

Atlantic Salmon Fishery Management Plan

Framework Adjustment 1

Including an Environmental Assessment and
Regulatory Flexibility Analysis



DRAFT

January 10, 2023

Prepared by the
New England Fishery Management Council
In consultation with the
National Marine Fisheries Service



Document history

Initial Framework Meeting: September 28, 2022
Final Framework Meeting: April ##, 2023 (target)
Preliminary Submission: May ##, 2023 (target)
Final Submission: Month ##, 2023

Cover image

NOAA Fisheries



FRAMEWORK ADJUSTMENT 1 TO THE ATLANTIC SALMON FISHERY MANAGEMENT PLAN

Proposed Action: TBD

Responsible Agencies: New England Fishery Management Council
50 Water Street, Mill #2
Newburyport, MA 01950

National Marine Fisheries Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce
Washington, D.C. 20235

For Further Information: Thomas A. Nies, Executive Director
New England Fishery Management Council
50 Water Street, Mill #2
Newburyport, Massachusetts 01950
Phone: (978) 465-0492
Fax: (978) 465-3116

Abstract: The New England Fishery Management Council, in consultation with NOAA's National Marine Fisheries Service, has prepared Framework Adjustment 1 to the Atlantic Salmon Fishery Management Plan, which includes an environmental assessment that presents the range of alternatives to achieve the goals and objectives of the action. The purpose of the action is to consider authorizing possession of farm-raised Atlantic salmon within the U.S. Economic Exclusive Zone (EEZ). This document describes the affected environment and valued ecosystem components and analyzes the impacts of the alternatives on both. It addresses the requirements of the Magnuson Stevens Fishery Conservation and Management Act, the National Environmental Policy Act, the Regulatory Flexibility Act, and other applicable laws.

1.0 EXECUTIVE SUMMARY

[Intro paragraph with purpose and need.]

Proposed Action

Impacts of the Proposed Action

Alternatives to the Proposed Action

[Insert table(s) summarizing impacts by VEC]

2.0 TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY.....	4
2.0	TABLE OF CONTENTS.....	2-4
2.1	Tables.....	2-5
2.2	Figures.....	2-5
2.3	Maps.....	2-5
2.4	Acronyms.....	2-5
3.0	BACKGROUND AND PURPOSE.....	3-6
3.1	Background.....	3-6
3.2	Purpose and Need.....	3-6
3.3	Goals and Objectives.....	3-7
4.0	ALTERNATIVES UNDER CONSIDERATION.....	4-8
4.1	Alternative 1 - No Action.....	4-8
4.2	Alternative 2 – Authorize Possession of Farmed Atlantic Salmon in the EEZ.....	4-8
5.0	AFFECTED ENVIRONMENT.....	5-11
5.1	Introduction.....	5-11
5.2	Atlantic Salmon.....	5-11
5.2.1	Atlantic salmon stock status.....	5-11
5.2.2	Management of Atlantic salmon.....	5-11
5.2.2.1	State management.....	5-11
5.2.2.2	International management.....	5-13

5.2.2.3	Federal management.....	5-14
5.3	Finfish Aquaculture.....	5-15
5.3.1	Permitting Process for Finfish Aquaculture	5-15
5.3.2	What does a typical aquaculture operation look like?.....	5-18
5.3.3	Pathogens and related issues of concern	5-18
5.3.4	Monitoring, enforcement, and reporting	5-18
5.3.4.1	Existing fishery reporting and their relevance to aquaculture	5-18
5.4	Commercial Fisheries	5-18
5.5	Other Managed and Ecosystem Component Species.....	5-18
5.6	Other Protected Species	5-18
5.7	Physical Environment and Essential Fish Habitat	5-18
5.8	Human Communities	5-18

2.1 TABLES

Table 1. Purpose and need for Framework 1.	3-7
---	-----

2.2 FIGURES

Figure 1. Draft Environmental review and permitting process for federal waters finfish aquaculture projects in the Greater Atlantic Region.	5-17
--	------

2.3 MAPS

2.4 ACRONYMS

3.0 BACKGROUND AND PURPOSE

3.1 BACKGROUND

The need for Atlantic salmon (*Salmo salar*) conservation and management is a long-recognized issue. The New England coastal states manage salmon in their waters under various commissions, agreements, and programs established as early as the 1940s. The North Atlantic Salmon Conservation Organization (NASCO) is an international organization established by the [Convention for the Conservation of Salmon in the North Atlantic Ocean](#), in 1984. The Convention created protected areas free from targeted salmon fishing beyond 12 miles from the coast. NASCO standards especially the Williamsburg Resolution, are designed to minimize the impacts of salmon aquaculture, introductions, transfers, and transgenics on wild stocks (see <https://nasco.int/conservation/aquaculture-and-related-activities/>).

