

Atlantic Salmon Fishery Management Plan

Framework Adjustment 1

Including an Environmental Assessment and
Regulatory Flexibility Analysis



DRAFT

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New England Fishery Management Council
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FRAMEWORK ADJUSTMENT 1 TO THE ATLANTIC SALMON FISHERY MANAGEMENT PLAN

Proposed Action: TBD

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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]

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2.0 BACKGROUND AND PURPOSE

2.1 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.

2.2 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 cultured Atlantic salmon remain exempt from the prohibition of possessing wild salmon based on 50 CFR 648.40 and 50 CFR 648.41 regulations.

2.3 GOALS AND OBJECTIVES

The Council identified the following goals and objectives for this action.

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 farmed 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.

3.0 ALTERNATIVES UNDER CONSIDERATION

3.1 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.

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

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. As outlined below, this would include a requirement that operators of each permitted vessel 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, including landings disposition. Regarding dealer reporting, federally permitted dealers purchasing Atlantic salmon could be required to submit reports in accordance with regulations at 50 CFR §648.7(a)(1), i.e., twice weekly.

Enforcement

Regarding 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. Enforcement agencies could request the LOA from any vessel operators with Atlantic salmon on board to confirm authorized possession of farmed fish. 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),

- Permit numbers for the aquaculture operation,
- Source of the farmed salmon
- Other species being farmed 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

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

- During implementation of this framework., enforcement agencies could confirm possession of the Atlantic salmon permit as a way to enforce authorized possession of farmed fish by the regulated entities, i.e., the vessel owners and the authorized federal dealers.
- 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.
- Federally permitted dealers purchasing Atlantic salmon must submit reports in accordance with regulations at 50 CFR §648.7(a)(1), i.e., twice weekly.

Exemptions from vessel monitoring for authorized vessels

Authorized Atlantic salmon aquaculture vessels are exempt from Standardized Bycatch Reporting Monitoring (SBRM) requirements. If an authorized Atlantic salmon aquaculture vessel uses 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.

Because this alternative authorizes salmon possession only for fish farmed under NASCO standards, these measures 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.

Monitoring measures were initially considered but deemed not 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.

Annual reporting requirements were also considered, however reporting criteria/requirements are included within other federal agencies permit conditions, and thus 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 4.3 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.

4.0 AFFECTED ENVIRONMENT

4.1 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.

4.2 ATLANTIC SALMON

4.2.1 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>.

4.2.2 Management of Atlantic salmon

4.2.2.1 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.

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.
- Protective measures to minimize risk to wild salmon in Maine:
 - o Annual third-party audits to validate Containment Management System (CMS) plan.
 - o Annual reviews from state and federal agencies to monitor the protective measures in place per permit requirements (compliance measure) (USACE Special conditions to be included in the RHA Section 10 Permit document)
- 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 statues (too few companies, landings, etc.??)
- Dealers have endorsements to buy certain species??

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

4.2.2.2 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.

4.2.2.3 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 the Council to take action authorizing salmon aquaculture projects if “such an 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.

4.3 FINFISH AQUACULTURE

4.3.1 Permitting Process for Finfish Aquaculture

Finfish aquaculture permitting¹ is a complex process that involves multiple agencies. The permitting process addresses 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

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.

Harbors Act (RHA), National Historic Preservation Act, Fish and Wildlife Coordination Act (FWCA), National Marine Sanctuaries Act (NMSA), Marine Mammal Protection Act (MMPA), National Environmental Policy Act (NEPA), and Coastal Zone Management Act (CZMA).

This sections 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.

Role of U.S. Army Corps of Engineers (USACE):

