Comparative Analysis of Aquaculture Regulatory Frameworks in Maine and Nova Scotia

Prepared by East Coast Environmental Law

For the Doelle- Lahey Panel

Independent Aquaculture Regulatory Review for Nova Scotia

10 June 2014

East Coast Environmental Law

East Coast Environmental Law (ECELAW) is a non-profit organization with charitable status. Our overarching objective is to provide public interest environmental law assistance for Atlantic Canadians. To reach this objective, ECELAW is working towards the goal highlighted in its vision statement: ECELAW envisions a future where innovative and effective environmental laws and the fair application of those laws, provide Atlantic Canadians with a clean, healthy environment, which will make a positive contribution to the quality of life of its present and future inhabitants and visitors.

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1.0 Introduction

On May 1, 2013 the former Minister of Fisheries and Aquaculture announced a review of the regulatory framework for aquaculture in Nova Scotia. The Minister appointed a two-person independent panel to carry out an extensive public consultation process and information gathering exercise leading to a proposal for an innovative aquaculture regulatory framework.

The following Report, prepared by staff of East Coast Environment Law (ECELAW), was commissioned by the Panel to gain insight into the regulatory approaches to aquaculture in the state of Maine and to compare key elements of the Maine regulatory framework to the current approach in Nova Scotia. Ultimately the Report strives to identify regulatory provisions and approaches from Maine that may serve the Panel as they seek to develop a world-class regulatory framework for aquaculture in Nova Scotia.

This Report follows the Comparative Analysis of Five Aquaculture Regulatory Frameworks in Canada ('Canadian Report') prepared by ECELAW for the Panel in April. The Canadian Report compares the aquaculture regulatory frameworks for Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and Labrador and British Columbia.

The complete overview for the Nova Scotia regulatory framework can be found in section 2.0 of the Canadian Report.

1.1 Terms of Reference

The Report includes a comparative analysis of current regulatory approaches for aquaculture in Nova Scotia (NS) and Maine. Drawing from the analysis the Report identifies some of the most effective elements of the regulatory approach in Maine and how they might be applied to aquaculture regulation in NS.

In this context the addresses the following:

- Regulatory Framework - Overview
- Overarching Principles
- Management Approach for Aquaculture Operations
- Assessment of Proposed Aquaculture Operations
- Role of and Opportunities for Citizen Engagement
- Access to Information
- Procedural Rights
- Monitoring and Compliance of Aquaculture Operations
- Regulatory Tools to Support Industry Competitiveness

Where relevant, the Report considers the following:

- Role of science in decision-making
- Differences between shellfish and finfish operations
- Differences between marine and fresh water operations
- Differences between ocean based and land based operations
- Differences between open cage and closed containment operations
- Role of environmental impact assessment
- Different approaches to siting decisions

- Standards for approved operations, where they are incorporated into the legal framework
- Transparency versus confidential business information
- Separation of promotion and regulation of industry

1.2 Research Approach

To conduct the research for this Report we identified, reviewed and analyzed key statutes and regulations governing aquaculture activity in Maine. This included the primary State legislation regulating aquaculture leasing, the Federal *Aquaculture Act* and *Magnuson-Stevens Act*, and the legislation for numerous other agencies with minor roles in the process. Data, reports, and other documents available through Maine's Department of Marine Resources were also reviewed.

To address the questions related to access to information and transparency, we reviewed Maine's *Freedom of Access Act* and also the legislation that mandates the required procedure for public hearings. To address the questions related to environmental impact assessment and general environmental protection, we reviewed key federal and state statutes, including the *National Environmental Policy Act* and the *Clean Water Act*, the permitting process under the National Pollutant Discharge Elimination System (NPDES), and selected case law that determined how the aforementioned legislation would apply.

To facilitate the analysis, a list of 14 areas was used as a basis for consideration.

1. Purpose of the regulating statute and definition of 'aquaculture'
2. Overarching principles for regulation
3. Regulatory tools used to manage aquaculture operations:
    - Prohibitions
    - Licence and lease requirements
    - Terms and conditions
    - Controlled areas
    - Required actions
4. Regulatory tools used to asses proposed aquaculture operations:
    - Application process
    - Submission of information
5. Role of research and science in assessment and decision-making
6. Role of environmental impact assessment in decision-making
7. Regulatory tools used to monitor aquaculture operations:
    - Display of information
    - Maintaining books, records, etc.
    - Reporting requirements
8. Regulatory tools used to facilitate compliance with aquaculture regulations:
    - Suspension, revocation, cancellation
    - Inspection
    - Directives and other actions
    - Offences and penalties
9. Regulatory tools used to facilitate public right of access to information and transparency
10. Regulatory tools that provide a right of appeal
11. Regulatory tools that provide a third party right of investigation
12. Administrative tools used to achieve any of the above
13. Regulatory programs that support industry
14. Additional regulatory requirements (under other provincial statutes) for environmental protection

The 14 items were incorporated into an excel spreadsheet and cross-referenced with regulatory provisions that addressed each item. This formed the foundation for our analysis of Maine's regulatory framework for aquaculture.

1.3 Key Findings

The review of the Maine approach to aquaculture management revealed a more comprehensive regulatory framework, with significantly more detailed regulations and less discretion when compared to Nova Scotia. The approach in Maine is predominantly state-based similar to the provincially based framework in Nova Scotia, with a federal role in discharge to water and environmental impact assessment.

The management framework for both jurisdictions is similar with a broad definition of aquaculture and a primary prohibition against engaging in aquaculture activities without approval. Both jurisdictions use a regulatory permitting approach (lease or license) with terms and conditions to manage the activity.

The Maine approach to assessment and decision-making is prescriptive, while the NS approach is open-ended. The foundation of the NS approach is broad Ministerial discretion in all areas, including assessment, public engagement, setting terms and conditions and final decisions. In Maine, the decision-maker and the applicant are guided by law through a step-wise process to develop the application, engage stakeholders and citizens, design conditions and reach a final decision.

Maine and Nova Scotia have similar approaches to the integration of research and science in the assessment process and similar approaches to formal environmental impact assessment. Neither jurisdiction has a formal environmental impact assessment process incorporated into the aquaculture legislation or a separate process triggered by an aquaculture application.

Maine's approach to assessment and decision-making includes more procedural rights than Nova Scotia. Members of the public are notified of new applications and have the opportunity to participate in a public hearing. The decision-maker is required to include reasons in his or her decision and to make those reasons public. NS includes whistle-blower protection for employees reporting a violation of the Act, which is not included in the Maine framework.

The regulation of aquaculture in Maine is primarily addressed by the Aquaculture Lease Law under the Department of Marine Resources; however, the Department of Environmental Protection plays a key role through the Maine pollution discharge elimination permit process. The gathering of baseline data, monitoring and reporting for aquaculture operations that discharge into water are addressed by both Departments. In Nova Scotia the *Environment Act* prohibits the release of any substance into water that may cause an adverse effect, however the legislation does not include a specific discharge permit process for aquaculture activities that discharge into water.

Following is a table that briefly compares several key elements of the Nova Scotia and Maine approaches:

Nova Scotia	Maine
More discretion with the decision-maker.	More prescriptive approach, little discretion.
No required public consultation and flexibility in approach to public consultation.	Detailed requirements for public consultation, including formal hearings.
More reporting requirements included in legislation.	Most reporting contained in lease and permit.
Most monitoring contained in license.	Most monitoring contained in lease or discharge permit.
Open-ended decision-making process left to the Minister.	Guidance provided to decision maker on what must be considered.
Approval may be required under NS Environment Act but no general permit for aquaculture.	Detailed discharge permit required for proposed operations that will discharge to water.

2.0 US Federal Regulatory Framework

2.1 Federal Aquaculture Legislation and Policy

The division of powers between the federal and state governments as they relate to the regulation of aquaculture appears to be more clearly defined in the US when compared to the federal/provincial division in Canada. State waters include all tidal and marine waters from the shore to 3 miles offshore. Federal waters include the Exclusive Economic Zone, 3 miles to 200 miles offshore.[1] The US Federal Government is taking a more active regulatory approach to marine aquaculture within their jurisdiction, but much of that is still in the planning phases. The federal aquaculture legislation that is currently in place is directed at planning similar to the Canadian National Aquaculture Strategic Plan Initiative.

2.1.1 *National Aquaculture Act*

The federal government has one statute in place that directly addresses aquaculture: The *National Aquaculture Act* (NAA). The NAA was passed in 1980 and was amended by the *National Aquaculture Improvement Act* in 1985.[2] The NAA establishes the Department of Agriculture as the lead federal agency for aquaculture and includes the goal of providing for the development of aquaculture in the United States. The NAA recognizes the development of aquaculture to be in the national interest and defines 'aquaculture' to mean,

> …the propagation and rearing of aquatic species in controlled or selected environments, including, but not limited to, ocean ranching (except private ocean ranching of Pacific salmon for profit in those States where such ranching is prohibited by law).[3]

The purpose of the NAA is to promote aquaculture in the United States by-

> (1) declaring a national aquaculture policy;

[1] George Lapointe, "NROC White Paper: Overview of the Aquaculture Sector in New England." Marine Fisheries and Ocean Policy Consultant, Northeast Regional Ocean Council, March 2013 at 2 [NROC White Paper].
[2] *National Aquaculture Act*, 16 USC Chapter 48 §2801 [*NAA*]; *National Aquaculture Improvement Act*, 99 Stat. 1641.
[3] *NAA*, *supra* note 2 at §2802.

(2) establishing and implementing a national aquaculture development plan;
(3) establishing the Department of Agriculture as the lead Federal agency… and
(4) encouraging aquaculture activities and programs in both the public and private sectors of the economy; …[4]

The policy statement in the *National Aquaculture Act* recognizes aquaculture as having an important role in assisting the United States in meeting its future food needs.

