. Discharges in excess of the benchmark indicate that improved treatment and/or BMPs may be necessary to effectively control the discharge of TSS and consequently BOD<sub>5</sub>. If the discharge exceeds the benchmark concentration, the Draft AQUAGP requires the Permittee to investigate the cause of the exceedance, implement corrective actions, and update the BMP Plan, as necessary, to reduce pollutants in the discharge.

Existing wastewater treatment technology (such as settling basins and vacuum cleaning) is capable of dependably removing solids (primarily fish feces and uneaten feed) from CAAP facility effluent prior to discharge. Some CAAP facilities treat their entire discharge using a full-flow settling basin, while some include additional settling basins in series. Other CAAP facilities use lower flow rates through raceways, allowing solids to accumulate and decompose by natural processes. In some cases, all of the facility's raceway flows are transferred to one or more large settling basins for "off-line settling". Finally, some CAAP facilities place barriers in the lower portion of each raceway to create a "quiescent zone". This quiescent zone allows solids to settle at the end of each raceway, which are collected and removed by facility staff. Results of monitoring required by the individual permits indicates that the facilities identified for potential coverage under the Draft AQUAGP are capable of reliably meeting the proposed benchmark using existing wastewater treatment and control technologies and through implementation of BMPs.

Section 402(o) of the CWA prohibits backsliding of effluent limitations that are based on BPJ to reflect a subsequently promulgated ELG which is less stringent. The Draft AQUAGP establishes narrative, technology-based effluent limitations consisting of BMPs and benchmark concentrations for TSS in lieu of the numeric effluent limitations established in individual permits for certain facilities. Monitoring under the individual permits for CAAP facilities indicates that the narrative effluent limitations targeting solids control, which were implemented in the individual permits, provide an equivalent level of solids control as the numeric effluent limitations. Therefore, coverage under the Draft AQUAGP for a facility previously subject to numeric effluent limitations does not constitute backsliding under CWA Section 402(o). EPA Region 1 based this finding on the following:

- The benchmark of 10 mg/L for TSS as a daily maximum is equivalent to or more stringent than the maximum daily TSS limits for all facilities with effluent limitations in their individual permit.

- BOD<sub>5</sub> and TSS monitoring results collected between April 2014 and March 2019 indicate that the facilities identified for potential coverage under the Draft AQUAGP can consistently maintain daily BOD<sub>5</sub> and TSS concentrations below 10 mg/L through existing wastewater treatment and control technologies and through implementation of BMPs. During that timeframe, no facilities subject to effluent limitations for TSS in their individual permit exceeded the proposed benchmark of 10 mg/L. During the same timeframe, BOD<sub>5</sub> was also below 10 mg/L.
- The combination of BMP Plan and benchmark requirements will ensure that Permittees implement corrective actions and update and maintain BMPs to control the discharge of solids.

For facilities not subject to numeric TSS effluent limitations in the existing individual permits, the only exceedances of the proposed benchmark occurred at the following facilities<sup>5</sup>:

- New Hampton Fish Hatchery (NPDES No. NH0000752) exhibited an effluent TSS concentration exceeding the proposed benchmark twice (11 mg/L and 24 mg/L).
- Warren State Fish Hatchery (NPDES No. NH0000736) exhibited an effluent TSS concentration exceeding the proposed benchmark once (12 mg/L).

The Draft AQUAGP requires facilities that exceed the TSS benchmark to implement corrective actions and review and update their BMP Plan, if necessary.

### 3.3.2 TSS Limitations for New England Aquarium Corporation

Consistent with the current individual permit for the New England Aquarium Corporation (NPDES Permit No. MA0003123), the Draft AQUAGP includes effluent limitations for TSS due to solids originating in the tanks that accumulate in the sump. The Permittee removes accumulated solids from the sump as necessary and disposes of them off-site.

The current permit includes concentration-based effluent limitations of 30 mg/L as a monthly average and 60 mg/L as a daily maximum developed based on BPJ considering the mechanical filtration treatment at the facility. The Draft AQUAGP retains these TSS limits in accordance with anti-backsliding requirements. The mass-based limits for TSS of 25 lbs/day as a monthly average and 75 lbs/day as a daily maximum are equal to the previous concentration-based limits multiplied by a conversion factor of  $8.34 \text{ (lbs/day)/(mg/L)} * \text{flow (MGD)}$ . (Note: 0.10 MGD and 0.15 MGD are the average monthly and daily maximum flow limits, respectively, at the facility.) Based on monitoring data collected between April 2014 and March 2019, the facility exceeded the monthly average and maximum daily concentration-based and mass-based limitations once each. During the previous permit term, the Permittee installed more efficient filtering equipment which produces less filter backwash effluent and lower amounts of solids being discharged to the sump. Since then, there has been a considerable decline in the effluent TSS levels; the median TSS load between June 2017 and June 2019 was 0.9 lbs/day and the median maximum daily TSS load was 1.6 lbs/day.

EPA believes that these limits are appropriate and achievable by this treatment system and are consistent with State water quality standards which require that waters be free from floating, suspended or settleable solids in concentrations that would impair any use assigned to this Class SB water.

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<sup>5</sup> Note that these facilities listed are not subject to numeric effluent limitations in their individual NPDES permits; thus, the effluent results did not constitute a violation of the individual NPDES permit.

### 3.3.1 TSS Limitations for New England Aquarium Off-Site Holding Facility

Consistent with the current individual permit for the New England Aquarium Off-Site Holding Facility (NPDES Permit No. MA0040380), the Draft AQUAGP includes effluent limitations for TSS due to solids originating in the tanks that accumulate in the sump. In addition to mechanical filtering equipment, this facility uses activated carbon to filter TSS.

The existing individual permit includes concentration-based effluent limitations of 30 mg/L as a daily maximum developed based on BPJ considering the treatment technology. The daily maximum TSS concentration between June 2017 and June 2019 ranged from below minimum laboratory detection levels to 11.3 mg/L. The Draft AQUAGP retains these TSS limits in accordance with anti-backsliding requirements. The existing individual permit does not include mass-based limits for TSS. A mass-based TSS limit of 75 lbs/day as a daily maximum is equal to the previous concentration-based limit multiplied by a conversion factor of  $8.34 \text{ (lbs/day)/(mg/L)} * \text{flow (MGD)}$ . (Note: 0.30 MGD is the daily maximum flow limit at the facility.) The maximum reported TSS concentration (11.3 mg/L) over the past 5 years occurred in October 2017 when the maximum daily reported flow was 0.12 MGD. Based on the reported values, the facility has discharged a maximum of 11 lbs/day of TSS.

EPA believes that these limits are appropriate and achievable by this treatment system and are consistent with State water quality standards which require that waters be free from floating, suspended or settleable solids in concentrations that would impair any use assigned to this Class SB water.

## 3.4 Bacteria

Fecal coliform, *E. coli*, and *Enterococci* bacteria, are indicators of contamination from sewage and/or the feces of warm-blooded wildlife (mammals and birds). Bacteria can survive in freshwater and saltwater environments and can pose a health risk to humans, fish/shellfish, and water quality. Aquaculture facilities are not considered to be significant sources of pathogens that affect human health (e.g., *Escherichia coli*). Therefore, the Draft AQUAGP does not establish bacteria effluent limitations for most facilities. New England Aquarium and New England Aquarium Off-Site Holding Facility hold mammals in addition to fish and invertebrates and discharge to receiving waters for which a Final Pathogen Total Maximum Daily Load (TMDL) has been issued. The basis for the bacteria limits are discussed below.

### 3.4.1 Bacteria Limitations for New England Aquarium Corporation and New England Aquarium Off-Site Holding Facility

Fecal coliform, *E. coli*, and *Enterococci* bacteria, are indicators of contamination from sewage and/or the feces of warm-blooded wildlife (mammals and birds). Bacteria can survive in freshwater and saltwater environments and can pose a health risk to humans through primary and secondary contact recreation and the consumption of fish/shellfish. Where designated, Class SB waters shall be suitable for shellfish harvesting with depuration (Restricted and Conditionally Restricted Shellfish Areas). Fecal coliform is used as the indicator bacteria for waters with a shellfishing designated use, while *Enterococcus* is used as the indicator bacteria for recreational uses. See 314 CMR 4.05(4)(b)(4).

Boston Inner Harbor, which receives discharges from the New England Aquarium, is a Class SB(CSO) water and Weymouth Fore River, which receives discharges from the New England Aquarium Off-Site Holding Facility, is a Class SB water. The Massachusetts Year 2016 Integrated List of Waters lists Boston Inner Harbor and Weymouth Fore River as impaired for bacteria (*Enterococcus* and Fecal Coliform).<sup>6</sup> Both water bodies are impaired for the shellfishing designated use.

MassDEP released the Final Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds in October 2018.<sup>7</sup> The TMDL contains specific water quality targets for pathogens in Boston Harbor and the Weymouth-Weir sub-basin. The TMDL establishes a wasteload allocation for all point sources equivalent to the water quality criteria for the appropriate indicator bacteria.

Massachusetts surface water quality standards use *Enterococcus* criteria as the preferred indicator for recreational designated uses. 314 CMR 4.05(4)(b)(4)(b). For Boston Inner Harbor (Class SB(CSO)) and Weymouth Fore River (Class SB), the TMDL sets limits for non-CSO discharges (including NPDES point sources) for *Enterococci* as a geometric mean not to exceed 35 cfu/100 mL and single sample not to exceed 104 cfu/100 mL. The geometric mean is the geometric mean of all samples taken within the most recent 6 months, typically based on a minimum of five samples (for non-bathing beaches and bathing beaches during the non-bathing season). In addition, the TMDL sets limits for fecal coliform for the Boston Inner Harbor and Weymouth Fore River as Class SB waters approved for shellfishing with depuration. Fecal coliform shall not exceed a median or geometric mean of 88 organisms/100 mL nor shall 10% of the samples have counts greater than 260 MPN (most probably number)/100 mL. 314 CMR 4.05(4)(b)(4)(a).

