December 18, 2020

Kristy Beard
Policy Analyst
NOAA Fisheries Office of Aquaculture
Via email

Dear Ms. Beard:

The New England Fishery Management Council (Council) appreciates the opportunity to comment on NOAA Fisheries’ Aquaculture Opportunity Areas (AOA) spatial planning process. We also appreciate being clearly identified as an entity with which NOAA plans to consult during the AOA identification process and will strive to be a productive partner in this endeavor. We have substantial expertise with spatial data on fish, fish habitats, and fishing activities, and look forward to working with you to evaluate which areas of the EEZ might have fewer conflicts with fish, fish habitats, and fishing.

The Council approved the enclosed aquaculture policy on December 1 (also available at this link). The purposes of this policy are to facilitate efficient and streamlined development of Council comments, related to both specific projects and regional-scale planning, and to communicate Council conservation priorities and concerns with federal and state agencies, aquaculture developers, and the public. Sections of the policy relate to aquaculture siting, which is an important issue for the Council both in the context of avoiding impacts to sensitive fish habitats, and to reduce the potential for conflicts with wild capture fisheries operations.

The request for information poses four questions in relation to future AOAs. Our responses focus on the possibility of aquaculture development in offshore, federal waters, and we are not offering comments as to whether AOAs should be considered in state waters.

7. What regions of the country should be future AOAs?
8. Are there specific locations within those regions identified in response to #7 that should be considered for future AOAs?
9. Within those regions identified in response to #7, what resource use conflicts should we consider as we identify future AOAs? Please describe specific considerations that might make an area unfavorable, including ongoing or planned activities or ocean uses.
10. Is there ongoing environmental, economic, or social science research that would assist in the identification and implementation of future AOAs?

In response to question 7, the Council’s recently adopted aquaculture policy recognizes that, ‘like wild capture fisheries, aquaculture contributes to food production and food security, and that aquaculture is a valid and valuable use of the coastal zone and the EEZ’. This statement is neither an endorsement of nor a recommendation against identifying aquaculture opportunity areas in New England. In the context of other types of offshore development, specifically offshore wind, the Council has expressed interest in a deliberative, inclusive, and broad scale
planning process, in contrast to one where developers identify possible sites on a project-by-project basis. Thus, assuming there is industry interest in offshore aquaculture in our region, the Council would prefer the AOA process vs. one that is initiated due to developer interest. While we are pleased to be included in pre-application conversations around specific projects, we cannot as a single entity represent even a fraction of the feedback you might get from a wider scoping process that fishermen might directly participate in. We expect that the AOA process will allow for earlier identification of space use and other potential conflicts and provide opportunities for a broader array of interested parties to provide direct input. We recognize that the developer-driven process may continue to occur, regardless of whether AOAs are identified in New England.

From an operational perspective, aquaculture developers will understand their site requirements best, so we do not have a specific response to question 8. From what we have learned discussing two offshore projects in the pre-application phase, the preference seems to be for sites that are relatively close to shore, with moderate water depths and a gently sloping seabed, avoiding areas of complex bottom. We have ample experience evaluating seabed habitat data through our essential fish habitat work and would caution that additional survey effort will likely be required to identify and avoid complex features at a fine scale. At least some survey work might be needed to effectively locate AOAs, with additional site assessment work required as specific projects are proposed. Also, it would be helpful as part of the AOA process for participants who are not aquaculture experts to gain a better understanding of why certain site conditions are required or desired. For example, how far offshore is too far from an operational standpoint? What sorts of slopes or substrate types are not workable, vs. being less desirable? A broad understanding of these issues should facilitate an informed discussion of tradeoffs around siting.

To question 9, our aquaculture policy speaks to various concerns about use conflicts. From a fisheries perspective, these include important fishing grounds and sensitive habitats. In some cases, important habitat areas have been identified by the Council as either habitat or spawning closures; the latter are typically intended to protect certain species during particular months. Both Atlantic cod and Atlantic herring are species that spawn in areas relatively close to shore where aquaculture projects could be located. Spawning site fidelity has been documented for both species. In addition to areas that are actively fished, frequently transited corridors should also be avoided, especially if aquaculture installations cannot be transited (we are not sure if this is the case). Overall, it would be useful for the AOA process to provide some clarity on which types of activities are or are not compatible with specific types of aquaculture operations.