Despite state management and international cooperation under the 1984 Convention, a gap remained in terms of conservation and management measures between 3-12 miles from shore. Thus, the [1987 Council FMP](#) for Atlantic Salmon was developed to address this gap and support restoration of the U.S. Atlantic salmon resource. The FMP prohibits a directed or incidental fishery in federal waters (3-200 miles), and the primary measure in the FMP is a prohibition on possession of salmon in federal waters. The FMP complements Atlantic salmon conservation measures enacted by the states. Amendment 1 (1999) included a framework process to allow salmon aquaculture if “it is consistent with the goals and objectives of the Atlantic Salmon FMP” ([final rule](#)).

The possible need for Council action related to Atlantic salmon aquaculture arose because of the proposed Blue Water Fisheries Project. Blue Water Fisheries proposed a commercial-scale marine finfish aquaculture facility within federal waters ~ 7.5 miles ENE of Newburyport Harbor in water depths ~80 m. The planned facility would occupy two 265-acre sites; at each site 20 submersible net pens in 2 x 10 grid. At full operation, 40 pens would produce up to 25.6 million lb/yr of a combination of steelhead trout (*Oncorhynchus mykiss*) and Atlantic salmon. Lumpfish (*Cyclopterus lumpus*) is planned to be used to manage external parasites. The permitting process for this project is underway and an environmental impact statement (EIS) will be prepared, coordinated by NOAA Fisheries.

Authorizing possession of farmed Atlantic salmon within the U.S. EEZ through this framework would facilitate operation of salmon aquaculture projects, including the Blue Water Fisheries project. This Council action is intended to align with the timing of the Blue Water Fisheries permitting process including EIS development.

3.2 PURPOSE AND NEED

The purpose for this action is to authorize possession of farmed salmon consistent with the conservation objectives of the Atlantic Salmon Fishery Management Plan (FMP). The need for this action is to develop conservation and management measures that facilitate legal possession of aquaculture-raised Atlantic salmon within NEFMC jurisdiction (i.e., to exempt aquaculture raised salmon from the prohibition against possessing wild salmon in a manner that facilitates legal and efficient operations) (Table 1).

Table 1. Purpose and need for Framework 1.

Purpose	Need
To authorize possession of farmed salmon consistent with conservation objectives of the Atlantic Salmon FMP.	To develop conservation and management measures that facilitate legal possession of Atlantic salmon for aquaculture operations within NEFMC jurisdiction.
	To help ensure aquaculture Atlantic salmon remain exempt from the prohibition of possessing wild salmon based on <i>50 CFR 648.40</i> and <i>50 CFR 648.41</i> regulations.

3.3 GOALS AND OBJECTIVES

The Council identified the following goals and objectives for this action. (Red = adjustments made after the Council meeting)

Goals: Facilitate the implementation of Atlantic salmon aquaculture projects through the adjustment of the management measures prohibiting the possession and harvest of wild Atlantic salmon in the EEZ. If necessary, add or adjust management measures to ensure aquaculture projects in the EEZ are conducted in a manner consistent with the goals and objectives of the Atlantic Salmon Fishery Management Plan.

Objectives:

1. Clarify, add, or adjust management measures that differentiate authorized possession of aquaculture raised Atlantic salmon from unauthorized possession of wild caught Atlantic salmon in the EEZ. This will allow for the continued enforcement of the prohibition on the harvest and possession of wild caught Atlantic Salmon within the EEZ. **It also may provide aquaculture operations with measures designed to help ensure legal possession of aquaculture-raised Atlantic salmon.** Examples of possible adjustments or new management measure include:
 - a. Amending the FMP with additional language clarifying the terms of authorized possession,
 - b. Requiring aquaculture operations to obtain aquaculture operation and/or vessel specific authorizations from NMFS prior to possessing Atlantic salmon within the EEZ,
 - c. Requiring aquaculture operators to employ techniques that would allow cultured and wild Atlantic salmon to be differentiated (e.g., reporting, container tagging, notching, etc.) to aid in enforcement during vessel inspections, and/or
 - d. Developing protocols to ensure any aquaculture reared salmon are not landed by unauthorized entities.
2. Clarify, add, or adjust management measures to ensure that federal dealers are not restricted from purchasing, possessing, and/or selling Atlantic salmon harvested from authorized EEZ aquaculture operations. This **section would** include any dealer permitting requirements.
3. Identify specific concerns related to Atlantic salmon aquaculture in the EEZ that may require monitoring and develop management measures to address **enforcement or management** concerns.
4. Identify any specific concerns related to Atlantic salmon aquaculture in the EEZ that may require reporting to NMFS and develop measures, including reporting methods and frequency, to address **enforcement or management** concerns.
5. Avoid duplication of existing state and federal enforcement, monitoring, and reporting requirements and mechanisms, while meeting the Council’s conservation and management objectives for Atlantic salmon.

6. Ensure adjustments to the FMP are done in a manner that applies generally to Atlantic salmon aquaculture operations and allows for flexibility associated with future changes in enforcement, monitoring, or reporting technologies and methods.