> Congress declares that aquaculture has the potential for reducing the United States trade deficit in fisheries products, for augmenting existing commercial and recreational fisheries and for producing other renewable resources, thereby assisting the United States in meeting its future food needs and contributing to the solution of world resource problems. It is, therefore, in the national interest, and it is the national policy, to encourage the development of aquaculture in the United States.[5]

2.1.2 National Sustainable Offshore Aquaculture Bill

A Congressional Bill, the National Sustainable Offshore Aquaculture Act, was introduced in June 2011 to establish a regulatory system and research program for sustainable offshore aquaculture in the United States exclusive economic zone. The Bill includes a framework for environmental impact assessment and additionally requires an environmental review as per the *National Environmental Policy Act*.[6] The Bill prohibits any person from engaging in offshore aquaculture without a permit issued under the Act.[7] The Bill is not yet law and therefore has no current application to the regulation of aquaculture activities in the United States

2.1.3 National Aquaculture Policy

The current Federal Aquaculture Policy, developed by the National Oceanic and Atmospheric Administration (NOAA) and the Department of Commerce, was released in 2011. There are, in fact two policies in place: US Department of Commerce Aquaculture Policy (June 2011) and the NOAA Marine Aquaculture Policy (June 2011).

US Department of Commerce Aquaculture Policy (June 2011)

> The purpose of this policy is to support the development of sustainable aquaculture within the context of the Department of Commerce's (DOC) goals of encouraging economic growth and employment opportunities in the United States and of enhancing United States competitiveness in, and exports to, global markets.[8]

NOAA Marine Aquaculture Policy (June 2011)

> The purpose of this policy is to enable the development of sustainable marine aquaculture within the context of the National Oceanic and Atmospheric Administration's (NOAA) multiple stewardship missions and broader social and economic goals. Meeting this objective

[4] *NAA*, *supra* note 2 at s 2(b).
[5] *Ibid* at s 2(c).
[6] US, Bill HR 2373, *National Sustainable Offshore Aquaculture Act*, 112th Cong, 1st Session, 2011, s 4.
[7] *Ibid* at s 5.
[8] US, Department of Commerce, *Aquaculture Policy* (June 2011) at 1.

will require NOAA to integrate environmental, social, and economic considerations in management decisions concerning aquaculture.[9]

The NOAA, Office of Aquaculture, includes science and research as one of its distinct priority areas. The focus of NOAA research efforts is in marine aquaculture, fitting with their area of jurisdiction. The overall goal of these research initiatives is to provide science knowledge for the agency's regulatory and resource management decisions and foster innovative and sustainable approaches to aquaculture.

2.1.4 National Aquaculture Plan

The National Aquaculture Research and Development Strategic Plan was released as a draft document to the public on July 12, 2012. There is no indication that the Strategic Plan has been finalized. The Strategic Plan is intended to provide a coherent framework to help shape, focus, and coordinate interagency research and development (R&D) efforts on the highest-priority strategic goals and crosscutting objectives over the midterm (5–10 years) that will encourage aquaculture development in the United States.[10]

The Plan identifies nine strategic goals:

1. Advance Integration of Aquaculture Development and Environmental Conservation.
2. Employ Genetics to Increase Productivity and Protect Natural Populations.
3. Improve Aquatic Animal Health.
4. Improve Production Efficiency and Well-being.
5. Improve Nutrition and Develop Novel Feeds.
6. Increase Supply of Nutritious, Safe, High-quality Seafood.
7. Introduce Innovative Production Systems.
8. Create Skilled Workforce and Effective Technology Transfer.
9. Integrate Economic and Social Sciences.[11]

The Plan includes outcomes, milestones and performance measures for each of the nine goals.

2.1.5 The National Ocean Policy and the National Ocean Policy Implementation Plan

The National Ocean Policy Implementation Plan (2013) includes measures to be taken by federal government agencies to encourage and benefit the aquaculture industry, including streamlining aquaculture permitting processes and using research priorities to provide scientific information on the environmental health effects of finfish aquaculture.[12]

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[9] US, National Ocean and Atmospheric Administration (NOAA), *Marine Aquaculture Policy* (June 2011) at 1.
[10] US, Joint Subcommittee on Aquaculture Research and Development Strategic Plan, *National Aquaculture Research and Development Strategic Plan* (draft), (docket number NOAA-NMFS-2012-0136 / RIN 0648-XC007) (2012).
[11] *Ibid* at 2.
[12] US, National Ocean Council, *National Ocean Policy Implementation Plan* (April 2013).

2.2 Federal Permitting Requirements

The federal regulatory framework for aquaculture does not include permitting requirements, but rather serves to set policy and direction for the national development of aquaculture. The federal government, through the NOAA, does have regulatory and stewardship authority for fisheries, marine sanctuaries, marine mammals, threatened and endangered species, and habitat conservation. To that end, a proposed aquaculture operation may require federal permits authorizing aquaculture activities under several statutes including the *Magnuson-Stevens Fishery Conservation and Management Act* (MSA) and the *National Marine Sanctuaries Act* (NMSA). Federal permits may also be required to authorize an aquaculture operation's interactions with species protected under the *Endangered Species Act* (ESA) and the *Marine Mammal Protection Act* (MMPA) and where there is a discharge to water (*Clean Water Act*).[13]

2.2.1 *Clean Water Act*

The *Clean Water Act* (CWA) is the statutory basis for the regulation of point source discharge of pollutants into US waters. Pollutant is broadly defined in the Code of Federal Regulations.

> Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.[14]

As part of the National Pollutant Discharge Elimination System (NPDES), the Federal Environmental Protection Agency (EPA) regulates the discharge of pollutants into federal waters. The EPA sets effluent standards and has the authority to issue permits for the discharge of any pollutant.

> (1) Except as provided in sections 1328 and 1344 of this title, the Administrator may, after opportunity for public hearing issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311 (a) of this title, upon condition that such discharge will meet either…[15]

Discharges into 'aquaculture projects' are subject to the NPDES permit program. The Code of Federal Regulations defines an 'aquaculture project' as a managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater, estuarine or marine plants of animals.[16] Concentrated aquatic animal production facilities which include, a hatchery, fish farm or other designated facility require an NPDES permit where specific criteria are met.[17]

The 2002 case of *U.S. Public Interest Research Group* v. *Atlantic Salmon of Maine, LLC* includes a list of materials discharged by aquaculture facilities deemed by the court to be pollutants as defined by the US Code. The five named pollutants are: (1) non-North American salmon that escape from the

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[13] US, National Oceanic and Atmospheric Administration (NOAA), *Federal Aquaculture Regulatory Fact Sheet Series (Department of Commerce)*, (February 2012) online: Office of Aquaculture <www.nmfs.noaa.gov/aquaculture>.
[14] 40 CFR §122.2.
[15] 33 USC §1342.
[16] 40 CFR 122.25.
[17] 40 CFR 122.24; 40 CFR 122

pens; (2) large quantities of salmon feces and urine that exit the pens; (3) uneaten salmon feed containing a range of chemicals for combating infection and providing coloring; (4) other chemicals to fight sea lice; (5) and copper that flakes from the net pens themselves.[18]

The CWA allows the administration and enforcement of the NPDES to be carried out by state governments while oversight remains with the EPA. The State of Maine has assumed the NPDES program from the federal government. The state issues its permits through the Maine Department of Environmental Protection. See section 3.3.3 below for more detail on the role of the Maine Pollutant Discharge Elimination System (MPDES) permits in aquaculture operations.

2.2.2 *Endangered Species Act*

Federal agencies are required by the *Endangered Species Act* to ensure that any action the agency takes, funds or approves is not likely to jeopardize endangered or threatened species or adversely modify their habitat. Where jeopardy or adverse modification may occur reasonable and prudent alternatives should be considered.

The term 'reasonable and prudent alternatives' is defined in the Regulations as,

> …actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, that is economically and technologically feasible, and that the Director believes would avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat.[19]

A. Gulf of Maine Distinct Population Segment of Atlantic Salmon

In an example relevant to the State of Maine, the Gulf of Maine Distinct Population Segment (DPS) of Atlantic salmon was listed as endangered in 2000. A Final Recovery Plan for the Gulf of Maine DPS of Atlantic salmon was issued in 2005. Aquaculture practices, which pose ecological and genetic risks, were identified as a high priority threat to this endangered species. The Recovery Action Outline includes a detailed plan to address recovery of the DPS of Atlantic salmon including full implementation of the EPA aquaculture wastewater and effluent discharge regulations (as described above in section 2.2.1 *Clean Water Act*).[20]

In August 2004, the EPA established effluent limitation guidelines for concentrated aquatic animal production facilities including aquaculture facilities in an effort to reduce water quality impacts due to wastewater and effluent discharge from aquaculture operations.[21] More information on the implementation of these standards in Maine can be found in section 3.3.3 below.

The Recovery Action Outline includes details on several other items specifically related to aquaculture: improve containment at existing and future marine aquaculture sites (4.1), minimize the

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[18] *U.S. Public Interest Research Group v. Atlantic Salmon of Maine, LLC.*, 215 F Supp (2d) 239 at para 13 (D Me 2002).
[19] 50 CFR §402.02.
[20] US, NOAA National Marine Fisheries Service and Northeastern Region U.S. Fish and Wildlife Service, *Final Recovery Plan for the Gulf of Maine Distinct Population Segment of Atlantic Salmon* (November 2005) at 4-3. [NOAA Recovery Plan]
[21] *Ibid* at 4-28.

effects of escaped farmed salmon (4.2), minimize risks of disease and parasite transmission from farmed fish in marine pens to wild fish (4.3), and reduce risk of juvenile escapement from freshwater aquaculture facilities accessible to DPS rivers (4.4).[22]

2.2.3 *Magnuson-Stevens Fishery Conservation and Management Act*

The primary purpose of the *Magnuson-Stevens Act* is to conserve and manage the fishery resources found off the coasts of the United States.[23] The Act establishes the federal authority over the exclusive economic zone. The NOAA, Office of Aquaculture, has the authority to issue permits under the *Magnuson-Stevens Act* when they are required.