The individual permits for the New England Aquarium Corporation (NPDES Permit No. MA0003123) and New England Aquarium Off-Site Holding Facility (NPDES Permit No. MA0040380) include effluent limitations for *Enterococci* and fecal coliform bacteria to ensure adequate disinfection of fecal matter in the tanks and aquaria that are discharged to the sump consistent with the TMDL. In accordance with the TMDL, for both facilities, the Draft AQUAGP establishes an average monthly *Enterococci* limit at a geometric mean no greater than 35 cfu/100 mL. In addition, the Draft AQUAGP establishes a maximum daily *Enterococci* limit of 276/100 mL. This daily maximum limit was derived from the TMDL geometric mean value of 104 cfu/100 mL. It represents the 90<sup>th</sup> percentile of the sample distribution used to derive the geometric mean value. MassDEP has determined that the 90<sup>th</sup> percentile is appropriate for setting the maximum daily bacteria limit and complying with state Water Quality Standards. Lastly, for both facilities, based on the shellfishing designated use and consistent with the TMDL, the Draft AQUAGP establishes an average monthly fecal coliform limit at a geometric mean MPN of 88 organisms/100 mL and a maximum daily limit not to exceed an MPN of 260 organisms/100 mL.

### 3.5 Copper

Aquaculture facilities occasionally apply copper sulfate for the control of external parasites and bacteria on fish or as an algacide used to control algae. Of the facilities identified for potential coverage under

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<sup>6</sup> Massachusetts Year 2016 Integrated List of Waters. December 2019. <https://www.mass.gov/lists/integrated-lists-of-waters-related-reports#2016-integrated-list-of-waters>

<sup>7</sup> Final Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds. October 2018. <https://www.mass.gov/total-maximum-daily-loads-tmdls>

the Draft AQUAGP, only the New England Aquarium Corporation indicated the use of copper sulfate solution for control of certain diseases in their tanks. No fish hatcheries use copper sulfate to control algae.

Specific facilities to be covered by the Draft AQUAGP have a reasonable potential to cause or contribute to an exceedance of the applicable water quality criteria for copper based on the potential use of copper sulfate at the facilities to be covered under the Draft AQUAGP. The Draft AQUAGP includes a maximum daily limitation based on the applicable acute criterion for copper applicable to facilities that hold aquatic animals (i.e., New England Aquarium and New England Aquarium Off-Site Holding Facility); however, monitoring is only required during periods of copper sulfate use or if discharges are likely to contain high copper concentrations (e.g., when a municipal water source is used that contains elevated copper concentrations). Because the application of copper sulfate is infrequent and the duration is likely to be short, no monthly average limitation is included.

The acute water quality criterion for marine water for dissolved copper is 4.8 µg/L. The water quality criteria for freshwater vary as a function of hardness. At a hardness of 100 mg/L (as CaCO<sub>3</sub>), the acute water quality criterion for dissolved copper is 13 µg/L. The effluent limitations for copper shown in Part 1.3 (Massachusetts) reflect end-of-pipe limitations set equal to the applicable water quality criterion; however, an applicant may request a dilution factor from the appropriate State for the purposes of calculating WQBELs. The effluent limitations in the Draft AQUAGP are for discharges to saltwater. Freshwater will require additional calculations to adjust the criteria using the appropriate hardness<sup>8</sup> and to convert the dissolved criterion to a total recoverable effluent limitation.<sup>9</sup> Appendices 8 through 10 of the Draft AQUAGP include the calculation methodologies for WQBELs for facilities in Massachusetts, New Hampshire, and Vermont.

### 3.6 Dissolved Oxygen

As discussed in Section 3.7 of this Fact Sheet, aquaculture facilities sometimes apply formalin, which may deplete oxygen in the water. A minimum concentration of dissolved oxygen is needed to provide a suitable habitat for fish and other aquatic life. EPA New England finds that the facilities to be covered by the Draft AQUAGP have a reasonable potential to cause or contribute to an exceedance of the applicable water quality criteria for dissolved oxygen based on the potential use of formalin.

The Draft AQUAGP includes an effluent limitation for dissolved oxygen based on the applicable State water quality standards applicable to all Permittees. Monitoring is only required during periods of formalin use for Massachusetts and Vermont facilities, but is required during all calendar months for New Hampshire facilities. The water quality standard is applied directly as an effluent limitation, not to be exceeded at any time. The applicable State water quality standards for dissolved oxygen are as follows:

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<sup>8</sup> Sites in Massachusetts must use actual discharge and receiving water hardness; Sites in New Hampshire must use actual discharge and receiving water hardness or as otherwise required by New Hampshire WQSs in New Hampshire (see Env-Wq 1703.22(f)).

<sup>9</sup> Sites in Massachusetts must refer to conversion factors from EPA's *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion*. EPA 823-B-96-007: June, 1996. Sites in New Hampshire must use the factors for individual metals in Env-Wq 1703.23 and 1703.24, or as revised.

- Massachusetts
  - Dissolved oxygen in inland Class A and B waterbodies shall not be less than 6.0 mg/L in cold water fisheries and not less than 5.0 mg/L in warm water fisheries. (314 CMR 4.05(3)(a)(1) and (b)(1))
  - Dissolved oxygen in coastal and marine Class SA and SB waterbodies shall not be less than 6.0 mg/L and 5.0 mg/L, respectively. (314 CMR 4.05(4)(a)(1) and (b)(1))
- New Hampshire (Env-Wq 1703.07):
  - Dissolved oxygen in Class B waterbodies shall have an instantaneous minimum dissolved oxygen concentration of at least 5 mg/L and 75% saturation, as specified in RSA 485-A:8, II, based on a daily average except as naturally occurring or subject to items (c) through (e) of Env-Wq 1703.07.
- Vermont:
  - Dissolved oxygen in waters designated as cold water fish habitat determined to be salmonid spawning or nursery areas shall not be less than 7 mg/L at all times. (Environmental Protection Rule §29A-302(5)(A)(i))
  - Dissolved oxygen in all other waters designated as cold water fish habitat shall not be less than 6 mg/L. (Environmental Protection Rule §29A-302(5)(A)(ii))
  - Dissolved oxygen in waters designated as warm water fish habitat shall not be less than 5 mg/L. (Environmental Protection Rule §29A-302(5)(B))

### 3.7 Formaldehyde

Aquaculture facilities commonly use biocides, the most common of which are formalin products such as Paracide-F, Formalin-F or Parasite-S, which contain approximately 37 percent by weight of formaldehyde gas. Formalin is used for the therapeutic treatment of fungal infections on the eggs of finfish and to control certain external protozoa and monogenetic trematodes on all finfish species. Because it is formulated to selectively kill or remove certain attached organisms, but not the finfish themselves when properly applied, formalin is more toxic to invertebrate species than to vertebrates. When setting the necessary permit limits to protect the receiving water's aquatic environment from the effects of formalin in a discharge, it is more important to develop limits to protect invertebrate species because they are more sensitive to the effects of formaldehyde. In the receiving waters, these invertebrates are an integral part of the food chain for finfish.

Formalin use must be consistent with U.S. Food and Drug Administration (USFDA) labeling instructions as per 21 CFR §529.1030. While the prophylactic use of formalin (i.e., drugs and chemicals used to prevent specific disease(s) in the absence of their symptoms) is not mentioned in those USFDA regulations, EPA allows its use only under the extra-label provisions of the Federal Food, Drug and Cosmetic Act as a BMP to control the excessive use of drugs.

The facilities to be covered by the Draft AQUAGP have a reasonable potential to cause or contribute to an exceedance of the narrative toxicity criterion for formaldehyde based on the potential use of formalin at the facilities to be covered under the Draft AQUAGP. Therefore, the Draft AQUAGP includes effluent limitations for formaldehyde when formalin is used, as described below.

Currently there are no acute and chronic aquatic life criteria for either formalin or formaldehyde in the state water quality standards for Massachusetts, New Hampshire, or Vermont. Hohreiter and Rigg derived acute and chronic aquatic life formaldehyde criteria of 4.6 mg/L and 1.6 mg/L, respectively, in

accordance with EPA's *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*.<sup>10</sup> These criteria were developed based on data for at least one species in eight different taxonomic families, including 12 species of fish. These criteria are appropriate for the purpose of establishing effluent limitations for formaldehyde during formalin use at CAAP facilities.

The effluent limitations for formaldehyde shown in Parts 1 (Massachusetts), 2 (New Hampshire) and 3 (Vermont) reflect end-of-pipe limitations set equal to the applicable water quality criterion; however, an applicant may request a dilution factor from the appropriate State for the purposes of calculating QBELs. Appendices 8 through 10 of the Draft AQUAGP include the calculation methodologies for QBELs with dilution for facilities in Massachusetts, New Hampshire, and Vermont.

The effluent limitations for formaldehyde apply to all Permittees; however, effluent monitoring requirements for formaldehyde only apply when formalin is used. As discussed in Section 3.6 of this Fact Sheet, effluent limitations and monitoring requirements for dissolved oxygen also apply during periods of formaldehyde use.

### 3.7.1 Formaldehyde Limitations in New Hampshire

New Hampshire water quality standards require that "all surface waters shall be free from toxic substances or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life" N.H. RSA 485-A:8, VI and Env-Wq 1703.21(a)(1)). The existing individual permits for facilities in New Hampshire include effluent limitations for formaldehyde based on the acute and chronic aquatic life criteria of 4.6 mg/L and 1.6 mg/L, respectively, from the *Derivation of Ambient Water Quality Criteria for Formaldehyde* (Hohreiter and Rigg 2001). The Draft AQUAGP carries forward these effluent limitations for formaldehyde.

### 3.7.2 Formaldehyde Limitations in Massachusetts and Vermont

Massachusetts water quality standards require that "all surface waters are free from pollutants in concentrations or combinational that are toxic to humans, aquatic life, or wildlife." 314 CMR 4.05(5)(e). Vermont water quality standards require that waters are "managed to prevent the discharge of toxic substances in concentrations, quantities, or combinations that exceed acute or chronic toxicity to aquatic biota or wildlife." VT Water Quality Standards Environmental Protection Rule § 29A-303(7)(A)(iii).

The existing individual permits for CAAP facilities in Massachusetts and Vermont, except for Pittsford National Fish Hatchery, include a maximum daily limit of 0.7 mg/L for formaldehyde. This effluent limit was calculated from the LC<sub>50</sub> values for formalin for two species of *Ictalurid* (black bullhead and channel catfish) published in a USFWS document (Bills et al. 1977).<sup>11</sup> The LC<sub>50</sub> values were adjusted by a factor of 0.3 to approximate an LC<sub>1</sub> value (i.e., virtually no mortality) as acute formalin threshold values in accordance with EPA's *Technical Support Document for Water Quality Based Toxics*

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<sup>10</sup> Hohreiter, D.W. and Rigg, D.K., 2001. *Derivation of Ambient Water Quality Criteria for Formaldehyde*, Journal of Science for Environmental Technology in Chemosphere, Vol. 45: 471-486.