Offshore renewable energy development is an emerging issue in New England. Substantial areas offshore Massachusetts and Rhode Island have been leased and projects are currently in the planning and permitting phases. In the Gulf of Maine, no lease areas have been identified yet, but early conversations about siting are already underway. It seems likely that aquaculture sites may be located inshore of wind energy areas, but this is not clear yet. Wind development, during the construction and operations phases, will alter existing patterns of vessel traffic, and this increased traffic could in turn affect the suitability of an area for aquaculture. The cumulative effects of a combination of aquaculture sites and wind farms (or other uses) should be part of the conversation.

In terms of available research (question 10) it is imperative that NOAA Fisheries Office of Aquaculture work with the regional office and science center to obtain fisheries data for use in siting analysis. We appreciate that the siting analyses developed to date by NOAA’s National Centers for Coastal Ocean Science already include a wide range of data inputs and are easy to understand, but if the data incorporated in these analyses do not accurately reflect fisheries uses,
the results will be far less useful for assessing tradeoffs. We typically use a combination of VMS, VTR, and sometimes at-sea observer data in our own analyses to paint a fuller picture of fishing activity in an area. Consultation with the fishing industry is also extremely important, especially for activities that are not fully captured in fishery-dependent data sets (e.g., recreational fishing, lobster pot fishing). Relative to VMS data, VTR data provide much more information including landings by species and are readily linked to dealer data to estimate ex-vessel revenues. NOAA’s GARFO and Northeast Fisheries Science Center recently collaborated on a fishing activity analysis tool. See here and here for more information. While their reports were developed for offshore wind siting analysis, it should be possible to evaluate fishing information for any set of coordinates, such as a potential AOA.

In addition to the spatial siting analyses including a more comprehensive array of data about fishing activity, we suggest convening a dialog up front about methods and model assumptions. To our point above about siting requirements and preferences, these parameters should be discussed by all participants in the AOA process. We assume that different types of offshore aquaculture projects that might be considered in the region would have different siting parameters, depending on the gear types used and species cultured. It would be informative to test the sensitivity of model outputs to different siting parameters. It would also be useful to examine various sets of suitability multipliers to determine how they affect the results.

We also recommend that other topics be discussed as part of the AOA process, including how aquaculture might need to interact with fishery management (for example, if there is a desire to culture a federally managed species), and how the permitting and regulatory process works. Questions around shared use of public trust resources and equity of access for multiple ocean users are also likely to arise. We recognize that aquaculture governance is complex and involves other federal or state agencies, but we have found that it is impossible to separate environmental, siting, and permitting issues when discussing aquaculture with the Council. It will also be important to consider the longevity of any AOAs identified. Is there a point at which they are retired if no projects are proposed? Is it appropriate to reconsider their suitability at intervals given changing ocean conditions and uses? What are the incentives to proposed projects inside AOAs, vs. in other areas?

Again, thank you for the opportunity to comment. We look forward to a continued partnership with NOAA Fisheries around aquaculture issues in New England. Please let us know if you have questions or need any additional information.

Sincerely,

Thomas A. Nies
Executive Director

cc: Lou Chiarella, Chris Moore
Enclosure: NEFMC Aquaculture Policy
New England Fishery Management Council
Aquaculture Policy

Approved December 1, 2020

Introduction

NOAA Fisheries defines aquaculture as the breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments. Aquaculture activities occur in onshore, nearshore, and offshore environments. Construction and operation of aquaculture facilities can have both positive and negative impacts on marine habitats, species, and fisheries. Various state and federal agencies are involved in permitting aquaculture projects. Potential impacts are considered during the siting and environmental review process, and in many cases can be mitigated via project siting or design choices. NEFMC’s Aquaculture Background Document provides more information on current and future aquaculture activities in the New England region, the process for permitting aquaculture projects, and the potential impacts of aquaculture on marine fishery species and their habitats.

The NEFMC’s Habitat Policy (Operations Handbook, page 42) recognizes that all species are dependent on the quantity and quality of their habitat, and therefore establishes that the NEFMC shall assume an active role in the protection of such habitats. As required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) implementing regulations (CFR Part 600 Subpart J), the NEFMC designates essential fish habitat for each of the species it manages, and for some species and in some locations, identifies habitat areas of particular concern. Part 600 Subpart K of the MSA regulations detail NOAA Fisheries and Regional Fishery Management Council responsibilities to consult with federal agencies when their activities may affect essential fish habitats. Beyond habitat considerations, as a steward of the species it manages, the NEFMC has an interest in ensuring that these species are not negatively affected by non-fishing activities occurring in the marine environment. The NEFMC also has an interest in promoting safe operation of commercial and recreational fisheries for these species. To this end, the Council provides input and guidance on the conduct of other marine activities in a way that promotes compatibility with fishing.