- USACE issues an RHA Section 10 permit to authorize aquaculture farm structures in the water that could impact navigation. The Section 10 permit has ‘special conditions’ to reduce the impacts of commercial salmon aquaculture on wild salmon stocks:
 - *Genetic restrictions* – North American origin based on each fish’s DNA in accordance with the Microsatellite Protocol, genetic evaluation submitted to US Fish and Wildlife Service every January 1st, confirmation from USFWS that the stock is of North American origin before transferring any eggs (documentation includes hatchery info, testing results, chain of custody of fish)
 - *Prohibition of transgenic salmonids* – transgenic means that the salmon contains DNA from an unrelated organism that has been artificially introduced. Transgenic fish are not allowed to be used.
 - *Alternative salmonid species* – if stocking other salmonid species besides Atlantic salmon (e.g., steelhead), need certification from the Maine Fish Health Technical Committee and the Maine Department of Marine Resources to show compliance with disease management standards. Written approval required from USACE.
 - *Containment* – Requirement to have a marine containment management system (CMS) to prevent accidental/consequential fish escapement. The CMS plan includes a site plan/schematic; a management/auditing methods to describe/address inventory control procedures, predator control procedures, escape response procedures, unusual event management, severe weather procedures, and training; and a facility-specific list of critical control points where escapes could potentially occur (including specific location, control mechanisms, critical limits, monitoring procedures, appropriate corrective actions, verification procedures for monitoring, and a record keeping system).
 - CMS audited 1+ x/year and within 30 days of a reported escape (> 50 fish that are 2 kg or larger per fish and/or 25% reduction in cage biomass) – audit report includes any corrective action plan and other details
 - Personnel at CMS facility properly trained
 - Maintain complete records, etc. for CMS
 - If corrective actions are not implemented, all pens and fish will be removed from the water within 30 days
 - *Escape reporting* – permittees report any known/suspected escape of > 50 fish (with avg. weight of 2 kg or larger per fish) and/or a 25% reduction in biomass within 24 hours
 - *Marking* – Farmed salmon marked to designate they are commercially-reared origin in case of escapement; includes a QA/QC program to monitor compliance and a review/description of marking methods approved by USACE. If escaped fish are found within range of GOM Distinct Population Segment, then a third-party audit will be done
 - *Inspections* – USACE and USFWS allowed to inspect work, take fish samples to monitor compliance of genetic structure, transgenics, and marking
 - *Boundary markers* – for around lease area, structures in accordance with Coast Guard regs
 - *Recreational and commercial boating* – may occur in project area except in net pen areas
 - *Annual environmental monitoring data* provided to NMFS

- *Antibiotic chemicals* applied if approved by US Food and Drug Administration (FDA); prophylactic use of antibiotics prohibited
 - *No discharge of pollutants* from facility other than fish excrement, ammonia excretions, unconsumed food, or FDA approved medications
 - *Mortalities, feed bags, fish food/waste materials* excluding fish excrements/unconsumed food removed to shore
 - *Requirement to report incidental take of marine mammals* allowed under MMPA
 - *Requirement from USACE to approve raising other species of fish in pens not covered under the current permit*
 - *Permit may be modified/suspended/revoked* if degradation of environmental resources including any federal and state water quality standards (based on review of environmental monitoring data) occurs
 - *If future operations by the United States require removal/relocation/alteration of farm (ex. Navigation)* then operator is required to do so without claim to the U.S.
- Section 404 of the CWA also requires a permit for placement of fill, including shells

Role of EPA:

- Under NEPA, an 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 farmed 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. Common NPDES requirements, best management practices, and/or performance standards include:
 - Quality Assurance Plans or Standard Operating Procedures
 - Operations and Maintenance Plan
 - Containment Management System Plan
 - Feed Management Plan
 - Materials Storage Plan
 - Maintenance Plan
 - Training Plan
 - Waste collection/disposal Plan
 - Transport/harvest discharge Plan
- 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.

Role of NOAA Fisheries:

- Under EO 13921 (May 7, 2020), 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:

- 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 FWCA, NOAA Fisheries conducts a consultation that may result in project modification and/or mitigation measures to reduce effects on fish and/or wildlife resources.

Role of 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.

Role of U.S. Coast Guard (USCG)

- Ensure safe navigation
- Authorize private aids to navigation

Role of US Food and Drug Administration:

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

Role of US Department of Agriculture:

- Through Animal and Plant Health Inspection Service Veterinary Services (APHIS VS) consult on prevention, detection, control, and eradication of animal diseases
- Consultation occurs prior to stocking any animals in marine federal waters

Role of Department of Defense:

- Through Military Aviation and Installation Assurance Siting Clearinghouse, consult on conflicts with military readiness operations

Role of the 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 farming a Council-managed species such as Atlantic salmon.

