

## 322 CMR 15.00: MANAGEMENT OF MARINE AQUACULTURE

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15.01: Purpose and Scope

The purpose of 322 CMR 15.00 is to establish a procedural and legal framework for marine aquaculture, including the possession, propagation, culture, sale and disposition of living marine organisms. The scope of 322 CMR 15.00 is to regulate the possession, transport, and sale of marine organisms for purposes of aquaculture; to establish operational guidelines for aquaculture facilities; to establish aquaculture license categories and procedures; and to provide a code of conduct for responsible marine aquaculture in the territorial waters of Massachusetts. It is intended that 322 CMR 15.00 will facilitate the development of a viable marine aquaculture industry, while protecting wild populations of marine organisms and their natural habitat from degradation or introduction of invasive aquatic species, parasites or diseases.

15.02: Definitions

Aquaculture means the farming of aquatic marine organisms including, but not limited to fish, mollusks, crustaceans, echinoderms and plants. Farming implies some sort of intervention in the rearing process to enhance production including, but not limited to controlled propagation, feeding, protection from predators, *etc.*

Area of Capture means within the same body of water, which is geographically separated from other embayments, estuaries, *etc.*

ASMFC means Atlantic States Marine Fisheries Commission.

Coastal Waters means all waters of the Commonwealth within the rise and fall of the tide and the marine limits of the jurisdiction of the Commonwealth, but not waters within or above any fishway or dam nor waters above any jurisdictional boundary legally established pursuant to M.G.L. c.130, § 5 in rivers and streams flowing into the sea.

Commercial Aquaculture means marine aquaculture to produce marine organisms intended for sale. Commercial aquaculture implies individual or corporate ownership of the stock being cultivated.

Cull means to remove dead or dying or unsuitable organisms from the culture system (*also:* the organism which is removed).

Director means the Director of the Division of Marine Fisheries or his designee.

Division means the Division of Marine Fisheries.

Flow-through means a system that withdraws water from coastal waters or wells and discharges water to coastal waters.

ICES means International Counsel for the Exploration of the Sea.

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Invasive Species means a non-indigenous or cryptogenic marine organism that may threaten the diversity or abundance of native species or the ecological stability and/or uses of infested waters.

Minimal Structures means structures in the marine environment that do not require an Individual Permit, that is, which meet the threshold requirements of the Programmatic General Permit (PGP) issued by the U.S. Army Corps of Engineers.

Non-indigenous Species means any marine species transported intentionally or accidentally from another region (non-native species) as determined by the Division.

NPDES mean the National Pollution Discharge Elimination System, administered by the U.S. Environmental Protection Agency (EPA) and the MA Department of Environmental Protection (DEP).

Ornamental Species means organisms, including plants, raised for display in aquariums or other non-food purposes.

PGP means the Massachusetts Programmatic General Permit issued by the U.S. Army Corps of Engineers.

Recirculating means a system which treats and re-uses the same water, and from which no water is discharged to the coastal waters. No more than 10% of system water is changed on a daily basis, and discarded per an approved operational plan.

Section 10 means Section 10 of the U.S. Rivers and Harbors Act of 1899, administered by the U.S. Army Corps of Engineers (COA).

Section 404 means Section 404 of the U.S. Clean Water Act, administered by the U.S. Army Corps of Engineers.

Shellfish means clams, conchs, limpets, mussels, oysters, periwinkles, quahogs, razor clams, scallops, sea clams, sea quahogs, sea scallops and winkles (M.G.L. c.130).

15.03: Authorization

Unless otherwise provided by M.G.L. c.130 it is unlawful for any person to conduct a marine aquaculture operation in or on the coastal waters of the Commonwealth or in a land-based marine aquaculture system; possess or introduce seed shellfish or undersized regulated species into an aquaculture site or system, introduce adult shellfish into an aquaculture site; possess, maintain or cultivate marine organisms in any enclosure or system for purposes of sale, or sell culture organisms to aquaculture facilities unless in possession of an aquaculture permit issued by the Director pursuant to 322 CMR 7.01(4).

15.04: Permits

(1) There are a total of four permit classes which authorize systems, according to complexity and environmental risk, and five permit types which authorize various aquaculture operations using these systems. Each aquaculture permit issued pursuant to 322 CMR 7.01(4) shall authorize one class and one type each from the following lists:

(a) Permit Classes.