Given the NEFMC’s regulatory responsibilities, interests, and expertise, the Council is committed to consulting with NOAA Fisheries, other federal and state agencies, and aquaculture developers to ensure that aquaculture activities in New England are developed in a manner that is compatible with the protection of Council-managed species and their habitats, and with commercial and recreational fishing activities. This includes but is not limited to providing input on project siting or design, based on the following list of considerations and best management
practices. Consultation should take an “early and often” approach, whenever possible, to communicate concerns during the design phase, thus increasing opportunities for modification, rather than mitigation, of impacts. Given that Council-managed species and their EFH occur both nearshore and offshore, projects in various locations and of both smaller and larger scales are of interest to the Council. Because individual aquaculture operations do not occur in isolation from one another, or from other types of development, it is very important to consider the potential for cumulative effects to species under management, habitats, and fisheries when siting and designing projects. Cumulative effects analyses are the responsibility of the lead federal agency preparing the National Environmental Policy Act document, but the Council will commit to raising specific concerns for possible incorporation into those analyses. The Council recognizes that, like wild capture fisheries, aquaculture contributes to food production and food security, and that aquaculture is a valid and valuable use of the coastal zone and the EEZ.

The primary audience for this policy is the Council itself, as it engages in these consultations. Secondary audiences include NOAA Fisheries, other federal agencies (including those responsible for enforcing permit conditions), state agencies, fishermen, aquaculture developers, and other members of the public.

Specific considerations and best management practices

The remainder of this policy is organized around general, higher-level principles for project design, followed by specific considerations and best management practices. The general principles encompass the Council’s major areas of concern. The lists of specific considerations are not exhaustive but provide examples of best practices. Generally, projects should comply with local, state, and federal permitting guidelines, and adhere to existing best management practices relevant to the type of operation being considered (see background document for a list of BMP resources). Where BMPs cannot be met, proponents should provide a rationale as to why in the application materials.

1. General principle: Aquaculture projects should be sited and designed in the context of ecosystem functions and services, including biodiversity, with no degradation of these beyond their resilience.
   a. Siting should consider the intersection between aquaculture facilities and designated essential fish habitat and habitat areas of particular concern and avoid installations in areas where adverse effects are more than minimal or more than temporary. Developers and action agencies should document how conclusions regarding magnitude and duration of impacts were reached.
   b. Siting should consider interactions with fishery management areas including those designated for habitat and spawning protection and consider whether installation compromises achievement of these conservation objectives, with a particular focus on maintaining function of rocky habitats.
c. Siting should consider oceanographic conditions such as currents, waves, and the potential for severe weather. For projects producing effluents, modeling should be conducted to ensure adequate dispersal of wastes. In addition, structures should be designed to withstand routine and historic weather events to minimize the risk of escapement of cultured animals and formation of marine debris from storm related damage.

d. Siting should avoid marsh and seagrass habitats to minimize adverse effects on these habitats. Allow for a buffer between these habitats and any infrastructure where possible, as recommended by state and federal resource managers. If sensitive habitats such as seagrasses cannot be avoided, consider whether an alternative type of gear could be used to minimize effects. Specific to seagrasses, since these habitats are reduced relative to their historic distribution but recovering in some locations due to water quality improvements, siting should ideally avoid locations where these habitats historically occurred. Current site conditions should be confirmed via on-site inspection. State resource managers can provide information about past habitat distributions. Because resource managers are interested in the restoration of habitat value associated with seagrass, operators should communicate if they notice that seagrasses are regrowing at the site, so that operational impacts to seagrasses can be minimized.

e. Siting should avoid habitat types and other resources including existing shellfish beds that could be sensitive to the discharge of organic material or effluent from aquaculture operations. Even if facilities are installed in the water column, discharges could affect both the water column and seabed near or below the facility.

f. Siting should avoid areas where coral and sponge habitats occur, including within the Council’s coral protection zones. Anchoring of vessels and grow out structures, as well as deposition of organic material, could negatively impact deep-sea corals and sponges, which are in many cases long-lived and fragile. These habitats are spatially rare and therefore possible to avoid. NOAA Fisheries can serve as a resource in terms of identifying coral habitats.

g. In addition to relying on existing data, site surveys may be required to determine exactly where specific habitats occur.