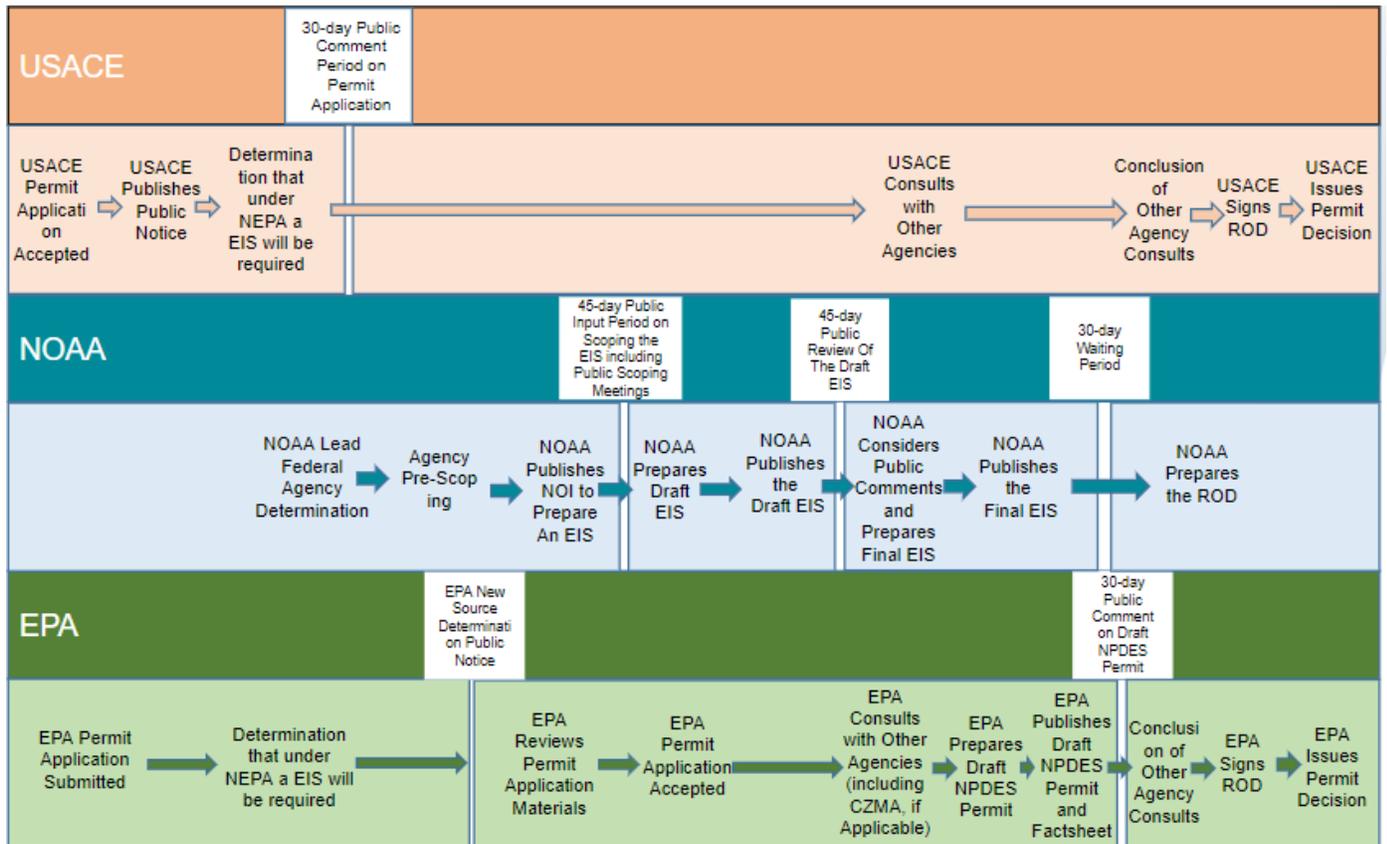
Table 2. Permitting considerations for aquaculture projects addressed through this framework action that are not directly addressed in other federal agency permitting processes.