1. Class 1. Authorizes the operation of a land-based or vessel-based recirculating system with no discharge to coastal waters.
2. Class 2. Authorizes the operation of a land-based or vessel-based flow-through system, with or without partial recirculation, that withdraws water from a salt water well or coastal waters and discharges to coastal waters.
3. Class 3. Authorizes an open water system with minimal structures and no feeding.
4. Class 4. Authorizes an open-water system with feeding and/or permitted structures.

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(b) Permit Types.

1. Shellfish. Authorizes the possession and growing of seed shellfish from an approved source. May be endorsed for the use of upwellers or similar nursery systems to enlarge hatchery seed for planting, but not for resale. May be endorsed for the sale of regulated species below the minimum size established by regulation if an operational plan to control sale, shipment, tagging and record keeping is approved by the Director.
2. General. Authorizes the possession and growing of approved larval or juvenile marine organisms, except shellfish, and sale to a licensed Massachusetts Seafood Dealer. May be endorsed for the sale of regulated species below the minimum size established by regulation if an operational plan to control sale, shipment, labeling and record keeping is approved by the Director.
3. Shellfish Hatchery. Authorizes the propagation of seed shellfish from approved brood stock and the sale of seed shellfish to licensed aquaculture operations. Includes shellfish nursery operations that grow seed shellfish to a larger size for resale to other aquaculture operations.
4. Fish Hatchery. Authorizes the propagation and rearing of larval or juvenile marine organisms (all non-shellfish species) from approved brood stock, and sale of larval or juvenile organisms to licensed aquaculture operations or other entities permitted to possess and/or release juveniles of specific species.
5. Ornamental. Authorizes the propagation, possession, and sale of marine organisms for the aquarium trade.

15.05: Application

(1) Each applicant for a new aquaculture permit pursuant to 322 CMR 15.05 shall provide the following information on forms provided by the agency:

- (a) Class 1 System.
  1. Detailed Site Plan;
  2. Detailed system layout, including water treatment systems;
  3. Detailed operational plan (species, planting density, feeding rates, *etc.*);
  4. Waste disposal plan (including solids, culls, and water).
- (b) Class 2 System.
  1. Same as 322 CMR 15.05(1)(a);
  2. Proposed discharge, including volume and treatment, if required;
  3. Evidence of DEP Water Quality Certification or exemption;
  4. Evidence of NPDES Permit or exemption;
  5. Evidence of permits for intake and discharge structures.
- (c) Class 3 System (shellfish with minimal structures).
  1. Detailed site plan including latitude and longitude of corners;
  2. Geophysical site characteristics;
  3. Benthic habitat conditions;
  4. Proposed species, quantities, and densities;
  5. Proposed physical structures;
  6. Evidence of Municipal Shellfish Aquaculture License or conditional approval;
  7. Evidence of Municipal Wetlands Permit or determination of non-applicability;
  8. Evidence of application for Corps of Engineers, section 404 Permit or PGP;
  9. Transcript of local public hearing.
- (d) Class 4 System (shellfish or algae with significant structures).
  1. Same as 322 CMR 15.05(1)(c);
  2. Evidence of application for Army Corps of Engineers Section 10 Permit.
- (e) Class 4 System (general).
  1. Detailed site plan including latitude and longitude of corners;
  2. Geophysical site characteristics;
  3. Benthic habitat conditions;
  4. Proposed species, quantities, and densities;
  5. Proposed physical structures;
  6. Detailed operational plan (species, density, feeding rates, *etc.*);

## 15.05: continued

7. Containment plan to prevent escapees;
8. Predator exclusion plan;
9. Anticipated habitat degradation issues and plan to minimize (Best Management Practices);
10. Disposal plan for culls and gear;
11. Evidence of performance bond sufficient to remove structures and restore site to its original condition;
12. Evidence of Water Quality Certification and NPDES Permit, if applicable.

(2) Renewals. Annual renewal of all existing permits may be made without supporting documentation provided no changes in use occur.

## 15.06: Site Review

(1) Applications for open-water aquaculture permits will be reviewed by the Division and cooperating agencies to determine if adverse impacts are likely to occur at the proposed site as a result of the operation of the permit. Topics for evaluation include, but are not limited to the following:

- (a) Water quality and hydrology;
- (b) Exposure/suitability of proposed structures;
- (c) Shellfish habitat and growing area classification;
- (d) Benthic habitat conditions;
- (e) Submerged aquatic vegetation;
- (f) Endangered species / marine mammals;
- (g) Competing uses of the area;
- (h) Wild fisheries;
- (i) Navigation;
- (j) Access to site.