2.2.4 *National Environmental Policy Act*

The *National Environmental Policy Act* (NEPA) requires that agencies conduct environmental impact reviews for major federal actions significantly affecting the quality of the human environment. NEPA's procedural requirements apply to a federal agency's decisions, including financing, assisting, conducting, or approving projects or programs; and agency rules, regulations, plans, policies, or procedures.[24]

The NEPA process impacts the private sector when a permit is required from a federal agency. Similar to the former Canadian Environmental Assessment Act process in Canada, the permit requirement acts as a trigger for the federal environmental impact review. The federal agency responsible for issuing the permit must ensure that the requirements of NEPA are carried out, the scope of the assessment is appropriate and the analysis is accurate.

For example, the federal *Clean Water Act* regulates the discharge of a pollutant into US waters without a permit. Issuing this permit would trigger the environmental impact review under NEPA. However, the federal *Clean Water Act* allows the issuing and enforcement of the permit to be delegated to State authorities. A 2003 federal case indicated that where a permit is issued by a State it is no longer a 'federal action' and therefore the NEPA provisions to require an environmental impact statement no longer apply.[25] Two other cases have indicated that whether the permit constitutes a major federal action depends on the relationship of the permit to the overall project. In the context of aquaculture the siting of net-pens to ensure an unobstructed navigational route was not considered a major federal action.[26]

To that end, it appears that a proposed aquaculture operation that will discharge pollutants into water can receive a discharge permit from the State of Maine and not be subject to an environmental review under NEPA.

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[22] *Ibid* at 4-6 to 4-8.
[23] *Magnuson-Stevens Fishery Conservation and Management Act*, 16 USC §1801.
[24] US, Council on Environmental Quality, Executive Office of the President, *A Citizen's Guide to the NEPA, Having Your Voice Heard* (December 2007) at 4.
[25] *Citizens Alert Regarding the Environment v. EPA,* 259 F Supp (2d) 9, 18 (2003).
[26] *Pogliani* v. *Unites States Army Corps of Engineers*, 166 F Supp (2d) 673, 697 (2001); *Wetlands Action Network* v. *United States Army Corp of Engineers*, 222 F Supp (3d) 1105, 1115 (2000).

2.2.5 *Rivers and Harbours Act*

Similar to the provisions of the former *Navigable Waters Protection Act* in Canada, any aquaculture lease which requires the placement of temporary or permanent structures, including experimental ones, in navigable waters must obtain a permit from the Army Corps of Engineers.

> The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to beginning the same.[27]

In Maine, the Army Corps of Engineers and the Department of Marine Resources has developed a joint application, which may be used for most aquaculture proposals.

3.0 Maine Regulatory Framework

3.1 Introduction

The Department of Marine Resources and the Department of Environmental Protection are responsible for the management of aquaculture in the State of Maine. The Department of Marine Resources manages the leasing process in accordance with Title 12 of the Maine Revised Statutes Annotated (MRSA). The Department of Environmental Protection issues discharge permits under the Maine to meet the requirements of the National Pollutant Discharge Elimination Program (NPDES) under the federal *Clean Water Act* (see section 3.3.3 below).

The Department of Marine Resources (DMR) is the primary agency responsible for permitting and monitoring aquaculture operations in Maine waters. The DMR was established to '…conserve and develop marine and estuarine resources; to conduct and sponsor scientific research; to promote and develop the Maine coastal fishing industries; to advise and cooperate with local, state and federal officials concerning activities in coastal waters; and to implement, administer and enforce the laws and regulations necessary for these enumerated purposes…'[28]

There are 191 aquaculture leases in Maine waters; 28 finfish leases, 65 standard shellfish leases, 15 experimental shellfish/seaweed leases, and 90+ limited purpose aquaculture (LPA) permits.[29]

The DMR is authorized to serve as the primary state agency for marketing assistance to the commercial fishing industry except for aquaculture.[30] In Maine, aquaculture is explicitly included in

[27] 33 USC §403.
[28] 12 MRSA §6021.
[29] NROC White Paper, *supra* note 1 at 3.
[30] 12 MRSA §6052.

the definition of 'agricultural enterprise'; consequently, the Department of Agriculture provides marketing and promotion for all agricultural products.[31]

3.2 Overarching Principles

Although there are several state and federal laws that currently regulate aquaculture in the State of Maine, the key law is found in title 12 of the MRSA and is referred to as the Aquaculture Lease Law.[32] The law does not contain a purpose section or any overarching principles to provide guidance to interpretation of the law.

3.3 Management Approach for Aquaculture Operations

Maine law defines aquaculture as the 'culture or husbandry of marine organisms by any person.'[33] The Aquaculture Lease Regulations build on this definition by stating that, 'storage or any other form of impounding or holding wild marine organisms, without more, shall not qualify as aquaculture. In order to qualify as aquaculture, a project must involve affirmative action by the lessee to improve the growth rate or quality of the marine organism.' The Regulations also define 'culture or husbandry' to mean 'the production, development or improvement of a marine organism.'[34]

In the 1980's the application process for an aquaculture lease in Maine was complicated and growers were required to provide monitoring results to the state and two federal agencies. The monitoring requirements varied by site and were poorly coordinated among the relevant agencies. In 1992 the DMR implemented a streamlined application and monitoring process. The DMR Aquaculture Coordinator receives all applications and monitoring information and disseminates relevant information to other state and federal agencies involved in the aquaculture program.

John Sowles, Director of Ecology Division, State of Maine Department of Marine Resources (2001) described the development of Maine's management approach to aquaculture as follows:

> Early on, Maine opted to rely heavily on monitoring in lieu of prematurely setting permit limits or standards in regulation. This strategy served the State well by enabling both regulators and industry to understand the environmental response from aquaculture in the context of the larger natural system. During the 1990s, predictive models and prescriptive discharge conditions still had not been developed to be sufficiently accurate or useful. Through monitoring, we have been able to accrue data to refine predictions to a point where now standards are being developed that will be meaningful and protective.[35]

There are two types of leases and one license for aquaculture in the State of Maine. The standard lease is the most common lease; it can cover up to 100 acres, is in effect for up to 10 years, and may be renewed. The experimental lease (see section 3.4.2) covers up to two acres, is in effect for up to three years, and may not be renewed, unless the lease is for scientific research. The limited purpose aquaculture license (see section 3.3.2) is an annual license that allows up to 400 square feet of aquaculture gear for suspended shellfish culture. Additionally an emergency aquaculture lease may be

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[31] 7 MRSA ch 101.
[32] 12 MRSA §6072.
[33] 12 MRSA §6001.
[34] *Department of Marine Resources - Aquaculture Lease Regulations*, 131 88 CMR ch 2 [DMR Regulations].
[35] US, Gulf of Maine Council on the Marine Environment, *Aquaculture Physical Remediation Workshop Proceedings*, (September 20-21, 2001) at 6.

issued in limited circumstances.[36] The authority to issue aquaculture leases and licenses is with the DMR Commissioner.

3.3.1 Standard Lease

A. New Lease Requirements

Standard leases are divided into two categories: discharge leases and no discharge leases. Discharge is defined in the Aquaculture Lease Regulations as:

> …any spilling, leaking, pumping, pouring, emptying, dumping, disposing or other addition of any pollutant including, but not limited to, the addition of feed, therapeutants or pesticides to waters of the State.[37]

The authority to issue a lease for coastal waters, public lands beneath those waters and portions of the intertidal zone, for scientific research or for aquaculture of marine organisms is exclusively with the Commissioner. The construction or operation of a facility for the culture of finfish in nets, pens or other enclosures or for the suspended culture of any other marine organism in the coastal waters of the State is prohibited without a lease issued by the Commissioner.[38]

The Commissioner is granted discretion in establishing the conditions of the lease, but he or she must encourage the greatest multiple, compatible uses of the leased area and address the ability of the lease site and surrounding area to support ecologically significant flora and fauna and preserve the exclusive rights of the lessee to the extent necessary to carry out the lease purpose. In evaluating the lease application the Commissioner is required to consider the number and density of aquaculture leases in the area and may only grant a lease if the proposal meets a list of conditions defined in the Aquaculture Lease Law.[39]

No lease may be granted that results in a person being a tenant of any kind in leases covering an aggregate of more than 1,000 acres. No single lease can exceed 100 acres in size. The term of the lease cannot exceed 10 years.[40]

As a condition of the lease, the Commissioner has the authority to require the lessee to undertake environmental monitoring on the lease site. The Commissioner may determine the information to be gathered and the schedule for monitoring. The results of the monitoring must be summarized in a written report and submitted to the DMR within 90 days of completion of each study.[41]

The Commissioner must obtain the consent of municipal officers prior to issuing a lease for an intertidal zone subject to a municipal shellfish conservation program. The Commissioner is also required to establish rules in specific areas including noise, light and visual impact.[42]

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[36] Emergency leases are not discussed in this Report but can be found in section 2.65 of the Aquaculture Lease Regulations.
[37] DMR Regulations, *supra* note 34 at s 2.05(g).
[38] 12 MRSA §6072 at s 1 and 1A.
[39] 12 MRSA §6072 at s 2 and 7B; DMR Regulations, supra note 34 at s 2.37.
[40] DMR Regulations, *supra* note 34 at s 2.12. Note: Section 2 of the statute limits the lease size to an aggregate of no more than 500 acres, but allows this to be amended by regulation via section 13-A.
[41] 12 MRSA §6072 at 7.
[42] 12 MRSA §6072 at 3.

B. Lease Renewal

All leases must be renewed at the end of their term. The Commissioner is required to renew the lease if the lessee has complied with the lease agreement during the term of the lease; the lease is not being held for speculative purposes; and the renewal will not cause the lessee to become a tenant of any kind in leases covering an aggregate of more than 1,000 acres.[43]

The Commissioner does have some discretion in refusing a lease renewal if he or she determines that the renewal is not in the best interest of the state.