<sup>11</sup> Bills, T.D., LL. Marking, J.H. Chandler. 1977. Formalin: Its Toxicity to Non-target Aquatic Organisms, Persistence, and Counteraction. US Department of the Interior, Fish and Wildlife Service. Washington DC.

*Control.*<sup>12</sup> According to the fact sheets, no chronic data were available for formalin. An acute-to-chronic ratio (ACR) value of 10 (multiplier of 0.1) was selected to calculate the chronic formalin threshold values. The most stringent of the two species' chronic threshold values for formalin was adjusted by the amount of formaldehyde in formalin (37% by weight) and the result, 0.70 mg/L, was applied as the maximum daily effluent limit for formaldehyde.

For the Pittsford National Fish Hatchery's individual permit, a similar formaldehyde effluent limit of 0.7 mg/L was proposed in the draft permit but was later revised based on public comments in the final 2009 permit. The current/revised effluent limit of 8.4 mg/L was derived from an uncited acute toxicity threshold for formalin of 18.6 mg/L. The use of an acute criteria was chosen to better approximate the infrequent formalin use at the facility. This threshold formalin value was adjusted to a corresponding formaldehyde value (37% by weight as described above) and multiplied by the facility's dilution factor of 1.22. This 8.4 mg/L value became the maximum daily effluent limit for formaldehyde.

The derivation of the maximum daily formaldehyde limit in these permits is problematic for several reasons. A review of Hohreiter and Rigg 2001 indicates that Bills et al (1977) investigated impacts on many species and black bullhead and channel catfish were not necessarily the most sensitive nor are these two species particularly common in Massachusetts and Vermont. In addition, Bills et al (1977) studied acute toxicity of formaldehyde on fish species, not formalin, as the derivation in the fact sheets suggests. The final step in the derivation of the effluent limits in the fact sheets is to multiply the chronic threshold value by 0.37 (representing the portion of formaldehyde in formalin) when in fact, the limits were already expressed in terms of formaldehyde. The chronic limits prior to this step (1.9 mg/L for black bullhead and 2.0 mg/L for channel catfish) are not inconsistent with the chronic limit of 1.6 mg/L derived in Hohreiter and Rigg 2001. Finally, the effluent limit derived from the chronic threshold was applied as a maximum daily limit, rather than as an average monthly limit. Hohreiter and Rigg 2001, in comparison, derived the criteria based on review of many different studies, including Bills et al. 1977. Additionally, Hohreiter and Rigg 2001 calculated a final acute value based on the four lowest genus mean acute and derived a chronic value using a final acute-to-chronic ratio (ACR) based on the geometric mean of ACRs for three species values following the approach in EPA's guidance document. The Pittsford National Fish Hatchery's limit derivation is additionally problematic because the source of the 18.6 mg/L acute toxicity threshold value is unclear.

The Draft AQUAGP establishes effluent limitations for formaldehyde of 1.6 mg/L as an average monthly (chronic) value and 4.6 mg/L as a maximum daily (acute) for facilities in Massachusetts and Vermont, consistent with the effluent limits in the existing permits for facilities in New Hampshire and based on the derivation of water quality criteria in Hohreiter and Rigg 2001.

Generally, a permit may not be renewed, reissued, or modified with less stringent limitations or conditions than those contained in a previous permit unless in compliance with the anti-backsliding requirements of the CWA. *See* § 402(o) and § 303(d)(4) of the CWA and 40 CFR § 122.44(1)(1) and (2). The CWA contains certain exceptions to anti-backsliding, including where technical mistakes or mistaken interpretations of law were made in issuing the permit. *See* 40 CFR § 122.44(1)(2)(i)(B)(2). Based on review of the original derivation of the effluent limit, EPA believes that the effluent limits in the Draft AQUAGP are consistent with the exceptions to anti-backsliding in that technical errors were made (as described above). In addition, without the technical mistake of multiplying the chronic

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<sup>12</sup> EPA-440/4-85-032, Sept. 1985

threshold by 0.37 and applying the chronic limit as a maximum daily value, the acute and chronic values derived for catfish in the fact sheets are less stringent than the Draft AQUAGP's average monthly limit of 1.6 mg/L and maximum daily limit of 4.6 mg/L (except for the Pittsford National Fish Hatchery). Finally, the WQBELs in the Draft AQUAGP are expected to meet the States' water quality standards for toxic pollutants. See 40 CFR § 122.44(1)(2)(ii).

### 3.8 Hydrogen Peroxide

Aquaculture facilities sometimes use 35% PEROX-AID® (hydrogen peroxide solution) as an external microbicide for the control of mortality in freshwater-reared finfish eggs due to saprolegniasis, in freshwater-reared salmonoids due to bacterial gill disease (*Flavobacterium branchiophilum*), and in freshwater-reared cool water finfish due to external columnaris disease (*Flavobacterium columnae*). PEROX-AID® is a USFDA-approved drug for freshwater-reared finfish, and its use must adhere to USFDA label instructions.

The Massachusetts, New Hampshire, and Vermont water quality standards do not include criteria for hydrogen peroxide, but the USFDA has derived hydrogen peroxide water quality benchmarks for use by NPDES permitting authorities (See "Environmental Assessment for the Use of Hydrogen Peroxide in Aquaculture for Treating External Fungal and Bacterial Diseases of Culture Fish and Fish Eggs", United State Geological Survey, 2006, p.72). For freshwater aquatic life, the acute benchmark (criteria maximum concentration) is 0.7 mg/L. The USFDA determined that a corresponding chronic benchmark was unnecessary. The Draft AQUAGP includes a maximum daily limitation of 0.7 mg/L based on USFDA's recommended acute benchmark and requires monitoring when hydrogen peroxide is used at the facility.

### 3.9 pH

The pH limitations proposed in the Draft AQUAGP are based on the state water quality standards applicable to the receiving water classification and are a state certification requirement. The effluent limits for pH in the Draft AQUAGP are established to be consistent with water quality standards in Massachusetts, namely 314 CMR 4.05(3)(a)(3), 4.05(3)(b)(3), 4.05(4)(a)(3) and 4.05(4)(b)(3), water quality standards in New Hampshire (Env-Wq 1703.18), and water quality standards in Vermont (Environmental Protection Rule §29A-303(6)). Therefore, the pH limitations are based on State certification requirements under section 401(d) of the CWA, 40 CFR §§ 124.53 and 124.55.

The Draft AQUAGP contains the following limits for the indicated waterbody classifications:

Massachusetts Class A and B: 6.5 – 8.3 standard units (S.U.)

Massachusetts Class SA and SB: 6.5 – 8.5 S.U.

New Hampshire Class B: 6.5 – 8.0 S.U.

Vermont All Waters: 6.5 – 8.5 S.U.

For Massachusetts dischargers, an alternate pH range may be established if the Permittee can demonstrate to MassDEP that State water quality standards can be attained with an alternative range. The State Condition for alternative pH limits is included at Part 1.5.a of the Draft AQUAGP. Applicants must contact MassDEP to determine what information and protocol is required to make such a

determination. The protocol or procedure to request an alternate pH range must be followed for each individual outfall for which an alternate pH range is sought. In no case shall the above procedure result in pH limits outside the range of 6.0 – 9.0 S.U.

For New Hampshire dischargers, an alternate pH range may be established if a Permittee can demonstrate to NHDES-WD that State water quality standards can be attained with an alternative range. The State Condition for alternative pH limits is included at Part 2.3.a of the Draft AQUAGP. The protocol or procedure to request an alternate pH range must be followed for each individual outfall for which an alternate pH range is sought. In no case shall the above procedure result in pH limits outside the range of 6.0 – 9.0 S.U.

Either State may approve an alternate pH range for a particular Permittee prior to it being established in the permit. If the State approval is submitted with the NOI, EPA may establish the alternate range in the authorization letter which would take effect upon the effective date of permit coverage. If the State approval is granted during the permit term, then the Permittee must submit a Notice of Change (NOC) containing information found in Appendix 8 of the Draft AQUAGP to request this change. Also see Part 8.1 of the Draft AQUAGP. If EPA agrees with this change, it will inform the Permittee and the State in writing and change the limited range in the permit.

### **3.10 Total Nitrogen**

Elevated concentrations of nutrients can result in eutrophication, where nutrient concentrations lead to excessive plant and algal growth, including cyanobacteria. Respiration and decomposition of plants and algae under eutrophic conditions reduce dissolved oxygen in the water and can create poor habitat for aquatic organisms.<sup>13</sup>

BAT represents the best economically achievable performance of facilities in the CAAP industrial subcategory or category. For flow-through and recirculating systems that produce more than 100,000 pounds or more per year of aquatic animals, EPA established BMP requirements for the control of conventional, toxic, and non-conventional pollutants, including total nitrogen and total phosphorus. 40 CFR § 451.12. See also 69 FR 51895. The Draft AQUAGP includes these technology-based, non-numeric BMP requirements and requires all facilities to monitor and report total nitrogen. In addition, the Draft AQUAGP includes nitrogen optimization reporting requirements for discharges into the Long Island Sound watershed and effluent limits for one facility, Sandwich State Fish Hatchery, that are being carried forward from the existing, individual permit in accordance with regulations governing backsliding at 40 CFR § 122.44(i). As part of State Certification, New Hampshire includes alternative seasonal monitoring requirements. These reporting requirements and nitrogen effluent limit are discussed below.

#### **3.10.1 Total Nitrogen Limitations for Facilities Discharging to Long Island Sound Watershed**

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<sup>13</sup> Technical Development Document for the Final Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (Revised August 2004). EPA Office of Water. EPA-821-R-04-012.