Issues addressed through this FW	Framework requirements	Relevant to NEMFC Atlantic salmon framework?
<i>Enforcement</i>	Letter of Authorization (LOA) for aquaculture companies	Yes, to ensure Office of Law Enforcement would be able to confirm authorized possession of farmed fish (versus wild)
<i>Reporting</i>	Atlantic salmon permit for authorized vessel owners and federal dealers	Yes, to ensure Office of Law Enforcement would be able to confirm authorized possession of farmed fish (versus wild) by regulated entities
	Electronic Vessel Trip Report (eVTR)	Yes, in accordance with current regulations mandating VTRs for each federally managed fishery trip
	Federal dealer reports (2x/week)	Yes, in accordance with current regulations mandating federal dealer reports 2x/week
<i>Exemptions</i>	SBRM requirement	Requirement to carry at-sea observers/monitors waived for vessel operating under Atlantic salmon permit and aquaculture LOA
	VMS requirement	If authorized salmon aquaculture vessel uses VMS to comply with other federal fisheries' regulations, then vessel may declare out of fishery when servicing aquaculture facility

Table 3. Permitting considerations for aquaculture projects addressed through other federal agencies permitting. Note that these are common requirements whereby other parameters can be added as a result of agency consultations and public input.

General Consideration	Specific Consideration	Agencies involved	Via which permit?
<i>Reporting*</i>	Drug/chemical use	EPA, USACE	NPDES, RHA Section 10 special conditions
	Escapement	EPA, USACE	NPDES, RHA Section 10 special conditions
	Production	EPA	NPDES
	Stocking (source, quantities, sizes)	EPA, USACE	NPDES, RHA Section 10 special conditions
	Marking	USACE	RHA Section 10 special conditions
	Discharge monitoring	EPA, USACE	NPDES, RHA Section 10 special conditions
	Protected species interactions	EPA, USACE	NPDES, RHA Section 10 special conditions
<i>Monitoring</i>	Environmental monitoring (nutrients, solids, dissolved oxygen, pH, water temperature, etc.)	EPA, USACE	NPDES, RHA Section 10 special conditions
	Drugs and chemicals	EPA, USACE	NPDES, RHA Section 10 special conditions
	Metals	EPA	NPDES
	Sediment samples	EPA	NPDES
	Benthic assessments	EPA, USACE	NPDES, RHA Section 10
	Video and/or photo surveys	EPA	NPDES
<i>Compliance, Inspections, Audits</i>	Discharge monitoring review	EPA	NPDES
	Marking of farmed salmon (QA/QC procedures)	USACE	RHA Section 10 special conditions
	Limit violations, frequency, etc.	EPA, USACE	NPDES, RHA Section 10 special conditions
	Compliance with all permit conditions	EPA, USACE	NPDES, RHA Section 10 special conditions
	Effluent limits, monitoring	EPA	NPDES
	Best Management Plan	EPA, USACE	NPDES, RHA Section 10 special conditions
	Proper reporting	EPA, USACE	NPDES, RHA Section 10 special conditions
	Records	EPA, USACE	NPDES, RHA Section 10 special conditions

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



4.3.2 What would a typical net pen aquaculture operation look like?

Vessels, frequency of stocking and harvesting, etc.

4.3.3 Existing fishery reporting mechanisms and their relevance to aquaculture

Discuss VTR and dealer reporting including how these systems may be used in an aquaculture context.

VTR – consider disposition (farmed vs. wild; considerations for mortalities that may be used in other ways but not for consumption).

Dealer

4.3.4 Methods to identify farmed vs. wild Atlantic salmon

Determining whether this section is needed; potentially can eliminate if tagging/marking of individual fish is required under individual project permits and not part of framework.

Visual way by clipping one of the fins of farmed salmon, similar to what is done for Pacific farmed salmon. Con: may not be sufficient for distinguishing farmed salmon vs wild because biologists clip fish fins for other reasons. Fins can regrow.

4.4 OTHER VECs

Consider whether there are reasonable geographic boundaries for potential salmon net pen aquaculture based on anticipated limiting factors like distance from shore, water depth, etc. that we can use to bound these VECs geographically. No direct effects expected, but need to broadly address the types of impacts we may expect for resources that could overlap with aquaculture projects so the AE needs to include some info to be able to support those impact discussions.

4.4.1 Commercial Fisheries

4.4.2 Other Managed and Ecosystem Component Species

4.4.3 Other Protected Species

4.4.4 Physical Environment and Essential Fish Habitat

4.4.5 Human Communities

Does this need to include the aquaculture industry?

Keep on equal footing with other fisheries and their reporting requirements.

What does the regulated environment look like?

Dealers, permits – what is the existing activity?

Keep analysis generic – will discuss with NEPA staff about how we want to define this VEC in terms of potential participants; also discuss with GC – are we creating an entity?

Consider fishing vessels as a potential participant here; possibility of Canadian vessels?

DRAFT