4.0 ALTERNATIVES UNDER CONSIDERATION

4.1 ALTERNATIVE 1 - NO ACTION

Under Alternative 1 (No Action), possession of Atlantic salmon (wild and farmed) would remain prohibited in federal waters of the EEZ off the Northeastern U.S. Federal regulations associated with the Atlantic salmon FMP at 50 CFR §648.40 related to the prohibition on possession state that ‘evidence that such fish were harvested...from aquaculture enterprises will be sufficient to rebut this presumption’, i.e., that salmon were taken in violation of the regulations. Under No Action, the Council would not establish a specific authorization program for aquaculture operators to help ensure operational consistency with the Atlantic salmon FMP and would not establish any reporting or monitoring requirements. Aquaculture operators and related parties such as dealers may be required to individually ensure that they can provide evidence sufficient to demonstrate such fish were harvested or transferred from aquaculture enterprises.

Rationale: Given the possession prohibition and rebuttable presumption regulations, selecting Alternative 1 and taking no action could be sufficient for the operation of salmon aquaculture facilities in the EEZ. However, the alternative measures indicated below under Alternative 2 are expected to provide greater clarity for aquaculture operators and potentially to related parties, as well as providing more information for the Council, so that the Council can be sure that the conservation objectives of the FMP are being considered relative to aquaculture project authorization and operations.

4.2 ALTERNATIVE 2 – AUTHORIZE POSSESSION OF FARMED ATLANTIC SALMON IN THE EEZ

Red = PDT continues to evaluate these issues

Under Alternative 2, possession of farmed salmon would be explicitly authorized consistent with the conservation objectives of the Atlantic Salmon FMP, requiring adherence to certain reporting and enforcement provisions outlined below. These provisions include authorization for vessels that would be used to transport Atlantic salmon within the EEZ and vessel and dealer reporting requirements. The reporting requirements would enable NOAA Fisheries and the Council to track harvest and landings of farm-raised Atlantic salmon such that there is accounting of farmed salmon.

Enforcement

The following measures are proposed to help ensure that NOAA Office of Law Enforcement and partner agencies have the information they need to evaluate whether harvested salmon are from an aquaculture operation, and are not wild capture:

- All vessel operators associated with an aquaculture operation that need to possess salmon in the EEZ will be required to obtain a Letter of Authorization from NOAA Fisheries on an annual basis. The LOA should include the following information:
 - o Name of the aquaculture company,
 - o Names and permit numbers of all vessels associated with the operation that might have salmon on board,
 - o Location of the aquaculture operation (offshore facilities),
 - o Permit numbers for the aquaculture operation,

- Source of the farmed salmon,
- Other species being cultured that might also be onboard the vessel,
- Point of contact for the project.
- Vessel operators would be required to transfer fish in a manner consistent with this authorization, i.e., containers need to be individually tagged.
- While servicing aquaculture operations, vessels may not fish for or possess any other species, other than those identified on the LOA.

Fishing vessels not associated with an aquaculture operation should return any Atlantic salmon retained in their gear to the water. This includes any salmon that may have escaped from an authorized aquaculture operation, or any wild Atlantic salmon.

Reporting

The following measures are proposed to help NOAA Fisheries and the Council track harvest and landings of farm-raised Atlantic salmon.

- Vessel operators must submit an electronic Vessel Trip Report (VTR) in accordance with regulations at 50 CFR §648.7(b)(1) when salmon are transferred from the aquaculture farm to shore, i.e., per trip.
 - An Atlantic salmon vessel permit may need to be created.
- Federally permitted dealers purchasing Atlantic salmon must submit reports in accordance with regulations at 50 CFR §648.7(a)(1), i.e., twice weekly.
 - An Atlantic salmon dealer permit may need to be created.

Monitoring exemptions

Authorized Atlantic salmon aquaculture vessels are exempt from Standardized Bycatch Reporting Methodology (SBRM) requirements. If an authorized Atlantic salmon aquaculture vessel uses a Vessel Monitoring System (VMS) to comply with other federal regulations, the vessels may declare out of the fishery when servicing the aquaculture facility, provided that no fishing gear or other species are on board.

Application of measures

These measures would apply to any future, federally permitted Atlantic salmon aquaculture project in the EEZ.

Rationale: Atlantic salmon was last assessed by the U.S. Atlantic Salmon Assessment Committee in 2020 and is considered overfished. Spawner returns to riverine habitats remain at low levels. The Council’s Atlantic Salmon Fishery Management Plan prohibits directed and incidental take and possession of Atlantic salmon in federal waters to support restoration of the U.S. Atlantic salmon resource. In addition to the Council’s conservation objectives, the Gulf of Maine distinct population segment of Atlantic salmon is listed as endangered, and thus protected under the Endangered Species Act.

Authorizing possession of farmed Atlantic salmon within the U.S. EEZ will facilitate operation of salmon aquaculture projects. Aquaculture operators will know what the administrative requirements associated with possession of Atlantic salmon would be and will not need to seek individual authorizations to ensure compliance with the information requirements related to salmon possession at 50 CFR §648.40.