2. General principle: Adopt operational practices that minimize adverse environmental effects wherever possible.

   a. All proposed gear and structures should be designed and secured in a manner sufficient to withstand routine and episodic site conditions in order to reduce the risk of creating marine debris or other hazards that could result in negative interactions with sensitive habitats, vessels, and/or marine species.
b. If the addition of unconsolidated materials or fill (e.g. sediments, cultch) is proposed, ensure they are compatible with those naturally occurring at the site.

c. Minimize indirect impacts (i.e. increased turbidity and siltation in adjacent areas, access through sensitive areas, etc.) associated with maintenance and harvest activities.

d. Gear maintenance and husbandry practices should be conducted in a manner that minimizes the potential for culled and fouling organisms to negatively impact sediment and water quality or exacerbate the spread of invasive species.

e. Disease testing and other practices should be adopted to minimize the risk of the introduction or spread of shellfish or fish diseases or parasites that could negatively impact wild populations.

f. Whenever possible, use only native or naturalized species unless the best available science demonstrates that the use of non-native or other species would not cause undue harm to wild species, habitats, or ecosystems, in the event of an escape.

g. Emergency response plans should be developed to minimize the likelihood of escapement in the event of gear damage.

h. Gear and any in-water structures should be removed completely if a facility is taken out of service.

3. General principle: Development should consider the cumulative effects of multiple aquaculture facilities on the ecosystem, within the context of ecosystem change and resilience.
   a. Resilience refers to both the aquaculture operation itself and the associated ecosystem perturbations.
   b. Consider whether there is a synergistic relationship with other ocean uses.

4. General principle: Aquaculture operators should contribute positively to local and regional coastal communities. This could include actions such as:
   a. Creating jobs in coastal communities.
   b. Supporting traditional fishing communities.
   c. Revitalizing working waterfronts.
   d. Restoring depleted species and habitats.
   e. Supporting efforts to reduce runoff and improve coastal water quality at both local and regional scales.

5. General principle: Aquaculture should be developed in the context of other sectors, policies, and goals.
   a. Planning and zoning should consider safety and compatibility with other marine operations.
b. Siting and project design should consider coastal access for other users of the area.

c. Aquaculture siting should rely on high-quality information about both regional and local environmental conditions and the distribution and characteristics of other human uses in the area.

d. Facilities should be sited to avoid well-known vessel transit lanes, including those used by fishermen.

e. Facilities should be sited to avoid fishing grounds if adverse interactions are expected, considering such factors as the number of individuals participating in commercial or recreational fishing, the type of fishing gear used, the number of fishing days, and the amount of harvest. Developers should consider multiple years of fishery usage data to determine overlaps, as fishing activities can vary over time.

f. Facilities should be physically marked to be visible from a vessel approaching the site, in accordance with state and U.S. Coast Guard guidelines. Facilities should also be marked on electronic navigational charts as appropriate.

g. Pilot or demonstration-scale projects are encouraged to better evaluate impacts of novel types of operations (e.g. species not previously cultured in the region, or in locations not previously used for aquaculture).

h. Analysis of projects under the National Environmental Policy Act should address Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This order provides guidelines to ensure that potential impacts on these populations are identified and mitigated, and that these populations can participate effectively in the NEPA process (EO 12898 1994).

6. General principle: Clear and ongoing communication between all parties is important. These parties include fishery management councils, commercial and recreational fishermen, developers, regulating and consulting agencies, and members of the public.

   a. Information about the project should be provided to the public (including the Council and its stakeholders) during the project design phase to allow for early input and mitigation of impacts to fish habitats and fisheries.

   b. Aquaculture developers should consult with the fishing community, early and often, when identifying potential sites. Organizations like the NEFMC, NOAA Fisheries, ASMFC, or state agencies may be able to provide information on spatial distribution of fishing activity at broad scales, but local fishing organizations will be important contacts when determining use patterns at spatial scales relevant to aquaculture projects.

   c. Permitting agencies should consider the need for public scoping sessions during the siting process to understand the concerns that stakeholders may have.
d. Permitting agencies and developers should describe how project design choices avoid or mitigate impacts on fish, fish habitats, and fisheries.

e. Developers should provide advisories about at-sea construction, survey, and maintenance operations to mariners.