3.3.2 Limited Purpose Aquaculture (LPA) License

There are five marine areas defined in the Regulations as 'limited-purpose aquaculture (LPA) license health areas.'[44] Cultivation of a defined list of species in compliance with specified conditions may take place in these areas under an LPA license. The licensed activity cannot generate a discharge into water.[45]

3.3.3 Pollutant Discharge Elimination System Permit

The State of Maine has had waste discharge license requirement in place for sometime.

> No person may directly or indirectly discharge or cause to be discharged any pollutant without first obtaining a license therefor from the department (12 MRSA 413).

Prior to 1998 aquaculture facilities were exempt from the requirement to obtain a Maine Waste Discharge License as long as the Maine DMR certified that the facility would not have a significant adverse effect on water quality. Aquaculture facilities became subject to the license requirement in 1998 following an amendment to Maine State law. [46]

In January 2001 the Environmental Protection Agency (EPA) delegated authority to the State of Maine (Department of Environmental Protection) to administer the National Pollutant Discharge Elimination System (NPDES), required by the federal *Clean Water Act*. [47] In response, Maine established the Maine Pollutant Discharge Elimination System (MPDES) permit program. Discharge permits in Maine are issued in accordance with the wastewater discharge law.

Approximately two years later in June 2003 the Maine Board of Environmental Protection issued the Atlantic Salmon Aquaculture Permit with a five-year term.[48]

In 2004 the EPA issued effluent guideline limitations for *Concentrated Aquatic Animal Production Point Source Category* and this applies to net pen aquaculture facilities that produce 100, 000 pounds or more per year of aquatic animals. The effluent limitations require use of the best practicable control technology currently available.[49] Maine law was amended to accommodate this requirement by stating that all effluent discharges require application of best practicable treatment and must ensure

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[43] DMR Regulations *supra* note 34 at s 2.45.
[44] *Ibid* at s 2.05(j).
[45] *Ibid* at s 2.90-2.95.
[46] See 38 MRSA §413.
[47] See section 2.2.1 above.
[48] US, Maine Department of Environmental Protection, Maine Pollutant Discharge Elimination System Permit - Fact Sheet (December 2013) at 2.
[49] 40 CFR §451.

the receiving waters attain the State water quality standards (Maine Surface Water Classification System).[50]

The Department of Environmental Protection (DEP) has the regulatory authority to issue a general permit authorizing the discharge of certain pollutants from multiple individual discharge sources and locations which all have the same type of discharges and which involve situations where the Department determines there is a relatively low risk for significant environmental impact. The Regulations mimic the federal requirements and include a set of terms and conditions applicable to all general permits.[51]

In accordance with the general permitting authority the DEP issued a general permit for discharges from net pen aquaculture facilities located within a specific geographic area. The current general permit was issued on April 10, 2014. The application of the general permit is broad covering the following areas:

- Authorized Discharges
- Stocking Notice and Conditions
- Baseline Data
- Mixing Zone
- Sediment and Benthic Monitoring Requirements and Limitations
- Narrative Limitations
- Best Practicable Treatment
- Operation and Maintenance (O&M) Plan
- Predator and Containment Nets
- Use of Drugs for Disease Control
- Protection of Atlantic Salmon
- Quality Assurance for Environmental Monitoring and Containment Systems
- Monitoring and Reporting

In an effort to address the impact of net-pen salmon aquaculture on the endangered Atlantic Salmon, the general permit includes a special condition requiring the permit holder to employ a fully functional marine Containment Management System (CMS) designed, constructed, operated, and audited so as to prevent the accidental or consequential escape of fish to open water.[52]

The CMS plan must include inventory control procedures, predator control procedures, escape response procedures, unusual event management, severe weather procedures, auditing, record keeping and training. The plan should include a schedule for preventative maintenance and

[50] 38 MRSA §414-A. 38 MRSA §420 and 06-096 CMR §530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR §584 (effective July 29, 2012), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

[51] 06-096 CMR §529.

[52] State of Maine, Department of Environmental Protection, *General Permit-Net Pen Aquaculture - Maine Pollutant Discharge Elimination System Permit Maine Waste Discharge License*, (#MEG130000) (April 10, 2014) at 19. [General Permit]

inspection of the facility's containment systems. If there is escape of 25% or more or a cage population and/or more than 50 fish must be reported.[53]

Appendix B to the Report includes an overview of the Maine Aquaculture General Discharge Elimination System Permit.

3.3.4 Submerged Lands Rules

Title 12 of the MRSA establishes the *Submerged Lands Act* in keeping with the role of the State of Maine as the trustee for Submerged Lands for the benefit, rights and use of the general public.[54]

Submerged Lands are defined to mean:

- All land seaward from the mean low-water mark or a maximum of 1,650 feet seaward of the mean high-water mark, whichever is closer to the mean high- water mark, out to the 3-mile territorial State marine boundary.
- All land below the mean low-water mark of tidal rivers and streams up to the farthest natural reaches of the tides;
- All land below the natural low-water mark of ponds which in their natural state are 10 or more acres in size; and
- The riverbed of international boundary rivers out to the international boundary line, including segments of the St. John, St. Francis and St. Croix Rivers. The bed is defined as land lying between defined banks, created by the action of surface water and characterized by a lack of terrestrial vegetation and devoid of topsoil.[55]

With a few exceptions, all uses of Submerged Lands require a conveyance (a lease or easement) from the Bureau of Parks and Public Lands. Two of the exceptions have application to aquaculture. One exception is for a non-permanent structure for commercial fishing that occupies less than 2000 square feet of Submerged Land. The definition of 'commercial fishing' includes aquaculture. The second exception is activities and structures covered under aquaculture leases, as defined and regulated by the Maine Department of Marine Resources, under 12 MRSA §6072.[56]

3.4 Assessment of Proposed Aquaculture Operations

3.4.1 Application, Assessment and Evaluation

A. <u>New Standard Lease Application</u>

Any person who seeks to grow marine organisms using structures or seeks exclusive use of a portion of the submerged lands of the State must submit a lease application to the DMR and the application must include:

- A description of the proposed lease site;
- A list of species to be cultured and the source of the organisms;
- An environmental evaluation of the site including bottom characteristics;
- Resident flora and fauna, tide levels and current speed and direction;

[53] *Ibid* at 20.
[54] 12 MRSA §1801.
[55] *Submerged Lands Rules*, 01-670 CMR ch 53 at 1.4.
[56] *Ibid* at 1.5.

- A description of the recreational and commercial fishing activity in the vicinity of the proposed lease;
- Evidence of financial and technical capability;
- Any other information the Commissioner of the Department may require; and
- An application fee.[57]

Before submitting the application the applicant must attend a pre-application meeting where the applicant will introduce the proposal to the State and municipal governments. The applicant is further required to hold a pre-application scoping session in the municipality where the proposed project would be located to familiarize the public with the proposal, allow the public to provide information to the applicant and to ask questions, and to provide the DMR with information relevant to the site review. The DMR will not accept any new lease applications for the same location until a completed application is received or 6 months following a scoping session.[58]

Following a review of the application to ensure that it is complete and that the applicant has the financial and technical capacity to carry out the proposed activities, the Commissioner will set a date for a public hearing (see section 3.5.1 below).[59]

Prior to the hearing the DMR conducts an on-site inspection of the proposed lease site and surrounding area to determine the possible effects of the lease on commercially and ecologically significant flora and fauna and to consider potential conflicts with other users.[60] Details of the department site review can be found in the Aquaculture Lease Regulations. The DMR will collect information and undertake studies to verify information submitted by the applicant.[61]

The Aquaculture Lease Regulations include details on a list of items the Commissioner must consider before making a decision on a lease application, including:

- Impact on riparian owners;
- Interference with navigation;
- Interference with fishing or other water-related uses in the area;
- Intensity and frequency of other aquaculture in the area;
- Impact on the ability to support wildlife or marine habitat;
- Fish health practices;
- Impact on public use and enjoyment of the area;
- Lighting, noise and visual impacts.[62]

The Commissioner is further required to consider the number and density of aquaculture leases in an area before granting a new lease application.[63]

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[57] 12 MRSA §6072 at 4. Note: Additional items required in the lease application can be found in DMR Regulations (13 188), Chapter 2, Aquaculture Lease Regulations at s 2.10.
[58] DMR Regulations, *supra* note 34 at s 2.07.
[59] 12 MRSA §6072 at 5; and [59] DMR Regulations *supra* note 34 at s 2.10.
[60] 12 MRSA §6072 at 5-A.
[61] DMR Regulations *supra* note 34 at s 2.27.
[62] *Ibid* at s 2.37.
[63] 12 MRSA §6072 at 7-A.

B. Renewal Standard Lease Application

A renewal application is required at least 90 days prior to the lapse of the lease and must include information on the type and amount of aquaculture to be conducted under the new lease term.[64]

C. Transfer Standard Lease Application

A transfer lease application is required to transfer a lease to another person for the remainder of the lease term. The decision to allow a transfer is at the discretion of the Commissioner and will be considered as long as the transfer does not violate any relevant guidelines or conditions.[65]

3.4.2 Role of Research and Science

A. Experimental Lease

The Commissioner may grant an experimental lease for areas in, on and under the territorial waters including the public lands beneath those waters and portions of the intertidal zone for commercial aquaculture research and development or for scientific research. The lease period is limited to 3 years and the area to 4 acres.[66]

Experimental aquaculture leases are subject to an application and assessment process similar to that used for a standard lease but the decision to hold a public scoping session and/or public hearing is at the discretion of the Commissioner. The Commissioner is required to hold a public hearing if there is a request by five or more people for a hearing.[67] The Commissioner is required to hold a public hearing for the renewal application of an experimental lease.[68]

3.4.3 Role of Environmental Impact Assessment

The federal environmental assessment process under the *National Environmental Policy Act* is described in section 2.2.4 above. The State of Maine does not have an environmental impact assessment law in place to address aquaculture. However environmental assessment and monitoring data is gathered and incorporated into the lease application process described in the Aquaculture Lease Regulations.