(2) New Operations. Before making application for an aquaculture permit for a new operation or facility, the following steps are required by the applicant:

- (a) Contact the Aquaculture Program Coordinator in the Department of Agricultural Resources to obtain the following:
  1. Aquaculture Operation Description Form;
  2. MA Aquaculture Permits Guidance Document.
- (b) In consultation with the Aquaculture Program Coordinator, determine if a pre-application meeting is necessary with appropriate state and federal agencies.
- (c) Exception. Applicants for town-issued shellfish aquaculture permits are not required to follow 322 CMR 15.06(2)(a) and (b), and should follow local application procedures.

## 15.07: Biological Controls

(1) Source of Culture Animals.

- (a) It shall be unlawful to stock Class 2, 3 or 4 aquaculture systems with culture organisms except indigenous species purchased from a Division-licensed hatchery.
- (b) It shall be unlawful for any hatchery to sell culture organisms unless a representative sample of annual production has been certified to be disease-free by a qualified marine pathologist.
- (c) It shall be unlawful for a new hatchery or a hatchery establishing a new brood stock to begin operation before the source of the brood stock is approved by the Division and a representative sample is certified to be disease-free by a qualified marine pathologist.
- (d) Each hatchery must state how the question of genetic diversity will be addressed to help ensure the viability of culture organisms produced.
- (e) A Class 1 facility with appropriate controls may culture non-indigenous species from approved sources if authorized in writing by the Director pursuant to an approved operational plan.

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(f) The use of genetically-altered organisms may be approved on a case-by-case basis by written authorization of the Director, who shall at a minimum consider the ASMFC plan on Introduction and Transport as well as recommendations of the ICES Working Group on the Application of Genetics in Fisheries and Mariculture.

(2) Predator Control.

(a) Unless specifically authorized by the Director, in consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service it shall be unlawful to use lethal means to control or exclude predators or other organisms from an aquaculture facility. Non-lethal exclosures, including, but not limited to, nets, fences, bubble curtains and noise may be used, if approved for a specific site and purpose.

(b) Exception. It shall not be a violation of 322 CMR 15.07(2) to manually remove invertebrate predators, pests and fouling organisms from an aquaculture site and dispose of same in a lawful manner.

(3) Disease Action Plan. Each aquaculture facility and hatchery must develop, during its first year of operation, a disease action plan that includes the following elements:

- (a) Disease prevention measures specific to facility and species;
- (b) Destruction and disposal plan to remove diseased animals;
- (c) Quarantine procedures, if required;
- (d) Reporting.

(4) Discharge.

(a) Any discharge to surface waters from a Class 2 system, including those from vessels docked or anchored in coastal waters, shall be treated by filtration to remove solids and by disinfection, using an approved method, to kill biological effluents, including eggs, larvae, diseases and parasites.

(b) It shall be unlawful to discharge untreated water or solid waste to coastal waters from a Class 2 aquaculture facility. This provision shall not apply to shellfish hatcheries, shellfish upweller or nursery systems, or licensed shellfish wet storage operations. Finfish hatcheries where only live food is fed to the culture organisms or operations where it can be demonstrated that there is no degradation of receiving waters may be specifically exempted from 322 CMR 15.07(4) by an amendment to the Aquaculture Permit.

(c) It shall be unlawful to discharge any water from a Class 1 system to the coastal waters, unless specifically authorized by a NPDES Permit, and only if no non-indigenous species are present.

(5) Containment Plan. Each class 4 aquaculture facility shall submit a plan detailing how culture organisms will be prevented from escaping, including measures to exclude predators. The plan shall also contain any other measures to minimize the possibility of culture organisms interacting with wild stocks of the same species.

## 15.08: Operation

(1) Therapeutic and Chemical Usage.

(a) It shall be unlawful for any aquaculture permit holder to administer drugs or chemicals that have not been approved for use in aquaculture by USFDA, USEPA and USDA. Drugs or antibiotics may only be used if specifically listed in the conditions of the NPDES Permit and applied in a manner consistent with those conditions, under the supervision of a veterinarian.