In addition, because federal dealers cannot buy products prohibited under the Magnuson Stevens Act, allowing possession at sea via this framework will allow dealers to buy farmed salmon.

Federally-permitted Atlantic salmon aquaculture projects are required to adhere to NASCO standards, which help to ensure that salmon harvest from aquaculture projects would not compromise restoration of wild stocks. Of particular relevance is NASCO’s [Williamsburg Resolution](#), which aims to minimize the impacts of salmon aquaculture, introductions, transfers, and transgenics on wild stocks. By authorizing

salmon aquaculture consistent with the salmon FMP conservation objectives and referencing the NASCO standards, the alternative is likely to minimize impacts of aquaculture projects on the stock status of the species.

The objectives for this action indicate the Council's intent to consider the possible need for at-sea monitoring measures. Such measures do not seem necessary for inclusion as part of this framework's authorization of salmon aquaculture. In terms of SBRM requirements, finfish bycatch is not anticipated to result from these operations, and protected species monitoring is part of permit requirements of other federal agencies. Thus, vessels operating under the salmon aquaculture authorization would not be required to carry at-sea observers or monitors. Exemption from VMS requirements is also appropriate. The Councils and NOAA do not regulate the use of Automatic Information Systems (AIS), therefore, vessels operating under the salmon aquaculture authorization would not be required to use an approved AIS as described in 33 CFR §164 solely to comply with this framework. The authorized vessels may be required to have an AIS Class A or Class B device to comply with other federal regulations.

VTR and dealer reporting are recommended under Alternative 2. Annual reporting requirements were also considered, however reporting criteria/requirements are included within other federal agencies' permit conditions, and thus are not further considered here. This includes reporting any fish escapement events (near time or close, as required by EPA), any water quality events in exceedance of NPDES thresholds (as required by EPA), information about the source of Atlantic salmon, methods used by the operator to allow the salmon reared at the facility to be distinguished from wild Atlantic salmon, any enforcement violations, etc.

The measures included under Alternative 2 are not intended to duplicate the reporting requirements and permit conditions that will be required from federal agencies for individually permitted aquaculture projects (see Section 5.2.3 for information about federal permitting requirements). More specifically, the concerns and considerations not addressed through this framework action will be addressed via project pre-application phase, essential fish habitat, and other consultations addressed through other federal agency permit requirements. The Council will use the 2020 [Aquaculture Policy](#) as the basis to articulate the Council's concerns about potential impacts of aquaculture. These include consultations and coordination on specific projects and on regional initiatives (e.g., aquaculture opportunity area development) with NOAA Fisheries, Environmental Protection Agency (EPA), the Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), and others. Issues include siting and spatial planning, habitat and fisheries impacts, water quality, genetics/source of farmed fish, emergency response plans, and other issues as they arise.

5.0 AFFECTED ENVIRONMENT

5.1 INTRODUCTION

The Affected Environment is described in this action based on valued ecosystem components (VECs), including Atlantic salmon, the focus of this FMP, other managed and ecosystem component species, protected species, physical environment and essential fish habitat (EFH), and human communities. VECs represent the resources, areas and human communities that may be affected by the alternatives under consideration in this amendment. VECs are the focus since they are the “place” where the impacts of management actions occur.

5.2 ATLANTIC SALMON

5.2.1 Atlantic salmon stock status

Atlantic salmon is listed as endangered under the Endangered Species Act (ESA). NOAA Fisheries and the U.S. Fish and Wildlife Service listed the Gulf of Maine distinct population segment (DPS) of Atlantic Salmon as endangered in 2000, with a recovery plan subsequently finalized in 2005. Additional fish in the Penobscot, Kennebec, and Androscoggin rivers and tributaries were added to the DPS in 2009. In 2015, NOAA Fisheries created the Species in the Spotlight program designed to enhance rebuilding efforts for several species including Atlantic salmon. The 2020 stock assessment determined that Atlantic salmon remains overfished and at historically low levels.

The U.S. Atlantic Salmon Assessment Committee, comprised of state and federal biologists, monitors the population status of Atlantic salmon and reports their findings on number of adult returns annually. This is done by counting the number of adults that return to spawn directly at the traps and weirs or using nest surveys and modeling. In 2020, the assessment found that there were 1,715 documented and estimated returns to US rivers, most of which were to rivers and tributaries that are part of the Gulf of Maine DPS. Additional information can be found within the Annual Report of the U.S. Atlantic Salmon Assessment Committee: <https://www.fisheries.noaa.gov/resource/document/atlantic-salmon-assessments>.

5.2.2 Management of Atlantic salmon

5.2.2.1 State management

Aquaculture projects being proposed in the EEZ are only required to obtain the necessary federal permits, however, states bordering the proposed project that have a coastal zone management program can request to review federal permit applications via the Coastal Zone Management Act (CZMA) if the state(s) can demonstrate the project could impact coastal waters (land, water use, natural resource). This section briefly describes how states manage aquaculture activities for aquaculture activities more broadly and salmon, both farmed and wild caught.