For example, as part of the standard lease application requirements, the applicant must submit environmental characterization and baseline information. For applications where there will be no discharge into water relatively minimal data, is required. Where the application includes an expected discharge into water the application must include at least one baseline study completed between April 1 and November 15. The study must include sediment and benthic characterization, water quality characterization. The Aquaculture Lease Regulations include direction on the type of studies and the expected analysis.[69]

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[64] DMR Regulations, *supra* note 34 at s 2.45.
[65] *Ibid* at s 2.60.
[66] *Ibid* at s 2.64.
[67] *Ibid.*
[68] *Ibid* at s 2.64(12). Note that experimental leases for commercial research cannot be renewed.
[69] *Ibid* at s 2.10.

Additionally Maine law prohibits the discharge of any pollutant to a stream, river, wetland or lake of the State or to the ocean without first obtaining a license.[70] An applicant for a MPDES permit must conduct a baseline of the site and demonstrate that the leased area is suitable for establishing net pen salmon farming. The applicant must demonstrate the equipment (i.e., moorings, and cages) proposed for use at the site is suitable to withstand environmental conditions typical of the area. This evaluation is needed to minimize the risk of catastrophic loss at a site due to net-pen failure during times such as extreme tides, wind, icing or a storm event.[71]

3.4.4 Decision

After review of the records, the decision to grant a lease is at the discretion of the Commissioner; however, the Commissioner may only be grant a lease if he or she is satisfied that the proposal has meet the following conditions:

- The lease will not unreasonably interfere with the ingress and egress of riparian owners.
- The lease will not unreasonably interfere with navigation.
- The lease will not unreasonably interfere with fishing or other uses of the area.
- The lease will not unreasonably interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and surrounding marine and upland areas to support existing ecologically significant flora and fauna.
- The applicant has demonstrated that there is an available source of organisms to be cultured for the lease site.
- The lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of a beach, park or docking facility owned by the Federal Government, the State Government or a municipal governmental agency or certain conserved lands.
- The lease will not result in unreasonable impact from noise or light at the boundaries of the lease site.
- The lease complies with visual impact criteria adopted by the commissioner relating to color, height, shape and mass.[72]

Section 2.37(1) of the Aquaculture Lease Regulations provides detail on each of the above conditions.

The Commissioner has the discretion to refuse an application if it is not in the public interest, however the Commissioner does not have the authority to issue a lease that does not meet the conditions described above.

The Commissioner's decision must be in writing, complete with findings of fact and conclusions of law.[73]

[70] 38 MRSA §413.
[71] NOAA Recovery Plan, *supra* note 20 at 4-54.
[72] 12 MRSA §6072 at 7-A.
[73] DMR Regulations, *supra* note 34 at s 2.37.

3.5 Role of and Opportunities for Citizen Engagement

3.5.1 Public Notice and Consultation for Standard Leases

A. Pre-Application Scoping Session:

As described in section 3.4.1 above, the applicant for a standard lease is required to hold a pre-application scoping session in the municipality where the proposed project will be located. The DMR will directly notify all riparian landowners within 1000 feet of the proposed lease, municipal officials, interested government agencies and any member of the public who has requested to be on the DMR notification list. The DMR will also issue a press release regarding the session. The applicant will publish a notice in a local newspaper at least 10 days before the session takes place.

B. Lease Hearing:

Once the Commissioner has determined that the application is complete, a public hearing is scheduled. The Department notifies all riparian owners (whose land lies within 1,000 feet of the proposed lease site) and municipal governments.

At least 30 days prior to the public hearing date the DMR notifies the following persons directly:

- Riparian owners
- Municipal governments
- Applicant
- Relevant government agencies[74]

Aquaculture lease hearings are adjudicatory proceedings governed by the *Maine Administrative Procedure Act* (MAPA). Under MAPA notice of a hearing must be delivered by regular mail to any person whose legal right, duties or privileges are at issue.[75] This requirement is limited for aquaculture hearings to include only the lessee, known riparian owners and relevant municipal officials.[76]

The DMR will distribute press releases and publish a notice in a newspaper in the area 30 days prior to the hearing and again 10 days prior to the hearing.[77]

Any person can apply to the Commissioner to intervene in a lease hearing. The intervenor application form must identify a description of how the applicant would be substantially and directly affected by the proposed lease. If the applicant is not substantially and directly affected the applicant must describe their interest and the DMR will determine if the application merits approval for intervenor status.[78]

The decision to allow or refuse intervenor applications is at the discretion of the Commissioner. The Commissioner may allow full or limited participation or may deny participation. If participation is limited or denied the Commissioner must provide reasons for the decision. All intervenors, whether full or limited, are considered parties to the proceeding.[79]

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[74] *Ibid* at s 2.15.
[75] 5 MRSA §9052,
[76] 12 MRSA §6072.
[77] DMR Regulations, *supra* note 34 at s 2.15.
[78] *Ibid* at s 2.20.
[79] *Ibid*. This section provides detail on the meaning of full and limited participation, consolidation of parties and correspondence.

The hearing includes a presiding officer, opening statements, sworn witnesses, and specific rules of evidence. The hearings are open to the public and any person can participate in the hearing through written or oral statements/questions via the presiding officer. A full record of the proceeding, including a transcript of the hearing must be prepared. If the Commissioner delegates adjudication of the hearing to a hearing officer, the hearing officer must prepare a report for the Commissioner at the conclusion of the hearing.[80]

C. Lease Renewal

Notice to the public of a lease renewal is required; however, a hearing will only take place if there is a written request from five or more interested persons.[81] A lease renewal is an adjudicatory proceeding and must be carried out in accordance with the *Maine Administrative Procedures Act*.[82]

D. Lease Transfer

A hearing is not required for a lease transfer, however the DMR will notify the public, riparian owners and municipal governments of the proposed transfer, with a comment period of 14 days.[83]

3.5.2 Access to Aquaculture Lease Information

A. Lease Application

The Commissioner is required to open a file for every lease application to include written correspondence and memoranda of oral communications associated with the application. The file is available for public inspection.[84]

B. Public Hearings

Following a public hearing the DMR must make a copy of the record of the proceedings and have it available for inspection. The DMR is further required to make copies of the record and transcripts available to any person at actual cost. Information deemed confidential by federal or state statute shall be withheld in the least restrictive manner possible.[85]

C. Final Lease

Once a lease has been signed the lessee must file a copy of the lease with the Registry of Deeds and must publish an approved notice in the newspapers covering the areas where hearings took place.[86]

3.5.3 Freedom of Access Act

The Maine Freedom of Access provisions provide a foundation for public access to proceedings, records and other information held by government. For the most part the Freedom of Access

[80] DMR Regulations, *supra* note 34 at s 2.30 to 2.35.
[81] *Ibid* at s 2.45.
[82] 12 MRSA §6072 at 12; See *Maine Administrative Procedures Act*, 5 MRSA §9051-§9064 (ch 375 Subchapter 4)
[83] DMR Regulations, *supra* note 34 at s 2.45.
[84] *Ibid* at s.2.25.
[85] *Maine Administrative Procedures Act*, 5 MRSA §9059.
[86] DMR Regulations, *supra* note 34 at s 2.45.

provisions are subject to the provisions of other statutes. For example, Freedom of Access requires government proceedings to be open to the public, unless otherwise provided by statute. Public notice of the proceeding must be provided to allow ample time for public attendance and delivered in a manner that will reasonably notify the general public. The record of any public proceeding must be made available within a reasonable time after the proceeding and must be open to public inspection.[87]

Freedom of Access gives every person the right to inspect and copy any public record within a reasonable time of making the request, unless otherwise provided by statute. The term 'public record' is broadly defined to include written, printed or graphic material and mechanical or electronic data.[88]

3.5.4 Administrative Procedure Act[89]

The *Maine Administrative Procedure Act* (MAPA) outlines the procedures and minimum requirements for adjudicatory proceedings and judicial reviews, including notice, public participation, evidence, a presiding officer and record of proceedings. The provisions found in Title 12 of the MRSA, which govern aquaculture lease hearings, are designed to comply with the MAPA.

3.5.5 Procedural Rights

The *Maine Administrative Procedure Act* requires any decision made by a government agency at the conclusion of an adjudicatory proceeding be in writing or stated in the record, and include findings of fact sufficient to apprise the parties and any interested member of the public of the basis for the decision. A copy of the decision must be delivered or promptly mailed to each party to the proceeding or his representative of record. Written notice of the party's rights to review or appeal the decision shall be given to each party with the decision. This provision of the MAPA is not subject to other statutes.[90]

The Commissioner's denial or approval of an application shall be considered final agency action for purposes of judicial review.[91]

Other procedural rights such as the right to comment and the right to receive reasons are incorporated into the assessment and decision-making framework for aquaculture.

3.6 Monitoring and Compliance of Aquaculture Operations

3.6.1 Monitoring and Reporting

A. Marking:

The lessee is required to mark the leased areas with a device that displays the words SEA FARM in a format specified in the Regulations. The signs must float and be located at each corner of the leased site. The Regulations include further details on properly marking the site.[92]

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[87] 1 MRSA §403-406 (ch 13, Subchapter 1)
[88] *Ibid* at §403 and §408-A.
[89] 5 MRSA ch 375.
[90] 5 MRSA §9061.
[91] DMR Regulations, *supra* note 34 at s 2.37(2).
[92] 12 MRSA §6072 at 10C; and DMR Regulations *supra* note 34 at s 2.80.

B. Monitoring:

The Commissioner is provided the authority in the MRSA to establish an aquaculture monitoring program for the siting, development and operation of finfish aquaculture facilities. Under the program the Commissioner has the authority to collect information at finfish sites pertaining to:

- Geophysical site characteristics, including currents and bathymetry;
- Benthic habitat characteristics and effects, including changes in community structure and function;
- Water column effects, including water chemistry and plankton;
- Feeding and production data sufficient to estimate effluent loading;
- Smolt and broodstock introduction and transfer data;
- Disease incidence and use of chemical therapeutics; and
- Other ancillary information as the commissioner may find necessary. [93]

The Commissioner has the authority to require any person holding a license related to finfish aquaculture to report the information described above.