Long Island Sound experiences low levels of dissolved oxygen (hypoxia) that can exceed water quality standards and impair the function and health of the Sound. The low dissolved oxygen levels are linked to excessive human-generated sources of nitrogen, including from the Connecticut River. To protect Long Island Sound and improve water quality conditions, Connecticut and New York have developed a TMDL for Long Island Sound that specifies a 58.5 percent reduction in nitrogen load from Connecticut and New York and requires additional action to reduce nitrogen loading from sources north of the state of Connecticut, including Massachusetts.<sup>14</sup>

The TMDL included a wasteload allocation for point sources and a load allocation for non-point sources. The point source wasteload allocation for out-of-basin sources (Massachusetts, New Hampshire, and Vermont wastewater facilities discharging to the Connecticut, Housatonic, and Thames River watersheds) requires an aggregate 25 percent reduction from the baseline total nitrogen loading estimated in the TMDL. The Connecticut Department of Energy & Environmental Protection (CTDEEP) also applied a threshold of 20 lbs/day (equivalent in impact to a 35 lbs/day threshold at facilities upstream in Massachusetts and New Hampshire) when imposing nitrogen controls on existing facilities. See *Nitrogen Control for Small Sewage Facilities* (CTDEEP) and the Fact Sheet for the 2010 Reissuance of the Privately Owned Treatment Works General Permit (EPA pp. 19-21). EPA considers facilities discharging more than 35 lbs/day of total nitrogen to these receiving waters significant sources of nitrogen which could subject a facility to more stringent requirements or numeric limits for nitrogen.

Several hatcheries eligible for authorization under the Draft AQUAGP discharge to the Connecticut River and its tributaries, including the McLaughlin, Montague, and Sunderland State Fish Hatcheries in Massachusetts, Twin Mountain State Fish Hatchery in New Hampshire, and White River National Fish Hatchery in Vermont. Current loads at fish hatcheries in the Long Island Sound watershed are less than 35 lbs/day and are not considered significant sources of nitrogen. For similar low-load facilities, EPA and the states have required wastewater treatment plants and industrial dischargers to develop annual nitrogen optimization reports for limiting nitrogen discharges to the watershed. Given current practice and the limited loads discharged by the fish hatcheries, the Draft AQUAGP includes similar nitrogen optimization reporting requirements for hatcheries in the Long Island Sound watershed.

The primary sources of nitrogen in CAAP systems are feed and animal biomass – in the form of waste and mortalities. The BMPs included in the ELGs target the proper management of these sources in order to reduce their discharge in hatchery effluent. Examples include minimizing the amount of feed necessary to achieve production goals and disposing of aquatic mortalities on a regular basis. Proper implementation of BMPs will go towards minimizing nitrogen discharges to the Long Island Sound watershed. The optimization condition of the Draft AQUAGP makes explicit the requirement that permittees use their BMPs to control the discharge of nitrogen. Specifically, it requires an initial report be completed evaluating both alternative BMPs and improvements to current implementations of BMPs that would minimize nitrogen discharged from their facility. In addition, annual reports are required to summarize progress and activities conducted related to minimizing nitrogen discharges to the watershed.

### **3.10.2 Total Nitrogen Limitations for Sandwich State Fish Hatchery**

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<sup>14</sup> A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound. December 2000. Prepared by New York State Department of Environmental Conservation and Connecticut State Department of Environmental Protection. <http://longislandsoundstudy.net/wp-content/uploads/2010/03/Tmdl.pdf>

The individual permit for the Sandwich State Fish Hatchery (NPDES Permit No. MA0110027) includes an average monthly total nitrogen load limitation of 14 lbs/day. Consistent with the individual permit, EPA has applied an average monthly nitrogen load limitation of 14 lbs/day in the Draft AQUAGP. The effluent limit is based on an annual rolling average flow. Compliance with the baseline load will be based on monthly total nitrogen monitoring and the rolling average annual flow.

### **3.10.3 New Hampshire Nitrogen Monitoring Requirements**

As discussed in Section 2.1.1 of this document, during State Review of the Draft AQUAGP, NHDES raised concerns over the discharge of nutrients from CAAP facilities. From work done in developing the NPDES permit for Powder Mill State Fish Hatchery (Permit No. NH0000710), there is evidence that hatcheries can be the primary control on eutrophication in downstream receiving waters. As part of State Certification, EPA has included these additional monitoring requirements in the Draft AQUAGP in Part 2.1 and Section 2.3.d. State Permit Conditions. These monitoring requirements only apply to dischargers in New Hampshire; however, during the Public Comment Period, EPA welcomes public feedback as to whether these requirements should apply to all three states.

### **3.11 Total Phosphorus**

Fish hatcheries and holding facilities have the potential to contribute phosphorus to the receiving water, primarily from the addition of fish feed. Elevated levels of phosphorus can result in eutrophication, where nutrients can contribute to excessive plant and algae growth, including nuisance species. Respiration and decomposition of plants and algae under eutrophic conditions can reduce dissolved oxygen in the water and create poor quality habitat for aquatic organisms.

BAT represents the best economically achievable performance of facilities in the CAAP industrial subcategory or category. For flow-through and recirculating systems that produce more than 100,000 pounds or more per year of aquatic animals, EPA established BMP requirements for the control of conventional, toxic, and non-conventional pollutants, including total nitrogen and total phosphorus. 40 CFR §451.12. See also 69 FR 51895. The Draft AQUAGP includes these technology-based, non-numeric BMP requirements and requires all facilities to monitor and report total phosphorus.

The individual permits for two facilities include effluent limitations for total phosphorus to address local water quality concerns. The Draft AQUAGP retains these effluent limitations to satisfy anti-backsliding requirements, as discussed below. As with total nitrogen, alternative total phosphorus monitoring requirements are included for dischargers in New Hampshire, see Sections 2.1.1 State Certification and 3.10.3 New Hampshire Nitrogen Monitoring Requirements above. These State Certification monitoring requirements only apply to dischargers in New Hampshire; however, during the Public Comment Period, EPA welcomes public feedback as to whether these requirements should apply to all three states.

#### **3.11.1 Total Phosphorus Limitations for Charles L. McLaughlin State Fish Hatchery**

The individual permit for the Charles L. McLaughlin State Fish Hatchery (NPDES Permit No. MA0110043) includes a monthly average total phosphorus limit of 0.24 mg/L to address local water quality concerns. The current permit includes this limit based on achieving an in-stream total phosphorus concentration of 0.1 mg/L in the Swift River at low-flow conditions adjusted for facility

withdrawals using the average monthly flow limit of 7.5 MGD (11.6 cfs). Consistent with the individual permit, EPA has applied an average monthly total phosphorus limitation of 0.24 mg/L (240 µg/L) in the Draft AQUAGP.

### 3.11.2 Total Phosphorus Limitations for Pittsford National Fish Hatchery

The individual permit for the Pittsford National Fish Hatchery (NPDES Permit No. VT0000451) includes an effluent limitation for total phosphorus to address local water quality concerns. Furnace Brook, the receiving water for the facility, is not listed on the Vermont 303(d) List. However, Furnace Brook is in the Lake Champlain Watershed which was previously listed on the 303(d) list for phosphorus. Consequently, the State of Vermont established a phosphorus TMDL for Lake Champlain in September 2002 to reduce and prevent blooms of aquatic plant growth caused by excessive phosphorus loading. The Lake Champlain phosphorus TMDL included a wasteload allocation for the Pittsford National Fish Hatchery of no more than 1,523 pounds per year. Consistent with the individual permit, the Draft AQUAGP includes a total phosphorus limit of 1,523 pounds per year based on the TMDL.

In addition, Vermont State law at 10 V.S.A. § 1266a (“Discharges of Phosphorus”) requires that “[n]o person directly discharging into the drainage basins of Lake Champlain or Lake Memphremagog shall discharge any waste that contains a phosphorus concentration in excess of 0.80 milligrams per liter on a monthly average basis.” Therefore, in addition to the annual mass load effluent limitation required by the TMDL, the Draft AQUAGP includes a monthly average concentration limit for phosphorus of 0.80 mg/L for discharges into the Lake Champlain drainage basin, which includes the Pittsford National Fish Hatchery.

### 3.12 Total Residual Chlorine

Some aquaculture facilities use hypochlorite solutions to clean/disinfect rearing units and hatchery equipment. Typically, hypochlorite solutions are not discharged directly into the culture water and any hypochlorite solution remaining on the equipment is neutralized with sodium thiosulfate prior to its exposure to that culture water.

Some aquaculture facilities also use a chlorine containing compound, Chloramine-T, an investigational new animal drug (INAD), to treat bacterial gill disease caused by *Flavobacterium branchiophilium* (USFDA INAD #9321 Objective B). Permittees must follow the INAD study protocol for its use, and Part 5.1 of the Draft AQUAGP requires Permittees to notify EPA when any INAD is used.

EPA New England finds that the facilities to be covered by the Draft AQUAGP have a reasonable potential to cause or contribute to an exceedance of the applicable water quality criteria for total residual chlorine based on the potential use of chlorine-containing chemicals at the facilities to be covered under the Draft AQUAGP.

Massachusetts, New Hampshire, and Vermont have narrative criteria in their water quality standards that prohibit toxic discharges in toxic amounts (Massachusetts 314 CMR 4.05(5)(e), New Hampshire Env-Wq 1703.21(a), and Vermont Environmental Protection Rule § 20A-303((7)). The proposed limits on total residual chlorine will ensure that chlorine is not discharged in toxic amounts.

The State of New Hampshire's water quality standards for chlorine, found at Chapter 1700, Surface Water Quality Regulations, Part Env-Wq 1703.21(b), and the State of Vermont's water quality standards for chlorine, found at Environmental Protection Rule 29A, Appendix C, are the same as the recommended federal water quality criteria. The Commonwealth of Massachusetts' surface water quality standards require the use of federal water quality criteria where a specific pollutant could reasonably be expected to adversely affect existing or designated uses (314 CMR 4.05(5)(e)).

Based on these standards, EPA will base chlorine effluent limits on the federal water quality criteria, which are listed below.

- Freshwater acute – 19 µg/L (0.019 mg/L)
- Freshwater chronic – 11 µg/L (0.011 mg/L)
- Marine acute – 13 µg/L (0.013 mg/L)
- Marine chronic – 7.5 µg/L (0.0075 mg/L)

The Draft AQUAGP establishes maximum daily and average monthly concentration limits for total residual chlorine based on the appropriate water quality criterion and the available dilution in the receiving water (based on the receiving water's 7Q10 and the maximum allowed discharge, see Appendices 8 through 10 of the Draft AQUAGP for equations). The total residual chlorine effluent limits will be based on the following equation:

$$\text{Effluent Limit} = (\text{Dilution Factor}) \times (\text{Water-Quality Criterion})$$

The *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters*, dated February 23, 1990, states that waters shall be protected from unnecessary discharges of excess chlorine; the maximum effluent concentration of total residual chlorine shall not exceed 1.0 mg/L where dilution is greater than 100. In Massachusetts, New Hampshire, and Vermont, the total residual chlorine limitations established for discharges with high dilution factors will be capped at 1.0 mg/L based on this policy. EPA believes that this upper total residual chlorine effluent limitation will adequately protect aquatic organisms from toxic amounts of chlorine.