The New England coastal states manage salmon in their waters under various commissions, agreements, and programs established as early as the 1940s.

Maine

- Require: 1) an environmental characterization describing the bottom characteristics, resident flora and fauna, tide levels, current speed and direction and 2) an environmental baseline to monitor

the physical and ecological effects of aquaculture on sediments, marine organisms and water quality (for aquaculture leases with discharge of feeds, therapeutants, etc. into state waters)

- Require public hearings and/or a public comment period depending on whether the lease proposal is standard or experimental, respectively.
- Maine Department of Marine Resources evaluates the lease proposal by impacts to navigation, commercial and recreational fishing, marine flora and fauna, etc.
- Since the 1970s, salmon have been grown in open net pens; salmon farmers worked with state and federal regulators and others to develop best management practices for operational and monitoring requirements to minimize environmental impact (vaccine use, integrated pest management, minimal to non-existent use of antibiotics and growth enhancers, feed efficiency improvements, thermal baths replaced chemical treatments for sea lice, other preventative treatments for parasites, adding invertebrates and seaweeds to net pens to reduce environmental impacts, etc.)
- Maine Atlantic Salmon Restoration and Conservation Program – an in-lieu fee compensation program for road and bridge construction projects that have unavoidable impacts to salmon and their habitat in stream; permit applicants can purchase credits instead of doing mitigation for which the \$ would be used to implement mitigation projects for salmon
- Harvest data includes annual aquaculture harvest information by total harvest value and by species
- Since 2004, finfish harvest totals submitted by leaseholders annually and/or monthly inventory reports required by Maine
- Since 2011, farmed salmon production data cannot be reported because of DMR’s confidentiality statutes
- Dealers have endorsements to buy certain species (confirm how this works)

New Hampshire

- NH Department of Fish and Game conducts a site assessment to characterize benthic substrate, fish, aquatic plants, tidal information and flow rate, recreational and commercial fishing and other activities occurring in the area

Massachusetts

- The MA Division of Marine Fisheries and coastal municipalities manage aquaculture; license issuance varies by municipality; MA DMF requires an aquaculture permit and that any aquaculture be >25’ from eelgrass and not contain significant numbers of shellfish
- MA DMF conducts a site assessment to characterize benthic substrate, fish habitats, submerged aquatic vegetation, and other activities occurring in the area including recreational and commercial fishing
- No commercial scale finfish operations in MA waters; shellfish aquaculture primarily

Rhode Island

- The RI Coastal Resources Management Council is the body responsible for permitting aquaculture in RI waters; other groups provide input to the RI CRMC though including towns, harbor commissions, the RI Fisheries Management Council, Department of Environmental Management, and the public
- Conducts a site assessment for presence of eelgrass and submerged aquatic vegetation and determine shellfish density in the proposed lease area
- Required to have an aquaculture permit and a dealer permit for shellfish
- Finfish and land-based aquaculture are not legal in RI

Connecticut

- Aquaculture leasing done by the municipalities for smaller town-managed waters and the state for larger shellfish leases (Department of Agriculture, Bureau of Aquaculture); CT DA/BA consults with CT Department of Energy and Environmental Protection, USACE, and local shellfish commissions (when projects are in town waters); state is responsible for the EIS and to ensure all aquaculture projects are consistent with any shellfish and harbor management plans
- Any aquaculture must be >25' from submerged aquatic vegetation and salt marsh
- Shellfish and seaweed primarily

5.2.2.2 International management

NASCO The North Atlantic Salmon Conservation Organization ([NASCO](#)) is an international organization established by the [Convention for the Conservation of Salmon in the North Atlantic Ocean](#), in 1984. The Convention created protected areas free from targeted salmon fishing beyond 12 miles from the coast. The Williamsburg Resolution is intended to minimize impacts from aquaculture, introductions and transfers, and transgenics on wild salmon stocks. The resolution was adopted in 2003, and amended in 2004 and 2006. Aquaculture projects located within waters regulated by the parties to the Convention are subject to the standards. The full set of standards and annexes and appendices are available here: <https://nasco.int/wp-content/uploads/2020/02/williamsburg.pdf>. The resolution recognizes the need for a cooperative, precautionary approach, and recognizes both the socio-economic benefits and the possible adverse impacts of salmon aquaculture. Articles are summarized below:

1. Parties shall cooperate.
2. Definitions are provided in Annex 1.
3. Parties shall require project proponents to provide information to demonstrate that projects will not have significant adverse impacts on wild salmon stocks.
4. Risk assessment methods should be developed and applied.
5. Measures shall be taken to minimize impacts associated with farming or ranching salmon, or salmon enhancement activities on wild salmon. Parties shall minimize risks of disease and parasite transmission on wild salmon.
6. Reproductively viable, non-indigenous salmonids or their gametes should not be introduced.
7. Stocking transgenic salmonids should be avoided.
8. Parties should develop river classification and zoning.
9. Mitigation should occur when adverse impacts are identified.
10. In some cases, full implementation may require stronger measures. Approaches should be adaptable to new technologies.
11. Parties should support research and data collection on these issues.
12. Educational information on risks should be developed and distributed.