(b) Other chemical treatments, including pesticides must be applied in a manner consistent with product labels and regulations of the Department of Agricultural Resources Pesticide Board so as not to compromise the health of culture organisms, the public or the environment.

(c) 322 CMR 15.08(1) shall not apply to the use of ice or salt in an aquaculture system.

(d) 322 CMR 15.08(1) shall not apply to the treatment of ornamental species in a Class 1 system.

## 15.08: continued

(2) Disposal. It shall be unlawful to dispose of any gear or waste products on site or into coastal waters. All gear and waste products, including dead or dying culture animals, shall be disposed of in a landfill or other legal disposal site on land.

(3) Performance Bond. For a Class 4 Aquaculture Permit a performance bond sufficient to cover the costs of gear removal and site restoration shall be a requirement for obtaining the permit.

(4) Reporting.

(a) All licensed aquaculture operations shall submit annually to the Division the following information before January 31<sup>st</sup> for the preceding calendar year:

1. Production by weight, volume, or number;
2. Amount and sources of seed or juveniles purchased;
3. Source and disposition of brood stock;
4. Disease problems and unexplained mortality;
5. Use and amount of chemicals, antibiotics or drugs.

(b) It shall be unlawful for the holder of an aquaculture permit to falsify or fail to submit the required annual report.

(c) All information submitted pursuant to this subsection shall be held in confidence, and may not be released except in summarized form, or in response to a valid court order.

(5) Inspection. All permitted aquaculture operations shall be open to inspection during regular hours of operation by employees of the Division or any officer authorized to enforce the provisions of 322 CMR 15.08(5). Said inspection may include the collection, in the presence of the owner, of the minimum number of organisms required for testing if disease or contamination is suspected.

(6) Permit Restrictions. The Director may restrict the operation of the permit to address unacceptable conditions or practices at the site, or amend other restrictions, as necessary.

(7) Aquaculture Gear Marking. All aquaculture gear shall be sufficiently tagged or marked with information to make such gear identifiable to the permit holder and with such other marks or tags as may be required by a municipality pursuant to M.G.L. c. 130, §§ 52 and 57.

15.09: Monitoring

All Class 4 aquaculture operations in which culture organisms are fed are required to monitor pre-operation and post-operation environmental conditions at the site, using the services of an individual or firm qualified to perform this work. Conditions to be monitored and frequency shall be as specified in the NPDES Permit, including:

(a) Dissolved Oxygen Profiles. Operation of the facility must not degrade the classification of receiving waters by lowering dissolved oxygen saturation to less than 85% of ambient conditions;

(b) Video Transects of Sea Floor Beneath Pens to Document Potential Degradation of Benthic Habitat. Signs of degradation shall include changes in sediment composition, azoic or anoxic conditions, outgassing, and growth of bacterial mats;

(c) Infauna. Abundance and relative diversity of benthic organisms;

(d) If habitat degradation is determined through monitoring, a corrective plan will be prepared in consultation with the permit holder and EPA. Corrective measures may include improved best management practices or temporary removal of gear.

15.10: Non-indigenous Species

(1) It shall be unlawful for any person to release any living organism into coastal waters of the Commonwealth unless authorized to do so by the Director in writing, except that fish taken pursuant to lawful fishing operations or scientific collection may be released immediately back to the area of capture.

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(2) It shall be unlawful for any person to possess, propagate or hold non-indigenous marine organisms for any purpose in any system with an untreated discharge to surface waters. Any facility desiring to hold non-indigenous organisms for any purpose must submit an operational plan detailing measures designed to prevent the escape or release of organisms or the discharge of biological effluents, including eggs, larvae, parasites and diseases into the marine environment, and an acceptable non-polluting plan for the disposal of carcasses and biological wastes.

(a) The Director may issue a Special Scientific Permit to an educational or research institution, or a Class 1 Aquaculture Permit to a commercial aquaculture facility, to hold non-indigenous species, provided that an acceptable operational plan to prevent unintentional releases or escapes is submitted with the application.

(b) The Director may issue a Class 1 Ornamental Aquaculture permit to an aquarium shop or hatchery that propagates and/or holds non-indigenous marine organisms for the aquarium trade pursuant to an approved operational plan.

#### REGULATORY AUTHORITY

322 CMR 15.00: M.G.L. c. 21A, § 2, c. 30A, § 3 and c. 130, §§ 2, 17B, 23, 24, 25, 27, 28, 57, 69, 80, 82 and 104.