The dilution factor and applicable chlorine limits will be approved by EPA and the applicable state agency during review of each NOI. The Permittee will be provided with these limits when notified of permit coverage.

### 3.13 Whole Effluent Toxicity

EPA's *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991, recommends using an "integrated strategy" containing both pollutant (chemical) specific approaches and whole effluent (biological) toxicity approaches to control toxic pollutants in effluent discharges from entering the nation's waterways. EPA adopted this "integrated strategy" on July 1, 1991, for use in permit development and issuance. These approaches are designed to protect aquatic life and human health. Pollutant specific approaches address individual chemicals, whereas WET approaches evaluate interactions between pollutants thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. Furthermore, WET measures the "additivity" and/or "antagonistic" effects of individual chemical pollutants which pollutant specific approaches do not, thus the need for both approaches. In

addition, the presence of an unknown toxic pollutant can be discovered and addressed through this process.

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts and State water quality standards prohibit the discharge of toxics in toxic amounts. NPDES regulations under 40 CFR §122.44(d)(1)(v) require WET limits in a permit when a discharge has a "reasonable potential" to cause or contribute to an excursion above the State's narrative criterion for toxicity. However, WET limits are not necessary where it can be demonstrated that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

For the case of CAAP facilities in New England, there is reasonable potential to cause or contribute to an excursion above narrative State water quality standards for toxics when drugs or other chemicals are used to treat aquatic animals. For the most common treatments described above (Copper Sulfate, Formalin products, Hydrogen Peroxide, and Hypochlorite solutions), chemical-specific limits have been included in the Draft Permit. Due to the limited use of these drugs and chemicals, their controlled application, and the reporting requirements outlined in the Draft Permit, these chemical-specific effluent limits should be sufficiently stringent to control toxicity in the receiving water. In addition, most of these hatcheries are at the headwaters of their receiving waters, with little dilution allowance, and no other significant industrial pollutant sources; therefore, the synergistic and antagonistic effects that may be captured by a WET test but not by a chemical-specific criterion are not applicable here. Consequently, the Draft Permit has not included WET limitations beyond those established in previous individual permits.

The individual permits for three facilities include effluent limitations for acute WET and the individual permit for one facility includes effluent limitations for acute and chronic WET.

### **3.13.1 WET Limitations for Sandwich State Fish Hatchery, Sunderland State Fish Hatchery, and Montague State Fish Hatchery**

Consistent with antibacksliding requirements, the Draft AQUAGP retains the numeric acute WET limit ( $LC_{50} \geq 100\%$ ) for the individual permits from the Sandwich State Fish Hatchery (NPDES Permit No. MA0110027), Sunderland State Fish Hatchery (NPDES Permit No. MA0110035), and Montague State Fish Hatchery (NPDES Permit No. MA0110051). The individual permits included these limits to provide assurance that there is no unacceptable toxicity in the discharge during periods when formalin is being used.

### **3.13.2 WET Limitations for New England Aquarium Corporation and New England Aquarium Off-Site Holding Facility**

Consistent with antibacksliding requirements, the Draft AQUAGP retains the numeric acute WET limit ( $LC_{50} \geq 100\%$ ) from the existing individual permit for the New England Aquarium Off-Site Holding Facility (NPDES Permit No. MA0040380). The existing permit limits were established based on a "reasonable potential" to cause an excursion of the no toxics provision in the State's regulations after considering data from the permit application and the fact that the discharge contained several toxic pollutants. In addition, the Draft AQUAGP retains the WET monitoring requirements from the existing

individual permit for New England Aquarium Corporation (NPDES Permit No. MA0003123). An analysis of the facilities' WET reports between April 2014 and March 2019 shows LC<sub>50</sub> values consistently greater than or equal to 100% at both facilities.

### 3.14 Best Management Practices (BMP) Plan and Benchmark Requirements

BMPs may be expressly incorporated into a permit on a case-by-case basis where it is determined that they are necessary to achieve effluent limitations and standards or to carry out the purpose and intent of the CWA under § 402(a)(1). BMPs may be necessary to control or abate the discharge of pollutants when: 1) authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. *See* 40 CFR § 122.44(k). Pollutants may be present because they are generated during Facility operations, which could result in these pollutants reaching waters of the United States via discharges of wastewater.

As discussed in Section 2.2 of this Fact Sheet, the ELGs contained in 40 CFR § 451.11 are narrative limitations that describe BMPs to which the facilities covered under the Draft AQUAGP must adhere. These practices require the Permittee to develop and employ methods for feed management, removal of accumulated solids, storage of drugs and pesticides, spill prevention, management of the wastewater treatment system, maintaining accurate records, and ensuring that all personnel receive proper training. The Draft AQUAGP requires the selection, design, installation, and implementation of control measures for wastewater associated with the Facility operations to comply with the non-numeric technology-based effluent limits. These non-numeric limitations are consistent with the limitations specified in 40 CFR Part 451 Subpart A for flow-through and recirculating systems in the CAAP Point Source Category. Requirements include:

- *Solids control* including feed management and feeding strategies to minimize potential discharges of uneaten feed, accumulated solids, and disposal of animal mortalities;
- *Materials storage* including proper storage of drugs, pesticides, and feed, and procedures for spill prevention and disposal;
- *Structural maintenance* including route inspections and maintenance;
- *Recordkeeping* including documenting feed amounts, numbers/weight of aquatic animals, and frequency of inspections and repairs;
- *Training* including proper spill clean-up and disposal and operation and cleaning of wastewater treatment systems, feeding procedures, and use of equipment.

The purpose of these requirements is to reduce or eliminate the discharge of pollutants to waters of the United States. These requirements will also ensure that discharges from the Facility will meet State WQSs pursuant to CWA § 301(b)(1)(C) and 40 CFR § 122.44(d)(1). Unless otherwise stated, the Permittee may select, design, install, implement and maintain BMPs as the Permittee deems appropriate to meet the permit requirements. The selection, design, installation, implementation and maintenance of control measures must be in accordance with good engineering practices and manufacturer's specifications.

In addition to the BMP Plan requirement, the Draft AQUAGP establishes a benchmark requirement TSS. The benchmark is not an effluent limitation. The benchmark is the pollutant concentrations above which EPA New England has determined represent a level of concern and require further evaluation of the Permittee's BMP Plan to determine whether BMPs are effectively reducing solids concentrations in the discharge. See Section 3.3.1 of this Fact Sheet for additional information on the benchmark monitoring requirements.

## **4.0 Notice of Intent (NOI) Requirements and Other Regulatory Provisions**

### **4.1 NOI Information**

To obtain coverage under the Draft AQUAGP, operators of facilities whose discharge or discharges are identified in Part 4.1 of the Draft AQUAGP are required to submit an NOI to EPA and the appropriate State at the addresses listed in Appendix 4 of the Draft AQUAGP. For purposes of the Draft AQUAGP, the NOI consists of either the recommended NOI format in Appendix 4 (also available to download as a fillable pdf) or another format of official correspondence containing all of the information required in the NOI instructions in Appendix 4, which includes:

- a. Facility Information;
- b. Discharge Information;
- c. Operations and Production Information;
- d. Aquaculture Drugs and Chemicals;
- e. Water Sources;
- f. ESA Certification;
- g. NHPA Eligibility;
- h. Supplemental Information; and
- i. Signature Requirements.

EPA is in the process of developing an electronic NOI submittal system that will replace all paper NOI submissions, consistent with the Electronic Reporting Rule<sup>15</sup>. Its release is planned to coincide with the issuance of the Final Permit. The electronic NOI system will be consistent with the requirements outlined in Part 6 of the Draft Permit.

### **4.2 NOI Submittal Timeframes**

#### **4.2.1 Proposed New Discharges**

Facilities with proposed new discharges are not eligible for coverage under this General Permit. This exclusion does not apply to existing discharges that have never been covered under individual NPDES permits; for those, see below.

#### **4.2.2 Existing Discharges**

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<sup>15</sup> A description of EPA's NPDES Electronic Reporting Rule can be found at <https://www.gpo.gov/fdsys/pkg/FR-2015-10-22/pdf/2015-24954.pdf>.

Operators of existing discharges, including those facilities with individual NPDES permits that meet the eligibility criteria of this General Permit and that wish to seek authorization under this General Permit, must file an NOI to EPA and the respective State for coverage under this General Permit within sixty (60) days of the effective date of this General Permit. For enforcement purposes, a facility not currently authorized by an NPDES permit that fails to submit an NOI for an existing discharge within 60 days of the effective date of this General Permit will be considered to be discharging without a permit.

### **4.3 Requiring Coverage Under an Individual Permit or Other General Permit**

The Draft AQUAGP provides that, for any applicant, EPA may require an individual permit or recommend coverage under a separate general permit according to 40 CFR §122.28(b)(3). These regulations also provide that any interested party may petition EPA to take such an action. The issuance of the individual permit or other general permit would be in accordance with 40 CFR § 124 and would provide for public comment and appeal of any final permit decision. Circumstances under which the Director may require an individual permit are described in 40 CFR § 122.28(b)(3)(i)(A-G).

The Director may require any person authorized by the Draft AQUAGP to apply for and obtain an individual NPDES permit. Instances where an individual permit may be required and based on a determination under 40 CFR § 122.28(b)(3), include the following:

1. The discharge(s) is a significant contributor of pollution or is in violation of State water quality standards for the receiving water;
2. The discharger is not in compliance with the conditions of this permit;
3. A change has occurred in the availability of the demonstrated technology of practices for the control or abatement of pollutants applicable to the point source(s);
4. A Water Quality Management Plan or TMDL containing requirements applicable to such point source(s) is approved and is inconsistent with this permit;
5. The point source(s) covered by this permit no longer:
  - i. Involves the same or substantially similar types of operations;
  - ii. Discharges the same types of wastes;
  - iii. Requires the same effluent limitations or operating conditions;
  - iv. Requires the same or similar monitoring; and/or,
  - v. In the opinion of the Director, is more appropriately controlled under an individual or alternate general permit.