Annexes and appendices address the following issues:

- Annex 2, General measures, describes siting and operation and aquaculture activities, control of diseases and parasites, and establishment of gene banks.
- Annex 3, Containment, describes siting, equipment, operations, reporting, and action planning.
- Annex 4, Stocking Guidelines, describes protocols for releasing salmon for enhancement, mitigation, restoration, or ranching. Some guidelines are specific to class of river, class referring to the extent to which salmon and their habitats have been affected by human activities.
- Annex 5, Transgenic Salmonids, aims to carefully examine and as needed constrain any use of transgenic fish.
- Annex 6 describes river classification and zoning systems.
- Annex 7 outlines research and data collection priorities.
- Appendix 1 describes North American protocols. Rivers and coastal waters off the New England states are located in Zone III. The protocols relate to which strains of salmon can be used and

requirements for transfer of fish, and some are specific to each zone. Detailed guidelines for approval of introductions and transfers are also provided.

- Appendix 2 is a Memorandum of Understanding between Canada and the United States related to consulting on introductions and transfers that may affect both parties.

5.2.2.3 Federal management

The Atlantic Salmon FMP prohibits a directed or incidental fishery in federal waters (3-200 miles), and the primary measure in the FMP is a prohibition on possession of salmon in federal waters. The FMP complements Atlantic salmon conservation measures enacted by the states.

- Management objective: Complement restoration and management programs of the states and the North Atlantic Salmon Conservation Organization (NASCO)
- Management unit: All anadromous salmonids of US origin in the N. Atlantic throughout their migratory range, except when in the waters of another nation

Amendments 1 (1999) and 3 (2018) designated and subsequently updated essential fish habitat and habitat area of particular concern. Amendment 1 also allows for salmon aquaculture if “action is consistent with the goals and objectives of the Atlantic Salmon FMP” ([final rule](#)).

Regulations based on the Council’s FMP are available [here](#). Given their brevity, they are reproduced in their entirety below. Note §648.40 prohibiting possession, as well as the §648.41(b) listing the types of aquaculture measures that can be considered in a framework action.

§648.40 – Prohibition on possession

- (a) **Incidental catch.** All Atlantic salmon caught incidental to a directed fishery for other species in the EEZ must be released in such a manner as to insure maximum probability of survival.
- (b) **Presumption.** The possession of Atlantic salmon is prima facie evidence that such Atlantic salmon were taken in violation of this regulation. Evidence that such fish were harvested in state waters, or from foreign waters, or from aquaculture enterprises, will be sufficient to rebut the presumption. This presumption does not apply to fish being sorted on deck.

§648.41 – Framework specifications

- (a) **Within season management action.** The New England Fishery Management Council (NEFMC) may, at any time, initiate action to implement, add to or adjust Atlantic salmon management measures to:
 - (1) Allow for Atlantic salmon aquaculture projects in the EEZ, provided such an action is consistent with the goals and objectives of the Atlantic Salmon FMP; and
 - (2) Make changes to the SBRM, including the CV-based performance standard, the means by which discard data are collected/obtained, fishery stratification, the process for prioritizing observer sea-day allocations, reports, and/or industry-funded observer or observer set aside programs.
- (b) **Framework process.** After initiation of an action to implement, add to or adjust an Atlantic salmon management measure to allow for an Atlantic salmon aquaculture project in the EEZ, the NEFMC shall develop and analyze Atlantic salmon management measures to allow for Atlantic salmon aquaculture projects in the EEZ over the span of at least two NEFMC meetings. The NEFMC shall provide the public with advance notice of the availability of both the proposals and the analysis and opportunity to comment on them prior to and at the second NEFMC meeting. The NEFMC’s recommendation on aquaculture management measures must come from one or more of the following categories: minimum fish sizes, gear restrictions, minimum mesh sizes, possession limits, tagging requirements, monitoring

requirements, reporting requirements, permit restrictions, area closures, establishment of special management areas or zones and any other management measures currently included in the FMP.

- (c) **NEFMC recommendation.** After developing Atlantic salmon management measures and receiving public testimony, the NEFMC shall make a recommendation to NMFS. The NEFMC's recommendation must include supporting rationale and, if management measures are recommended, an analysis of impacts and a recommendation to NMFS on whether to issue the management measures as a final rule. If NMFS concurs with the NEFMC's recommendation to issue the management measures as a final rule, the NEFMC must consider at least the following factors and provide support and analysis for each factor considered:
- (1) Whether the availability of data on which the recommended management measures are based allows for adequate time to publish a proposed rule, and whether regulations have to be in place for an entire harvest/fishing season.
 - (2) Whether there has been adequate notice and opportunity for participation by the public and members of the affected industry in the development of the NEFMC's recommended management measures.
 - (3) Whether there is an immediate need to protect the resource.
 - (4) Whether there will be a continuing evaluation of measures adopted following their implementation as a final rule.
- (d) **NMFS action.** If the NEFMC's recommendation includes implementation of management measures and, after reviewing the NEFMC's recommendation and supporting information:
- (1) NMFS concurs with the NEFMC's recommended management measures and determines that the recommended measures should be issued as a final rule based on the factors specified in paragraph (c)(1) through (4) of this section, the measures will be issued as a final rule in the Federal Register.
 - (2) NMFS concurs with the NEFMC's recommendation and determines that the recommended management measures should be published first as a proposed rule, the measures will be published as a proposed rule in the FEDERAL REGISTER. After additional public comment, if NMFS concurs with the NEFMC recommendation, the measures will be issued as a final rule in the Federal Register.
 - (3) NMFS does not concur, the NEFMC will be notified in writing of the reasons for the non-concurrence.