The State of Maine has developed the Finfish Aquaculture Monitoring Program (FAMP) to meet the requirements for aquaculture monitoring, as described above, and to meet Maine's Water Quality Standards and Waste Discharge Law. Further information gathering, monitoring and reporting requirements are included in the general permit (see section 3.3.3 and Appendix A).

Where environmental monitoring is required as a condition of the lease, the results of the monitoring must be summarized in a written report and submitted to the DMR within 90 days of completion of each study.[94]

C. Reporting:

Reporting requirements are detailed in the DMR Finfish Aquaculture Monitoring Program and the MEPDES general permit. Where these are not in effect, the leaseholder must submit to DMR the following reports by December 15 of each year.

- Annual Semi-quantitative Diver Survey reports and videos.
- Benthic Survey report as designated by either the Maine Department of Marine Resources or Department of Environmental Protection.
- Water Quality monitoring data from August through October as prescribed.

The lessee is also required to submit an annual seeding and harvesting report to the DMR and municipal governments with property adjacent to the site.[95]

3.6.2 Inspection

Marine patrol officers are responsible for enforcing all marine resources' laws and have broad power to arrest. Officers may require suitable aid in the execution of their duties. A marine patrol officer

[93] 12 MRSA §6077.
[94] DMR Regulations, *supra* note 34 at s 240(7).
[95] 12 MRSA §6072 at 10D.

has the power to search without warrant for any marine organism if he or she has probably cause to believe that the marine organism was taken, possessed or transported contrary to the law.[96]

3.6.3 Compliance

A. Lease Revocation

Failure to maintain an escrow account or performance bond, to pay rental fees in a timely manner, or failure to comply with the terms of the lease, these regulations, or any applicable laws shall be grounds for lease revocation under Chapter 2.42.[97]

The Commissioner shall conduct an annual review of each aquaculture lease. If the Commissioner determines, following an annual review or at any other time, that the applicant has conducted substantially no research or aquaculture (as required by the lease) or that the aquaculture or research has been conducted in a manner substantially injurious to marine organisms, or that any other lease condition or the terms of these regulations or any applicable law has been violated, the Commissioner may revoke the lease. Before revoking the lease the Commissioner will hold an adjudicatory hearing, unless the leaseholder waives the right to a hearing.[98]

3.6.4 Penalties

It is unlawful to construct or operate in the coastal waters of the State a facility for the culture of finfish nets, pens or other enclosures or for the suspended culture of any other marine organism without a lease issued by the Commissioner. Any person who violates this section is subject to civil penalty, payable to the State, of no more than $1000 for each day of the violation.[99]

3.7 Regulatory Programs to Support Industry Competitiveness

For industry support/marketing purposes, aquaculture is often categorized as an "agricultural enterprise" (and less often as a "fishing enterprise"). In order to address concerns of conflicting mandates for the Department of Marine Resources, marketing assistance is specifically not included for aquaculture.

> Except for aquaculture, serve as the primary state agency providing promotion and marketing assistance to the commercial fishing industries including assisting in marketing seafood, stimulating of consumer interest in and consumption of seafood, increasing the sales of seafood domestically and abroad, supporting and expanding existing markets and developing new markets for traditional and underutilized species.[100]

3.7.1 Aquaculture Management Fund

The Aquaculture Management Fund is a dedicated, nonlapsing fund within the DMR. All income received by the commissioner under this section must be deposited with the Treasurer of State. Any balance remaining in the fund at the end of a fiscal year does not lapse and must be carried forward to the next fiscal year. Any interest earned on assets of the fund is credited to the fund. Certain rents

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[96] 12 MRSA §6025.
[97] DMR Regulations, *supra* note 34 at s 2.40(4).
[98] *Ibid* at s 2.42.
[99] 12 MRSA §6072 at 1A.
[100] 12 MRSA §6052.

and fees assessed to the industry are credited to the fund.

The commissioner may make expenditures from the fund to develop and manage effective and cost-efficient water quality licensing and monitoring criteria, analyze and evaluate monitoring data, process lease applications and make information about aquaculture available to the public.

The commissioner shall report annually to the Aquaculture Advisory Council on all expenditures made from the fund in the previous fiscal year and a summary of work accomplished and planned.[101]

3.7.2 Aquaculture Monitoring, Research and Development Fund

The Aquaculture Monitoring, Research and Development Fund can receive funds from any source. All income received by the commissioner under this section must be deposited with the Treasurer of State, tracked according to its source and credited to the fund. Any balance remaining in the fund at the end of a fiscal year does not lapse but must be carried forward to the next fiscal year. Any interest earned on assets of the fund is credited to the fund.[102]

3.7.3 Aquaculture Research Fund

The Aquaculture Research Fund is a dedicated, nonlapsing fund within the DMR. In addition to the fees derived from the limited-purpose aquaculture license, the commissioner may receive on behalf of the fund funds from any source. The commissioner shall use all money received into the fund for research and management related to the aquaculture industry. Unexpended balances in the fund at the end of the fiscal year do not lapse but must be carried forward to the next fiscal year to be used for the purposes of the fund.[103]

3.7.4 Agricultural Promotion

To further the purposes of this Part, the commissioner shall initiate and implement programs necessary to facilitate the effective, profitable marketing of Maine agricultural products. For the purposes of this subchapter, the terms "agricultural products" and "farm products" include, but are not limited to, products of aquaculture as defined in Title 12, section 6001, subsection 1.[104]

A. Agriculture Promotion Fund

The Agriculture Promotion Fund is a nonlapsing fund and can accept money from any public or private source.[105]

B. Agriculture Marketing Loan Fund

Any money credited to the Agriculture Marketing Loan fund may be used only for the following purposes: to provide assistance to agricultural enterprises in this State for the design, construction or improvement of commodity and storage buildings and packing and marketing facilities; for the

[101] 12 MRSA §6072-D.
[102] 12 MRSA §6078-A.
[103] 12 MRSA §6081.
[104] 7 MRSA §401-B.
[105] 7 MRSA §402-A.

purchase, construction or renovation of buildings, equipment, docks, wharves, piers or vessels used in connection with a commercial agricultural enterprise…[106]

4.0 Comparative Analysis and Recommended Approaches

4.1 Management Approach for Aquaculture Operations

The management approaches for aquaculture regulation in Nova Scotia and Maine are similar in that both define aquaculture broadly, both include a prohibition against operation of an aquaculture site without approval and both use application, assessment and decision-making by government as the means of obtaining that approval and setting conditions.

Nova Scotia law generally defines aquaculture as 'the farming for commercial purposes of aquatic plants and animals.' Maine law generally defines aquaculture as 'the culture or husbandry of marine organisms by any person.' The approval document in Nova Scotia is in the form of a license while in Maine the lease serves as the primary means of approval. Both jurisdictions reply upon the terms and conditions of the approval document to regulate the activities of the aquaculture operation.

Where the regulatory approaches primarily diverge is in the discretion given to the decision-maker. Under the Nova Scotia *Fisheries and Coastal Resources Act* the Minister has extensive discretion in his or her approach to decision-making, the setting of terms and conditions and the level of consultation undertaken before a final decision is made. In Maine, the decision-making process is defined in detail in the legislation, including consultation requirements. The Commissioner has some discretion in the terms and conditions to be included in a standard aquaculture lease, but the legislation sets expectations and provides more guidance to the Commissioner than the NS approach. For example, in Maine the Commissioner is required by the legislation to ' address the ability of the lease site and surrounding area to support ecologically significant flora and fauna…'[107]

Recommended Approach:

In ECELAW's Report to the Panel comparing aquaculture regulation in five Canadian jurisdictions ('Canadian Report') we recommended a balance between discretion for the decision-maker and the need for regulatory tools that ensure consistency, transparency and accountability. A review of the Maine approach meets many of the recommendations we made to achieve the more balanced approach.

Recommendations from the Canadian Report and elements of the Maine approach:

- Guide the decision-maker regarding circumstances where rejection of a lease or licence application may be appropriate.
    - The Maine Aquaculture Lease Law and Regulations provide the Commissioner the authority to decide whether the application will be accepted or rejected, but require the Commissioner to consider 10 specific criteria, including interference with other commercial or public uses, the intensity and frequency of other aquaculture in the area, and the degree to which the new lease will interfere with significant wildlife or marine habitat or the ability of the site to support ecologically significant flora and fauna.[108]

[106] 10 MRSA §1023-J.
[107] 12 MRSA 6072 at 7B.
[108] DMR Regulations (13 188), Chapter 2, Aquaculture Lease Regulations at s.2.37(1).

- Require the decision-maker to consult with parties and consider information prior to making a decision.

    - The Maine approach includes a robust pre-application consultation process followed by a full public hearing on the application.

- Require the decision-maker to include reasoning for accepting or rejecting an application and to make the decision and reasoning public.

    - The Maine Aquaculture Lease Regulations require the Commissioner to issue a written decision complete with findings of fact and conclusions of law.[109]

- Require the decision-maker to comment on and provide rationale for specific aspects of the decision.

    - This recommendation is not clearly addressed in the Maine approach; however the hearing process does provide an opportunity questions and concerns associated with the application to be fully heard.

4.2 Assessment of Proposed Aquaculture Operations

Assessments in both jurisdictions are completed through an application process with information provided by the applicant. In NS an application for an aquaculture license must include the information required by the Minister. This information can be found by consulting the Overview of Aquaculture Licensing and Leasing Process in Nova Scotia; the information is not defined by statute or regulation.[110] In Maine, the information requirements for the application are set out generally in the statute and with greater detail in the regulations.

Before submitting an application in Maine the applicant is required by law to attend a pre-application meeting with government officials and a pre-application scoping session with members of the public. In Nova Scotia the applicant is invited to approach the Coastal Resource Coordinator (departmental representative) for information and is encouraged to do 'investigative work' before submitting the application; however all of this is at the discretion of the applicant.