If the Director requires an individual permit, the Permittee will be notified in writing that an individual permit is required and will be given a brief explanation of the reasons for this decision. When an individual NPDES permit is issued to an operator otherwise subject to the Draft AQUAGP, the applicability of the Draft AQUAGP to that owner or operator is automatically terminated on the effective date of the individual permit (see 40 CFR § 122.28(b)(3)(iv)).

### **4.4 EPA Determination of Coverage**

Any applicant may request to have its discharges authorized under the AQUAGP but the final authority for coverage rests with the EPA. Coverage under the Draft AQUAGP will not be effective until EPA and the respective State have reviewed the NOI, made a determination that coverage under the Draft AQUAGP is warranted, and EPA has notified the operator in writing of its determination. The effective date of coverage will be established in the authorization letter that is provided by the EPA.

Failure to submit to EPA a NOI to be covered and/or failure to receive from EPA written notification of permit coverage means that the facility is not authorized to discharge under the Draft AQUAGP. Sites that are denied permit coverage by EPA are not authorized under the Draft AQUAGP to discharge from those facilities to any receiving waters and must apply for an individual or other general permit.

## 5.0 Other Regulatory Provisions

### 5.1 Essential Fish Habitat (EFH)

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 *et seq.* (1998)), EPA is required to consult with the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) if EPA's actions or proposed actions that it funds, permits or undertakes "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" (EFH) as "waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." 16 U.S.C. Section 1802(10). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH. 50 CFR § 600.910(a). Adverse effects may include direct (*e.g.*, contamination or physical disruption), indirect (*e.g.*, loss of prey, reduction in species' fecundity), site-specific, or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions.

EFH is only designated for fish species for which federal Fisheries Management Plans exist. *See* 16 U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. In a letter to EPA New England dated October 10, 2000, NOAA Fisheries agreed that for NPDES permit actions, EFH notification for purposes of consultation can be accomplished in the EFH section of the permit's Fact Sheet or Federal Register Notice.

The Draft AQUAGP issued by EPA will provide coverage to CAAP facilities and other, similar facilities located in Massachusetts, New Hampshire, and Vermont. Please refer to Section 1.2 of this Fact Sheet for an explanation of these facilities and their discharges.

Section 1.4 of this Fact Sheet lists the specific discharges excluded from coverage, including discharges to ocean sanctuaries and wild and scenic rivers. The Draft AQUAGP may apply to facilities that discharge into tidal or coastal waters; however, all but three of the facilities identified for potential coverage under the Draft AQUAGP discharge to freshwater bodies. Table 1 is an overall list of EFH species found in coastal Massachusetts waters in the vicinity of the tidal facilities that were identified for potential coverage under the Draft AQUAGP. Appendix 1 to the Draft AQUAGP includes guidance and links to determining if there is designated EFH based on location of the facility. While the EFH assessment generally considers potential impacts to all federally managed species with designated EFH in the coastal and inland waters of Massachusetts, New Hampshire, and Vermont, Atlantic salmon (*Salmo salar*) will likely be the predominant managed species that *currently* occurs in the area of known

facilities identified for potential coverage under the Draft AQUAGP. For this reason, the EFH assessment focuses on Atlantic salmon. The EFH designation for Atlantic salmon includes the Connecticut, Merrimack, and Piscataqua Rivers, including their tributaries.<sup>16</sup> The designation includes rivers where Atlantic salmon are currently present but does not include rivers from which this species has been extirpated on the presumption that it would be extremely unlikely that these rivers will again support Atlantic salmon without artificial supplementation or stocking.

**Table 1. EFH species, life stages and one habitat areas of particular concern in the vicinity of three coastal discharges identified for potential coverage under the Draft AQUAGP**

Species/Management Unit	Lifestage(s) Found at Location
Atlantic Sea Scallop	ALL
Atlantic Wolffish	ALL
Winter Flounder	Eggs, Juvenile, Larvae/Adult
Little Skate	Juvenile, Adult
Ocean Pout	Adult, Eggs, Juvenile
Atlantic Herring	Juvenile, Adult, Larvae
Atlantic Cod	Larvae, Adult, Juvenile, Eggs
Pollock	Adult, Juvenile, Larvae
Red Hake	Adult, Eggs/Larvae/Juvenile
Silver Hake	Eggs/Larvae, Adult
Yellowtail Flounder	Adult, Juvenile, Larvae, Eggs
Monkfish	Eggs/Larvae
White Hake	Larvae, Adult, Eggs, Juvenile
Windowpane Flounder	Adult, Larvae, Eggs, Juvenile
Winter Skate	Adult, Juvenile
American Plaice	Adult, Juvenile, Larvae, Eggs
Thorny Skate	Juvenile
Albacore Tuna	Juvenile
Bluefin Tuna	Adult
Basking Shark	ALL
White Shark	Juvenile/Adult
Smoothhound Shark Complex (Atlantic Stock)	ALL
Sand Tiger Shark	Neonate/Juvenile
Northern Shortfin Squid	Adult
Longfin Inshore Squid	Juvenile, Adult

<sup>16</sup> NOAA. Essential Fish Habitat Description Atlantic salmon (*Salmo salar*) available at: <https://www.greateratlantic.fisheries.noaa.gov/hcd/salmon.pdf> and Summary of Essential Fish Habitat (EFH) and General Habitat Parameters for Federally Managed Species available at: <https://www.greateratlantic.fisheries.noaa.gov/hcd/efhtables.pdf>.

Species/Management Unit	Lifestage(s) Found at Location
Atlantic Mackerel	Eggs, Larvae, Juvenile, Adult
Bluefish	Adult, Juvenile
Atlantic Butterfish	Eggs, Adult, Juvenile
Spiny Dogfish	Sub-Adult Female, Adult Male, Adult Female
Atlantic Surfclam	Juvenile, Adult
Scup	Juvenile, Adult
Summer Flounder	Adult
Black Sea Bass	Juvenile, Adult
Habitat Areas of Particular Concern	
Inshore 20m Juvenile Cod	

*Analysis of Effects:* As described above, the Draft AQUAGP covers a variety of potential discharges which could occur anywhere in Massachusetts, New Hampshire, and Vermont, except into those waters excluded in Section 1.4. The Draft AQUAGP requires BMPs to optimize feed ratios, which ensures that solids and nutrient loads are minimized. The Draft AQUAGP limits the use of chemotherapeutic agents and medications to those approved by the USFDA and requires that any drugs are used in accordance with USFDA recommendations. The Draft AQUAGP includes limitations on formaldehyde and dissolved oxygen when formalin is used. It also prohibits any discharges that will violate State or Federal water quality standards.

*EPA's Opinion of Potential Impacts:* EPA believes that the limits and conditions proposed for discharges authorized under the Draft AQUAGP will minimize adverse effects to EFH, including EFH designated for Atlantic salmon, for the following reasons:

- This permit action primarily covers facilities already subject to individual permits and includes limitations and conditions as stringent or more stringent than those in the individual permits for those facilities. The Sandwich State Fish Hatchery, the New England Aquarium Corporation Facility, and the New England Aquarium Off-site Holding Facility are currently the only facilities that discharge to coastal waters in Massachusetts or New Hampshire. Table 1 lists the EFH species in the vicinity of the identified coastal facilities. This permit action is not expected to include new sources of pollutants.
- Except for the two New England Aquarium facilities, all other facilities eligible for coverage under this Draft AQUAGP are not expected to withdraw water from the receiving waterbodies. For these non-intake facilities, no life stages of EFH species are vulnerable to impingement or entrainment.
- The Draft AQUAGP proposes numeric limits for TSS and BOD<sub>5</sub> for certain facilities.
- The Draft AQUAGP requires BMPs to optimize feed ratios and minimize input of solids and nutrients.
- Strict protocols and standards are included in the Draft AQUAGP to minimize the need for chemotherapeutic agents and medications as well as specific limitations that apply during the use of formalin.

- The Draft AQUAGP includes limitations on formaldehyde and dissolved oxygen when formalin is used.
- The Draft AQUAGP prohibits the discharge of pollutants or combination of pollutants in toxic amounts.
- The effluent limitations and conditions in the Draft AQUAGP were developed to be protective of all aquatic life.
- The Draft AQUAGP prohibits violations of the respective state water quality standards.

EPA concludes that the effluent limitations, conditions, and monitoring requirements contained in the Draft AQUAGP minimize adverse effects to aquatic organisms, including those with designated EFH in the receiving waters, and that additional mitigation is not warranted under Section 305(b)(2) of the Magnuson-Stevens Act. A copy of the Draft AQUAGP and Fact Sheet have been provided to NOAA Fisheries during the public comment period. If adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NOAA Fisheries will be contacted and an EFH consultation will be initiated.

## 5.2 Endangered Species

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and habitat of such species that has been designated as critical (a "critical habitat"). Section 7(a)(2) of the ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The USFWS administers Section 7 consultations for freshwater species. NOAA Fisheries administers Section 7 consultations for marine and anadromous species. When dealing with ESA consultations, these two federal agencies are collectively referred to as "the Services".

The Federal action being considered in this case is the proposed issuance of a general permit for CAAP facilities (Draft AQUAGP) in Massachusetts, New Hampshire, and Vermont. Section 1 of this Fact Sheet includes a detailed explanation the discharges from these facilities. The Draft AQUAGP is intended to replace the individual permits for the 14 facilities identified for potential coverage. As the federal agency charged with authorizing the discharge from these facilities, EPA determines potential impacts to federally listed species and initiates consultation when required under § 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants in Massachusetts, New Hampshire, and Vermont to determine if EPA's proposed NPDES permit could potentially impact any such listed species.

### 5.2.1 Endangered Species Section 7 Consultations

Section 7 of the ESA provides for formal and informal consultation with the Services. EPA routinely submits draft NPDES Permits and Fact Sheets to the Services as part of the informal consultation process prior to issuance of NPDES permits issued in Massachusetts and New Hampshire, where EPA is the permit issuing agency. In addition, EPA has determined that two National Fish Hatcheries located in

Vermont may also apply for coverage under this proposed general permit. EPA will coordinate ESA consultation with the Services for the potential Vermont federal permit actions, if required. EPA has initiated coordination with the Services by sharing the Draft AQUAGP and Fact Sheet with the Services during the public comment period. Based on EPA's working experience with the Services on numerous prior permits and identification of certain endangered species, general geographic areas of concern in the states and the potentially affected waters, including critical habitats, EPA has prepared the Draft AQUAGP to ensure adequate protection under the ESA.