5.3 FINFISH AQUACULTURE

5.3.1 Permitting Process for Finfish Aquaculture

Finfish aquaculture permitting¹ is a complex process that involves multiple agencies. The permitting process addressed an array of environmental, social, and economic issues. The process is summarized in the [background document](#) prepared to complement the Council's [Aquaculture Policy](#). The 2022 [Guide to Permitting Marine Aquaculture in the United States](#) is also a useful resource. Applicable laws include the Endangered Species Act (ESA), Magnuson Stevens Act (MSA), Clean Water Act (CWA), Rivers and Harbors Act (RHA), National Historic Preservation Act, Fish and Wildlife Coordination Act, National

¹ Shellfish or seaweed aquaculture permitting has slightly different requirements; this document focuses on finfish requirements given Atlantic salmon is the focal species for this action.

Marine Sanctuaries Act, Marine Mammal Protection Act (MMPA), National Environmental Policy Act (NEPA), and Coastal Zone Management Act (CZMA).

The following describes the primary roles and responsibilities of federal agencies involved in the aquaculture permitting process including permit types, permit terms/conditions, and compliance mechanisms, generally summarized in Figure 1.

U.S. Army Corps of Engineers

- Issues a River and Harbors Act Section 10 permit to authorize aquaculture farm structures in the water that could impact navigation
- Section 404 of the Clean Water Act also requires a permit for placement of fill including shells

U.S. Coast Guard

- Safety issues? Marking offshore facilities – nav safety risk assessment?

US Food and Drug Administration and US Department of Agriculture

- Provides oversight on and regulations for use of drugs, pesticides, biologics, and animal health considerations for cultured aquatic animals

-

EPA

- Under NEPA, and EIS would be required.
- Issues a Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit for Concentrated Aquatic Animal Production Facilities (CAAP) for discharge of pollutants including feed, nutrients, pharmaceuticals, metabolic waste, etc. Even cultured fish could be considered a pollutant as they could be considered “biological materials” if inadvertently released. CAAPs include both onshore and open water aquaculture facilities.
- As part of the NPDES permitting process, EPA must conduct an Ocean Discharge Criteria evaluation to assess the potential for the facility's discharge to cause unreasonable degradation of the marine environment. Utilizes site and project-specific data to predict potential environmental impacts. In addition, the EPA must conduct consultations for its permitting actions with NOAA Fisheries under Section 7(a) of the ESA and the 1996 Amendments to the Magnuson-Stevens Fishery Conservation and Management Act.

U.S. Fish and Wildlife Service:

- Under ESA Section 7 for listed species, adverse modification to designated critical habitat, US Fish and Wildlife (and/or NOAA Fisheries) conducts a formal consultation
- Under the Fish and Wildlife Coordination Act, US Fish and Wildlife conducts a consultation that may result in project modification and/or mitigation measures to reduce effects on fish and/or wildlife resources.

NOAA Fisheries:

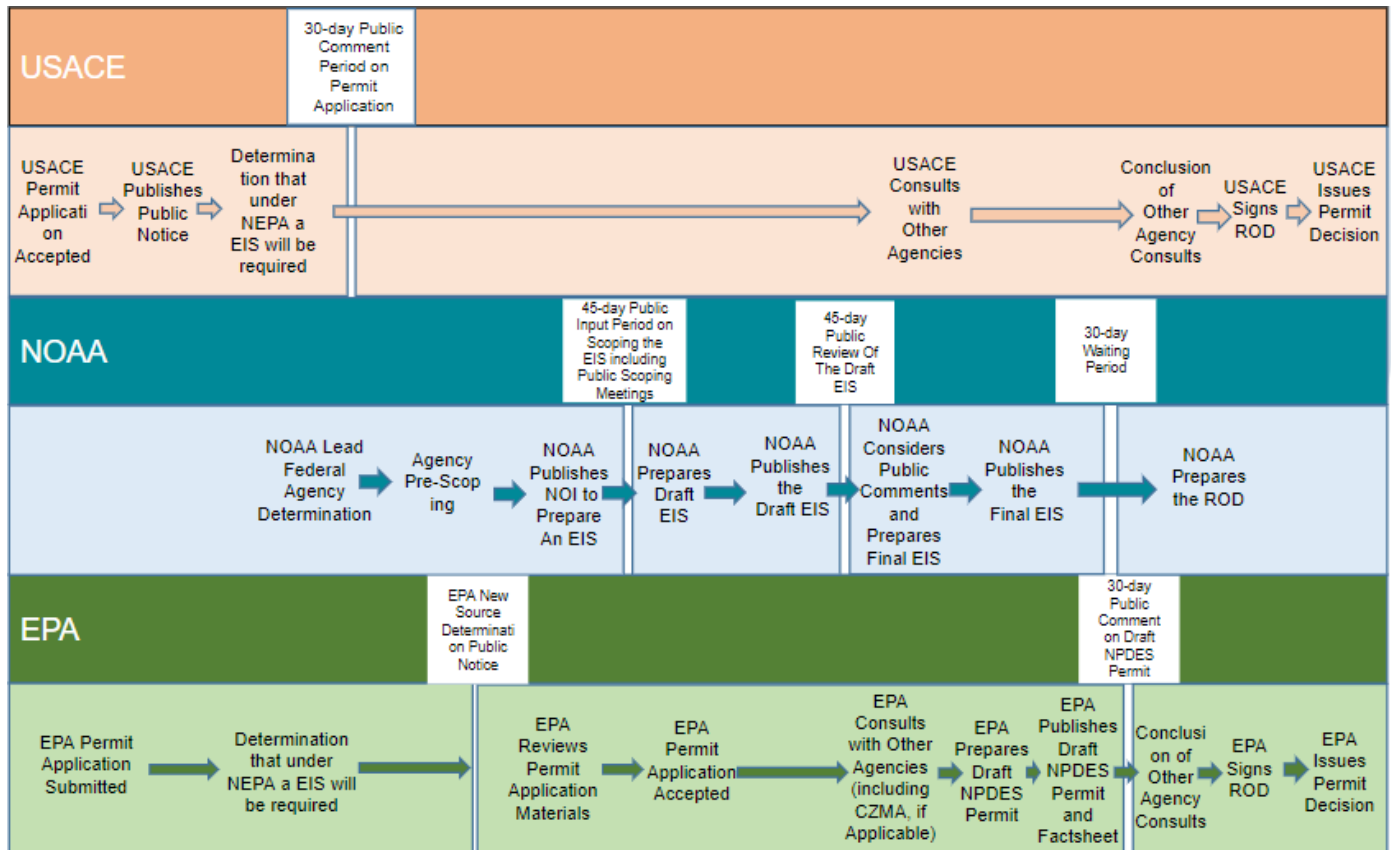
- Under NEPA, NOAA leads development of an Environmental Impact Statement (EIS) for federal waters aquaculture projects where two or more agencies are involved in permitting.
- Under the MSA:
 - o NOAA conducts Essential Fish Habitat (EFH) consultations to provide conservation recommendations to avoid, reduce, offset any adverse effects.

- Issues an EFP under 50 CFR 600.745 to authorize the otherwise prohibited harvest of a species managed under an FMP for aquaculture
- Under ESA Section 7 for listed species, adverse modification to designated critical habitat, NOAA (and/or US Fish and Wildlife) conducts a formal and informal consultation, depending on the level of impact.
- Under the Fish and Wildlife Coordination Act, NOAA Fisheries conducts a consultation that may result in project modification and/or mitigation measures to reduce effects on fish and/or wildlife resources.
- Other acts to call out here? National Historic Preservation Act, CZM, National Aquaculture Health Plan & Standards, National Marine Sanctuary Resources Act, etc.??

New England Fishery Management Council:

- Can participate as a member of the public or any interested party via public comment opportunities available within the NEPA process and elsewhere in the permitting process. Formal public input and comment opportunities occur during the federal permitting and authorization process, not necessarily during the state agency review process (given the overlap between federal and state permitting)
- Collaborate with NOAA Fisheries on issues of shared concern, such as protection of EFH or if a project proposes culturing a Council-managed species such as Atlantic salmon.

Figure 1. Draft Environmental review and permitting process for federal waters finfish aquaculture projects in the Greater Atlantic Region.



5.3.2 What does a typical aquaculture operation look like?

5.3.3 Pathogens and related issues of concern

- Addressed through NPDES

5.3.4 Monitoring, enforcement, and reporting

- Want to describe existing state requirements, what will be part of federal permitting, how it fits with our framework
- What are the permit conditions, and why do they exist? How do they promote conservation of wild Atlantic salmon?
- EPA has reporting and monitoring requirements for its NPDES permit to ensure permit limits and conditions are being met.

5.3.4.1 Existing fishery reporting and their relevance to aquaculture

5.4 COMMERCIAL FISHERIES

5.5 OTHER MANAGED AND ECOSYSTEM COMPONENT SPECIES

5.6 OTHER PROTECTED SPECIES

5.7 PHYSICAL ENVIRONMENT AND ESSENTIAL FISH HABITAT

5.8 HUMAN COMMUNITIES