Recommended Approach:

The Nova Scotia approach provides significant flexibility to the decision-maker by not setting out application requirements in regulation; however, the approach fails to ensure consistency and accountability. The Maine approach is much more regulated with a defined set of criteria to be addressed in the application and mandatory pre-application meetings. The regulatory requirements are broad enough to allow some flexibility and therefore provide a better approach to applications and assessment.

[109] DMR Regulations (13 188), Chapter 2, Aquaculture Lease Regulations at s.2.37.
[110] *Fisheries and Coastal Resources Act*, SNS 1996. c. 25 at s.2.

4.2.1 Role of Research and Science

The role of research and science, separate from the gathering of baseline and monitoring data, is not significant in either jurisdiction. It is worth mentioning, however, the experimental lease process in the State of Maine. The purpose of the experimental lease is for commercial aquaculture research and development and for scientific research. Further exploration of this lease and the potential to encourage scientific research may be useful.

4.2.2 Role of Environmental Impact Assessment

Neither Nova Scotia nor Maine has a standard environmental impact assessment process in place for proposed aquaculture facilities. Maine aquaculture legislation requires environmental baseline data to be submitted with every standard aquaculture lease application and further requires public consultation before the Commissioner makes a decision to accept or reject an application. Additionally, the pollution discharge elimination system permit, required for any aquaculture operation that will discharge pollutants into water, includes gathering baseline environmental data on several environmental criteria and follow-up monitoring.

Nova Scotia legislation does not require environmental baseline information to be gathered but does include a development plan as part of the application process. The purpose of the development plan is to demonstrate that the proposal is environmentally, economically and socially sound. As well, NS has a mandated Environmental Monitoring Program that is incorporated into the license conditions on a site-specific basis.

Recommended Approach:

It may be that the approach used in NS to gather baseline environmental information and assess potential impacts on the environment is equivalent to or better than the requirements set out in Maine law; however, the fact that the development plan and environmental monitoring program are not enshrined in the law and the elements of the plan are not consistently made available to the public make it impossible to evaluate. To that end, the approach in Maine, although not necessarily robust enough, is a more satisfactory approach.

4.3 Role of and Opportunities for Citizen Engagement

The Nova Scotia approach to citizen engagement is almost entirely at the discretion of the Minister. The FCRA includes a broad-based general commitment to 'foster community involvement in the management of coastal resources,' however the Act does not include any mandatory consultation provisions. A public hearing may be called at the discretion of the Minister.

The Maine approach to citizen engagement is highly prescribed. The aquaculture legislation requires a pre-application scoping session and public hearing for every new standard lease application, and several other lease types. A public hearing is also required for a lease renewal if requested by five or more individuals. The pre-scoping session is fairly open-ended but the lease hearing is an adjudicatory proceeding similar to a NS Utility and Review Board process.

Recommended Approach:

As described in ECELAW's Canadian Report community engagement for proposed aquacultural activities should be mandated by legislation. The pre-application scoping session required in Maine represents a solid first step to informing the stakeholders and the local community of the applicant's intention. It also provides an opportunity for the applicant to be informed of potential issues and

concerns prior to submitting an application. Elements of Maine's formal hearing process may enlighten NS regulators on ways to engage with the public. The process ensures that parties are informed and heard, however, it may be a cumbersome, legalistic and time-consuming process that goes somewhat beyond healthy citizen engagement.

4.3.1 Public Notice and Consultation

There are no formal processes in place in NS legislation to notify local community members or other concerned citizens of proposed aquaculture operations. Prior to the 2012 amendments to the *Canadian Environmental Assessment Act*, citizens were notified of proposed projects when the project became subject to a federal environmental impact assessment. Currently, the federal EIA process does not apply to most aquaculture projects.

The only notification requirement in place for aquaculture leases or licenses under the FCRA is if the Minister chooses to require a public hearing. Where the Minister chooses to hold a public hearing he or she is required to publish a notice of the hearing in a local newspaper at least 14 days before the hearing.[111]

In Maine the government will directly notify all riparian landowners and any member of the public who has requested to be on the notification list as part of the pre-application scoping session. The applicant is required to issue a notice in a local newspaper as well. Similar notice requirements are in place for the mandatory lease hearing. The public must also be notified of a lease renewal and lease transfer application.

Recommended Approach:

Mandatory and timely public notification of proposed aquaculture lease or license applications is an appropriate means of ensuring local communities, stakeholders and concerned citizens have an opportunity to familiarize themselves with a proposal in order to engage in a consultation process. Notification is the first step in facilitating public engagement.

4.3.2 Access to Information

The NS Freedom of Information and Protection of Privacy (FOIPOP) Act provides members of the public with a right of access to public records in the custody of the provincial government. The FOIPOP Act provides an important foundation for public access in NS, and arguably, better rights of access than the Maine Freedom of Access provisions because the FOIPOP provisions are not specifically subject to other provincial statutes. However, the FOIPOP process is cumbersome, time consuming and sometimes expensive.

Aquaculture legislation in Maine provides specific rights of access to information on the lease application, public hearings and the final lease. The primary means of information sharing is through the agency file, which is opened by the Commissioner for every application and must include all correspondence and communication associated with the file. The file must be made available for public inspection; however, with no hands-on experience with the Maine public access system we cannot speculate on whether there are administrative barriers to accessing this information.

[111] Notice of a sea plant lease application must be published in a local newspaper in the area contiguous to the proposed site and in the Royal Gazette not less than 10 days before the application, but the same requirement does not exist for an aquaculture lease or license.

In Nova Scotia, all information under the control of the Department of Fisheries and Aquaculture is accessible to the public (subject to the FOIPOPA). Generally, this means that the cumbersome FOIPOP process must be followed to obtain access to the information. The Minister does have the discretion to establish a public registry and place in the registry any documents or information he or she considers appropriate. The Minister is required to ensure public access to any information or documents contained in the public registry.

As with much of the legislative framework around aquaculture in Nova Scotia the decision-making is discretionary to the Minister, and in the case of the public registry, to date no such registry exists.

Recommended Approach:

Requiring the lead government agency to maintain a full record for every lease application, coupled with an on-line public registry, as recommended in ECELAWs Canadian Report (section 7.5.1), would provide a comprehensive and accessible means of ensuring appropriate public access to aquaculture related information.

4.3.3 Procedural Rights

The Nova Scotia FCRA includes two procedural rights: the right of an employee to report without retribution and the right of an aggrieved person to appeal a decision of an Administrator (to the Minister) or the Minister (to the courts).

The State of Maine does not appear to include any whistle-blower protection provisions, but does enable a party to a proceeding to appeal the decision within the government department (where appropriate) or to the courts.

The State of Maine also incorporates procedural rights into the assessment and decision-making approach to aquaculture applications, renewals and transfers. For example, Maine has legislated requirements for notification and consultation prior to decision-making on aquaculture applications. Furthermore, Maine legislation requires a public hearing providing citizens with a right to comment on every new application and the Commissioner's decision to approve or reject an application must be in writing, complete with findings of fact and conclusions of law.

Recommended Approach:

In both jurisdictions restrictions around who has the right to appeal a decision and the formality associated with the appeal make it difficult for a community member or concerned citizen to challenge a decision. As discussed in the Canadian Report a right to have an administrative decision reviewed by an independent third party is a more transparent, balanced and less complicated means of providing a right of appeal to third parties.

The development of a balanced regulatory approach to aquaculture in Nova Scotia should consider opportunities to incorporate procedural rights, such as the right to comment, the right to request a review, the right to request an investigation, the right to receive reason and the right to have concerns reviewed by an independent third party. The approach to consultation and decision-making in Maine provides some material for consideration.

4.4 Monitoring and Compliance of Aquaculture Operations

A. Monitoring

With the exception of proper site marking, the Maine Aquaculture Lease Law and Regulations do not include details on monitoring and reporting requirements. Many of the requirements included in the NS legislation, such as maintenance of records, inspection of records, annual reporting and incident reporting are not included in the Maine regulatory framework. Most of these requirements are captured in the Finfish Aquaculture Monitoring Program (FAMP) or the Maine Pollutant Discharge Elimination System (MEPDES).

The FAMP and MEPDES are regulatory permits/programs. Failure to comply with the monitoring requirements set out may result in penalties. However, relying on a lease or permit to outline monitoring and reporting requirements makes it difficult for the layperson to know whether or not key requirements are being met. The NS approach although not comprehensive enough provides some clarity on the key monitoring and reporting requirements by including them in the statute.

Recommended Approach:

A combination of key monitoring and reporting requirements enshrined in legislation coupled with site-specific terms and conditions for monitoring and reporting contained in approval documents (permit, license, lease) is recommended. As mentioned in the Canadian Report, failure to comply with these requirements should result in a fine and third parties who report failures should be informed of actions taken by the regulator

B. Compliance

In NS inspectors have broad-ranging powers to enter and inspect premises, to issue directions and to take actions. The Minister has the discretion to suspend, cancel or revoke a license or lease where the holder fails to comply with terms or conditions. In Maine, marine patrol officers have the authority to enforce all legislation under the Department of Marine Resources. The Commissioner has the authority to revoke a lease for breach of conditions, but may be required to hold a public hearing beforehand.

The FCRA includes a comprehensive offence and penalty scheme, while the Maine Aquaculture Lease Act only provides a basic $1000 per day penalty for failure to comply with the conditions of the lease. We were unable to undertake further research on general enforcement and penalty schemes in Maine so it is possible that there are provisions of general application that have not been considered for this Report.

4.5 Regulatory Tools to Support Industry Competitiveness

In Nova Scotia the Minister of Fisheries and Aquaculture has to authority to undertake projects to support and encourage the aquaculture industry through financial or technical assistance. Maine also has several programs in place to support the industry financially and to facilitate research. One key difference between Maine and Nova Scotia is the separation of promotion and regulation.