The discharges authorized under the Draft AQUAGP are described in Section 1.2 of this Fact Sheet. The Draft AQUAGP specifically excludes coverage to facilities whose discharge(s) are determined to be likely to jeopardize the continued existence of listed threatened or endangered species or the critical habitat of such species. If the facility cannot comply with the requirements to protect and preserve threatened and endangered species and designated critical habitat, the facility is not eligible for coverage under the Draft AQUAGP and must seek coverage under an individual permit. The proposed Draft AQUAGP effluent limits and conditions, including the narrative BMPs, are sufficiently stringent to assure attainment of water quality standards and will ensure protection of aquatic life and aquatic habitat. Therefore, EPA has made the preliminary determination that the AQUAGP may affect, but is not likely to adversely affect, any threatened or endangered species or its critical habitat.

The following are federally listed threatened and endangered species in Massachusetts, New Hampshire, and Vermont:

#### Massachusetts (16)

Dwarf wedgemussel (*Alasmidonta heterodon*)  
 Northeastern bulrush (*Scirpus ancistrochaetus*)  
 Sandplain gerardia (*Agalinis acuta*)  
 Small whorled Pogonia (*Isotria medeoloides*)  
 Northern long-eared bat (*Myotis septentrionalis*)  
 Piping plover (*Charadrius melodus*)  
 Red knot (*Calidris canutus rufa*)  
 Roseate tern (*Sterna dougallii dougallii*)  
 Plymouth redbelly turtle (*Pseudemys rubriventis bangsi*)  
 Bog turtle (*Clemmys mühlenbergii*)  
 American burying beetle (*Nicrophorus americanus*)  
 Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*)  
 Puritan tiger beetle (*Cicindela puritana*)  
 Rusty patched bumble bee (*Bombus affinis*)  
 Atlantic sturgeon (*Acipenser oxyrinchus*)\*  
 Shortnose sturgeon (*Acipenser brevirostrum*)\*

#### New Hampshire (12)

Dwarf wedgemussel (*Alasmidonta heterodon*)  
 Canada lynx (*Lynx Canadensis*)  
 Northern long-eared bat (*Myotis septentrionalis*)  
 Piping plover (*Charadrius melodus*)  
 Red knot (*Calidris canutus rufa*)  
 Roseate tern (*Sterna dougallii dougallii*)  
 Karner blue butterfly (*Lycæides Melissa samuelis*)  
 Northeastern bulrush (*Scirpus ancistrochaetus*)  
 Small whorled pogonia (*Isotria medeoloides*)  
 Jesup's milk-vetch (*Astragalus robbinsii var. jesupii*)  
 Atlantic sturgeon (*Acipenser oxyrinchus*)\*  
 Shortnose sturgeon (*Acipenser brevirostrum*)\*

**Vermont**

Indiana bat (*Myotis sodalists*)  
 Northern long-eared bat (*Myotis septentrionalis*)  
 Canada lynx (*Lynx canadensis*)  
 Dwarf wedgemussel (*Alasmidonta heterodon*)  
 Northeastern bulrush (*Scirpus ancistrochaetus*)  
 Jesup's milk-vetch (*Astragalus robbinsii* var. *jesupi*)

\*These species are listed under the jurisdiction of NOAA Fisheries, all others are listed under the jurisdiction of USFWS.

In addition, the following are federally protected marine species that are present in the near coastal waters of Massachusetts and New Hampshire. These species are listed under the jurisdiction of NOAA Fisheries:

**Marine Reptiles (5)**

Loggerhead Sea Turtle (*Caretta caretta*)  
 Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)  
 Leatherback Sea Turtle (*Dermochelys coriacea*)  
 Green Sea Turtle (*Chelonia mydas*)  
 Hawksbill Sea Turtle (*Eretmochelys imbricata*)\*\*

**Marine Mammals (2)**

North Atlantic Right Whale (*Eubalaena glacialis*)  
 Fin Whale (*Balaenoptera physalus*)

Finally, NOAA Fisheries has designated critical habitat for Atlantic sturgeon in certain rivers in Massachusetts and New Hampshire and North Atlantic right whale critical habitat in coastal areas of Massachusetts and New Hampshire.

Any facility seeking coverage under the Draft AQUAGP may need to consult with the Services. EPA may designate the applicants as non-Federal representatives for the purpose of carrying out formal or informal consultation with the Services to determine whether a Federal action (*i.e.*, the Draft AQUAGP) is likely to have an adverse impact on listed species and/or critical habitat. *See* 50 CFR §402.08 and §402.13. By terms of this permit, EPA has automatically designated operators as non-Federal representatives for the purpose of conducting formal or informal consultations with the USFWS. EPA will, however, coordinate with NOAA Fisheries regarding the marine species under its jurisdiction, including Atlantic and shortnose sturgeon and critical habitat for Atlantic sturgeon, to determine that the terms of the permit adequately prevent adverse effects or the take of listed species and prevent adverse effects on critical habitat due to the authorized discharges.

Discharges that are located in areas in which listed species or designated critical habitat are present are not automatically covered under the AQUAGP. Appendix 2 of the Draft AQUAGP details how to comply with the ESA requirements. Applicants must determine if listed species or critical habitat are located near the discharge. Applicants whose discharges may affect listed species or critical habitat may need to contact the Services to determine if additional consultation is needed. In order to be eligible for coverage under the Draft AQUAGP, applicants must certify that they meet one of USFWS Eligibility

Criteria listed in Part B of Appendix 2 and submit this certification in the NOI, along with documentation for the eligibility and copies of any communication with the Services.

During the public comment period for the Draft AQUAGP, EPA has initiated informal consultation with NOAA Fisheries for facilities identified for potential coverage that are currently covered under individual permits and are located in areas in which there are listed species or designated critical habitat. EPA has made a preliminary determination that the effects of the discharges under the Draft AQUAGP from known facilities on Atlantic sturgeon, shortnose sturgeon, and Atlantic sturgeon critical habitat will be insignificant or discountable. Therefore, this federal action may affect, but is not likely to adversely affect, protected species and designated critical habitat. EPA is seeking concurrence from NOAA Fisheries on this preliminary finding.

For facilities not currently covered under an individual permit, EPA will initiate consultation with NOAA Fisheries as necessary to ensure that listed species under its jurisdiction are not adversely affected by the proposed discharges. Newly permitted facilities (*i.e.*, existing facilities not covered under an individual permit) must submit sufficient information in the NOI to enable EPA to make a preliminary finding on the potential adverse effects of the discharges on listed species and critical habitat under the jurisdiction of NOAA Fisheries. In particular, facilities must identify discharges to the Merrimack River (between Lawrence, MA and the Atlantic Ocean), the Connecticut River (between MA/CT state line and Montague, MA), and coastal areas of Massachusetts or New Hampshire. See Part C of Appendix 2 to the Draft AQUAGP. Applicants must complete all responses in Part C of the NOI. Authorization under the Draft AQUAGP is only available if the consultation with NOAA Fisheries results in either a no jeopardy opinion or a finding that the dischargers are not likely to adversely affect (NLAA) the shortnose sturgeon or Atlantic sturgeon or their critical habitat, as well as the other listed marine mammals and reptiles, where applicable.

### **5.3 National Historic Preservation Act**

Facilities which may adversely affect properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act of 1966, 16 USC Sections 470 et seq. are not authorized to discharge under the Draft AQUAGP. Applicants must determine whether their discharge(s) have the potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places.

Electronic listings of National and State Registers of Historic Places are maintained by the National Park Service (<http://www.nps.gov/>), the Massachusetts Historical Commission (<http://mhc-macris.net/macrisdisclaimer.htm>), the New Hampshire Historical Commission ([www.nh.gov/nhdhr/](http://www.nh.gov/nhdhr/)), and the Vermont Division for Historic Preservation (<https://acd.vermont.gov/historic-preservation>). For additional information regarding the requirements pertaining to historic places, see Appendix 3 of the Draft AQUAGP.

### **5.4 The Coastal Zone Management Act**

The Coastal Zone Management Act (CZMA), 16 U.S.C. 1451 et seq., and its implementing regulations (15 CFR part 930) require a determination that any federally licensed activity affecting the coastal zone with an approved Coastal Zone Management Program (CZMP) is consistent with the CZMA. In the case

of general permits, EPA has the responsibility for making the consistency certification request and submitting it to the state for concurrence. EPA will request that both the Executive Office of Environmental Affairs, MA CZM, Project Review Coordinator, 251 Causeway Street, Suite 800, Boston, MA 02114; and the Federal Consistency Officer, New Hampshire Coastal Program, 222 International Drive, Suite 175, Portsmouth, NH 03801, provide a consistency concurrence that the proposed AQUAGP is consistent with the MA and NH CZMPs.

Three facilities identified for potential coverage under the Draft AQUAGP discharge to a coastal zone. The Draft AQUAGP requires a consistency review to ensure that the discharges from these facilities are consistent with the MA or NH CZMPs. In the event that a new facility is sited in a coastal zone, this consistency review determination will assure that discharges from such a facility are consistent with Massachusetts and New Hampshire coastal zone management policies.

Facilities located in Massachusetts must conduct proposed activities (*i.e.*, discharges) in a manner consistent with the applicable Massachusetts Coastal Zone Management (MACZM) policies as outlined below.

**WATER QUALITY POLICY #1** - Ensure that point-source discharges in or affecting the coastal zone are consistent with federally approved state effluent limitations and water quality standards.

**HABITAT POLICY #1** - Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and freshwater wetlands for their important role as natural habitats.

All AQUAGP Permittees must control discharges as necessary to meet applicable numeric and narrative state water quality standards for any discharges so authorized. The Draft AQUAGP also requires the implementation of a BMP Plan. The goal of the BMP Plan is to eliminate or reduce the potential for a discharge of pollutants to waters of the United States and to assure compliance with the terms and conditions of the Draft AQUAGP.

EPA New England has requested that the MACZM Office review the Region's determination and confirm that the Draft AQUAGP is consistent with the State's CZMP.