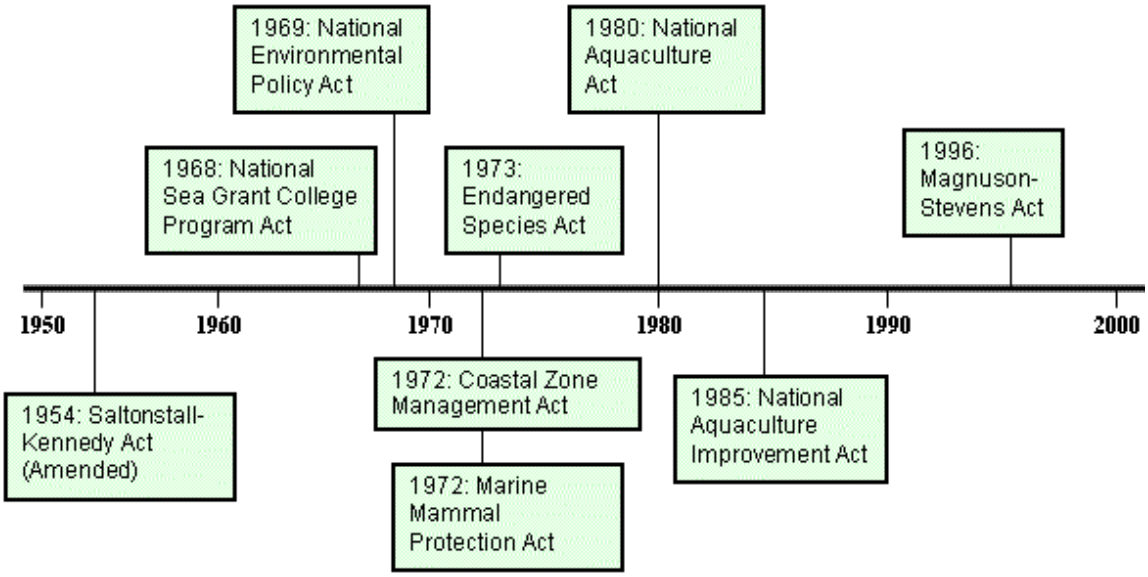
In Maine, the Commissioner for Marine Resources is the primary regulator for aquaculture and is specifically excluded, by way of legislation, from promotion and marketing of aquaculture. For industry support/marketing purposes, aquaculture is often categorized as an "agricultural enterprise" making promotional funding and support for agriculture available to the aquaculture sector.

Recommended Approach:

The decision-maker responsible for regulation of the aquaculture industry should not have any relationship to or influence over the promotion of the industry. The approach taken in Maine is one worth considering for NS.

Appendix A

U.S. Federal Aquaculture Legislative History



1954: Saltonstall-Kennedy Act provides authority for NOAA to award contracts, grants, or cooperative agreements for fisheries research and development projects addressing any aspect of US fisheries, including but not limited to harvesting, processing, aquaculture, marketing, and associated infrastructures.

1968: National Sea Grant College Program Act provides NOAA with authority to conduct research, extension, education, and communications to achieve a sustainable environment and to encourage the responsible use of America's coastal, ocean, and Great Lakes resources, including support for aquaculture.

1969: National Environmental Policy Act requires NOAA to consider all reasonably foreseeable environmental effects of its proposed actions including potential effects of marine aquaculture facilities.

1972: Coastal Zone Management Act provides for management of the nation's coastal resources, including planning for the siting of pollution control and aquaculture facilities.

1972: Marine Mammal Protection Act requires NOAA to take actions to protect all marine mammals under the Department of Commerce jurisdiction including actions to address potential impacts from marine aquaculture facilities.

1973: Endangered Species Act requires NOAA to take various actions to protect and recover all threatened and endangered species under the Department of Commerce. This includes actions to address potential impacts from marine aquaculture facilities.

1980: National Aquaculture Act established the policy that it is our nation's interest, and it is the national policy to encourage the development of aquaculture in the United States. Under this act, the

Secretary of Commerce is authorized to provide advisory, educational, and technical assistance and to encourage the implementation of aquaculture technology in rehabilitation and enhancement of publicly owned fish and shellfish stocks, and in the development of private commercial aquaculture enterprises.

1985: National Aquaculture Improvement Act amended one section of the national aquaculture act. (3) Section 2 (a)(7) of the National Aquaculture Act of 1980, 16 U.S.C. 2801, was amended by this act by inserting "scientific" before "economic", and by inserting "the lack of supportive government policies" immediately after management information.

1996: Magnuson-Stevens Act requires NOAA to review activities in marine waters that may impact managed species or fish habitats. Aquaculture facilities are subject to review under this act.[112]

[112] Taken from the National Ocean Economics Program website, http://www.oceaneconomics.org/LMR/Aquaculture/. Accessed 20 May 2014

Appendix B

Maine Pollutant Discharge Elimination System (MEPDES)

As noted in Section 2.2.1, the State of Maine has assumed the NPDES program from the federal government. A permit is required for the direct or indirect discharge of pollutants into State waters. The Department of Environmental Protection may issue a general permit authorizing discharge where there is a "relatively low risk for significant environmental impact."[113] Permits are available through the program, subject to state regulations and the conditions of the particular permit.

> (c) Permits issued for discharges into aquaculture projects under this chapter are NPDES permits and are subject to the applicable requirements of Chapters 521, 522 and 523 and 40 CFR part 123. Any permit shall include such conditions (including monitoring and reporting requirements) as are necessary to comply with those parts.[114]

The conditions found in the Maine aquaculture MEPDES permits include several basic monitoring and reporting requirements. These provisions are not explicitly included in the regulations for aquaculture leases, with the exception of the initial environmental baseline study. The MEPDES permit reporting requirements notably include: (See table for full summary)

- Feed and fish recordkeeping
- Sediment and benthic analysis
- Drug use
- Regular inspection and maintenance of net pen facilities
- Report and audit of escape[115]

Some general conditions not exclusively focused on aquaculture also exist for all MEPDES permits. This includes the duty to properly operate and maintain all facilities related to the permit, and the duty to provide information to the Department upon request.[116]

All conditions of the permit must be met; a range of penalties exists to promote compliance.

> (a) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.[117]

There are additional penalties set forth as outlined in 38 MRSA §349.[118]

> Criminal penalties: Except as otherwise specifically provided, a person who intentionally, knowingly, recklessly or with criminal negligence violates a law administered by the department, including, without limitation, a violation of the terms or conditions of an order,

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[113] *General Permits for Certain Wasterwater Discharges*, 06 096 CMR ch 529.
[114] *Criteria and Standards for Waste Discharge Licenses*, 06 096 CMR ch 524 at s I(c).
[115] General Permit, *supra* note 52 at 32.
[116] *Waste Discharge License Conditions*, 06 096 CMR ch 523 at s 2(e) and 2(h).
[117] *Ibid* at s 2(a).
[118] *Ibid* at s 2(a)(2).

rule, license, permit, approval or decision of the board or commissioner, or who disposes of more than 500 pounds or more than 100 cubic feet of litter for a commercial purpose, in violation of Title 17, section 2264-A, commits a Class E crime. Notwithstanding Title 17-A, section 1301, the fine for a violation of this subsection may not be less than $2,500 and not more than $25,000 for each day of the violation, except that the minimum amount for knowing violations is $5,000 for each day of violation.

Civil penalties: Except as otherwise specifically provided, a person who violates a law administered by the department, including, without limitation, a violation of the terms or conditions of an order, rule, license, permit, approval or decision of the board or commissioner, or who disposes of more than 500 pounds or more than 100 cubic feet of litter for a commercial purpose, in violation of Title 17, section 2264-A, is subject to a civil penalty, payable to the State, of not less than $100 and not more than $10,000 for each day of that violation or, if the violation relates to hazardous waste, of not more than $25,000 for each day of the violation. This penalty is recoverable in a civil action.[119]

[119] 38 MRSA §349.

Table of Reporting Requirements (summary):

#MEG130000 NET PEN AQUACULTURE PAGE 30 OF 30 #W009020-6H-D-R GENERAL PERMIT[120]

Monitoring or Submission Requirement	**Frequency/Timing**	**Report Due**
Transfer of ownership	As occurs	Within 2 weeks
Use of biocidal	As occurs	Prior to use
Stocking notice	Annually	By March 1st of each year
Sediment and Benthic (Sulfides for restocking)	Prior to restocking	Not less than 14 days prior to restocking
Feed and fish recordkeeping	Monthly	On or before last day of each month
Sediment and benthic (Sulfides)	1/growing cycle (July 1 – November 15) of max biomass	December 31st
Sediment and benthic (Benthic Infauna)	During August 1 – November 15 following sulfide exceedance	March 1st
Updated Operation & Maintenance (O&M) Plan	Annually or in response to significant change in operation	By December 31st of each year or within 30 days of significant change
Dropped or lost net notice	As occurs	Within 24 hours of loss
Dropped of lost net retrieval	As occurs	Within 30 days of loss
Drug use not on notice of intent (NOI) – oral	As occurs	Prior to use
Drug use not on NOI – written	As occurs	Within 7 days of oral notice
Agreeing or signing up to participate in an Investigational New Animal Drug (INAD) study	As occurs	Within 7 days of agreement
Used of an INAD – study plan	As occurs	At least 90 days prior to use
Discharge of INAD	As occurs	Not more than 48 hours after use
Drug use	Monthly	On or before last day of each month
Sediment monitoring for drugs	Not less than 7 days nor more than 30 days following drug use	Per Department-approved sediment monitoring plan
Fish marking effectiveness summary	Annually	December 31st of each stocking year
Containment Management System (CMS) audit report	Annually	December 31st of each year
CMS audit report following escape	Following reportable escape	Within 30 days of escape
Submission of standing inventory	Monthly	In accordance with MeDMR
Escape reporting – written	As occurs	Within 24 hours of becoming aware of escape

[120] General Permit, *supra* note 52 at 32.

Comparative Analysis of Aquaculture Regulatory Frameworks in Maine and Nova Scotia was authored by Lisa J. Mitchell, M.E.S., LL.B. with research completed by Edward Murphy (JD candidate 2016).

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