Facilities located in New Hampshire must conduct proposed activities (*i.e.*, discharges) in a manner consistent with applicable New Hampshire Coastal Zone Management Enforceable Policies listed below. EPA has addressed policies identified as applicable by New Hampshire CZM to the issuance of the Draft AQUAGP. Policies that were not applicable to the federal action (reissuance of this permit) are noted with "NA".

Protection of Coastal Resources:

1. Protect and preserve and, where appropriate, restore the water and related land resources and uses of the coastal and estuarine environments. The resources of primary concern are coastal and estuarine waters, tidal and freshwater wetlands, beaches, sand dunes, and rocky shores.

The Draft AQUAGP is consistent to the maximum extent practicable with this enforceable policy by prohibiting any discharge that EPA determines will cause, have the reasonable potential to cause or contribute to a violation of water quality standards. Discharges under the AQUAGP are from CAAP facilities. The Draft AQUAGP requires facilities to meet discharge limits based on water quality standards. Discharge limits for the State of New Hampshire may be found in Part 2 of the Draft AQUAGP.

2. Protect, manage, conserve and, where appropriate, undertake measures to maintain, restore, and enhance the fish and wildlife resources and related uses, including but not limited to commercial and recreational fishing, of the state.

The Draft AQUAGP is consistent to the maximum extent practicable with this enforceable policy by prohibiting any discharge that EPA determines will cause, have the reasonable potential to cause, or contribute to a violation of water quality standards. The Draft AQUAGP requires Permittees to meet WQBELs for New Hampshire in Part 2 of the Draft AQUAGP. Part 5 of the Draft AQUAGP contains a requirement to develop and implement a BMP Plan.

3. Regulate the mining of sand and gravel resources in offshore and onshore locations so as to ensure protection of submerged lands, marine and estuarine life, and existing uses. Ensure adherence to minimum standards for restoring natural resources impacted from onshore sand and gravel mining operations. – **NA**

4. Undertake oil spill prevention measures, safe oil handling procedures and, when necessary, expedite the cleanup of oil spillage that will contaminate public waters. Institute legal action to collect damages from liable parties in accordance with state law. – **NA**

5. Encourage investigations of the distribution, habitat needs, and limiting factors of rare and endangered animal species and undertake conservation programs to ensure their continued perpetuation.

The Draft AQUAGP is consistent to the maximum extent practicable with this enforceable policy by allowing coverage under this draft permit only if the authorized discharges are not likely to adversely affect any species that are federally listed as endangered or threatened under the ESA or result in the adverse modification or destruction of habitat that is federally designated as critical under ESA. Facilities must determine eligibility prior to submission of an NOI for coverage and must maintain eligibility throughout the entire term of the permit. The Draft AQUAGP provides eligibility criteria (see Appendix 2).

6. Identify, designate, and preserve unique and rare plant and animal species and geologic formations which constitute the natural heritage of the state. Encourage measures, including acquisition strategies, to ensure their protection. – See the answer to 5, above.

Recreation and Public Access:

7. Provide a wide range of outdoor recreational opportunities including public access in the seacoast through the maintenance and improvement of the existing public facilities and the acquisition and development of new recreational areas and public access. – **NA**

### Managing Coastal Development:

8. Preserve the rural character and scenic beauty of the Great Bay estuary by limiting public investment in infrastructure within the coastal zone in order to limit development to a mixture of low and moderate density. – **NA**
9. Reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to preserve the natural and beneficial value of floodplains, through the implementation of the National Flood Insurance Program and applicable state laws and regulations, and local building codes and zoning ordinances. – **NA**
10. Maintain the air resources in the coastal area by ensuring that the ambient air pollution level, established by the New Hampshire State Implementation Plan pursuant to the Clean Air Act, as amended, is not exceeded. - **NA**
11. Protect and preserve the chemical, physical, and biological integrity of coastal water resources, both surface and groundwater.

The Draft AQUAGP is consistent with this enforceable policy by prohibiting any discharge that EPA determines will cause, have the reasonable potential to cause or contribute to a violation of applicable water quality standards and by setting discharge limits. These requirements are designed to protect the waters of the coastal and estuarine environment.

12. Ensure that the siting of any proposed energy facility in the coast will consider the national interest and will not unduly interfere with the orderly development of the region and will not have an unreasonable adverse impact on aesthetics, historic sites, coastal and estuarine waters, air and water quality, the natural environment and the public health and safety. – **NA**

### Coastal Dependent Uses:

13. Allow only water dependent uses and structures on state properties in Portsmouth-Little Harbor, Rye Harbor, and Hampton-Seabrook Harbor, at state port and fish pier facilities and state beaches (except those uses or structures which directly support the public recreation purpose). For new development, allow only water dependent uses and structures over waters and wetlands of the state. Allow repair of existing over-water structures within guidelines. Encourage the siting of water dependent uses adjacent to public waters. – **NA**
14. Preserve and protect coastal and tidal waters and fish and wildlife resources from adverse effects of dredging and dredge disposal, while ensuring the availability of navigable waters to coastal-dependent uses. Encourage beach re-nourishment and wildlife habitat restoration as a means of dredge disposal whenever compatible. – **NA**

### Preservation of Historic and Cultural Resources:

15. Support the preservation, management, and interpretation of historic and culturally significant structures, sites and districts along the Atlantic coast and in the Great Bay area.

The Draft AQUAGP is consistent to the maximum extent practicable with this enforceable policy by requiring that prior to submitting a NOI and obtaining permit coverage, the Permittee must certify eligibility with regard to protection of historic properties listed or eligible for listing in the National Registry of Historic Places (see Part 4.4 and Appendix 3 of the Draft AQUAGP).

Marine and Estuarine Research and Education:

16. Promote and support marine and estuarine research and education that will directly benefit coastal resource management. – NA

## **6.0 Administrative Requirements**

### **6.1 Notice of Change (NOC)**

The Draft AQUAGP includes a NOC in Appendix 7 which allows Permittees to request certain changes during the permit term. The three (3) types of changes that may be requested by a NOC are (1) a change to an alternate pH range, (2) the use of a new or substitute aquaculture drug or chemical, and (3) a change to certain administrative information, such as a change in ownership.

Written approval by EPA is required for all changes to be effective, with the exception of those changes involving administrative information. Prior to receiving written approval for all changes with the exception of those involving administrative information, the Permittee must continue to comply with the associated AQUAGP condition.

### **6.2 Termination of Coverage**

#### **6.2.1 Requirement to Notify**

Permittees must submit a completed Notice of Termination (NOT) that is signed and certified when one or more of the following conditions have been met:

- 1) All discharges covered by the AQUAGP have been terminated;
- 2) Coverage under an individual NPDES permit has been obtained; or
- 3) Another operator has assumed control over all discharges.

#### **6.2.2 Notice of Termination (NOT) and Information**

NOTs must be completed using either the suggested format provided by EPA (found in Appendix 5 of the Draft AQUAGP), or another official correspondence that incorporates all of the information required in Appendix 5. NOT and attachments must be submitted to EPA and the appropriate State agency at the addresses listed in Appendix 5. NOTs provide EPA with a useful mechanism to track the status of projects which are actively covered by the AQUAGP. The NOT must include:

- 1) The name of the facility and street address of the facility or site for which the notification is submitted;

- 2) The name, address and telephone number of the operator addressed by the NOT;
- 3) The assigned NPDES permit number;
- 4) The basis for submission of the NOT, including: an indication that the discharge has been permanently terminated and the reason for the termination (i.e., termination of discharge or transfer of facility to a new owner); and
- 5) A certification statement signed and dated by an authorized representative pursuant to 40 CFR § 122.22 (see Appendix 5, NOT instructions).

The NOT must be completed and submitted within thirty (30) days of the permanent cessation of the discharge(s) authorized by the AQUAGP, or within thirty (30) days after another operator assumes operation and ownership of the facility. Any new operator must submit an NOI for coverage consistent with the requirements of the AQUAGP.

### **6.3 Continuation of the Expired General Permit**

If this permit is not reissued prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and in effect as to any particular Permittee. Any facility seeking first time coverage under the AQUAGP after the expiration date of this permit would not be eligible for coverage until the AQUAGP is reissued. Any Permittee granted coverage prior to the permit's expiration date will automatically remain covered by the continued permit until the earliest of:

1. Reissuance of the AQUAGP, at which time the Permittee must comply with the NOI conditions of the new permit to maintain authorization to discharge;
2. The Permittee terminating coverage by submitting a NOT;
3. Issuance of an individual permit for the Permittee's discharges; or
4. A formal decision by EPA not to reissue the AQUAGP, at which time the Permittee must seek coverage under an alternative general permit or an individual permit.

### **7.0 Standard Permit Conditions**

Permittees must meet the standard permit requirements of 40 CFR § 122.41 and § 122.42, as applicable to their discharge activities. Specific language concerning these requirements is provided in Appendix 6 of the Draft AQUAGP and are also referred to as the "Standard Conditions."

### **8.0 Section 401 Certifications**

Section 401 of the CWA provides that no federal license or permit, including NPDES permits, to conduct any activity that may result in any discharge into navigable waters shall be granted until the state in which the discharge originates certifies that the discharge will comply with the applicable provisions of §§ 301, 302, 303, 306, and 307 or it is deemed that certification is waived. The § 401 certification process is being implemented in Massachusetts, New Hampshire, and Vermont. EPA expects all three states to certify this Draft AQUAGP. In addition, EPA and the Commonwealth of Massachusetts jointly issue the final permit.

## 9.0 Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons who believe any condition of the Draft AQUAGP is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period to:

Nathan Chien  
U.S. Environmental Protection Agency  
Water Permits Branch - Office of Ecosystem Protection  
5 Post Office Square- Mailcode OEP 06-1  
Boston, Massachusetts 02109

Any person, prior to such date, may submit a written request to EPA New England for a public hearing to consider the Draft AQUAGP. Such requests shall state the nature of the issue proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days following the public notice or whenever the Regional Administrator finds that response to this notice indicates significant public interest.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will respond to all significant comments made on the Draft AQUAGP and will make the response to comments available to the public at EPA's Boston Office and also at: <https://www.epa.gov/npdes-permits/region-1-draft-aquaculture-general-permit>.

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Date

**Ken Moraff, Director**  
**Office of Ecosystem Protection**  
**U.S. Environmental Protection Agency**