

FINDING OF NO SIGNIFICANT IMPACT FOR THE NATIONAL SEA GRANT OFFICE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

BACKGROUND

The National Sea Grant Office (NSGO), a division of the Office of Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), has prepared a Programmatic Environmental Assessment (PEA) to evaluate the potential impacts on the natural and human environment associated with aquaculture research and development projects funded by Sea Grant's federal financial assistance award programs as mandated by the authorities outlined in the PEA. This document has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), the 1978 Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500–1508), and NOAA policy and procedures (NOAA Administrative Order 216-6A [NAO 216-6A] and its Companion Manual [CM]).

PROPOSED ACTION AND ALTERNATIVES EVALUATED IN THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Proposed Action (Preferred Alternative)

The Proposed Action takes the most comprehensive approach to achieving NOAA's mandates and mission by continuing to fund a wide range of projects for aquaculture research and development involving farmed and wild populations of aquatic organisms including crustaceans, molluscan shellfish, echinoderms, algae and aquatic plants, and finfish in both onshore, inshore, offshore environments. For the purposes of this PEA, finfish activities are limited to land-based and coastal near-shore research activities. Under this alternative, NOAA would issue federal financial assistance awards in accordance with existing aquaculture-focused programs administered by the NSGO to eligible public and private entities. These include researchers at U.S. academic institutions and private research laboratories; for-profit and nonprofit companies/firms, and state, local, and tribal agencies.

Activities that are funded by NOAA's federal financial assistance award programs for aquaculture research and development would allow eligible applicants to carry out work that addresses one or more of five main research and development categories and allow the flexibility to adapt to any future changes in agency and program priorities. Projects analyzed as part of this PEA are broadly described as falling under one of the following five main research and development categories:

- Outreach, Education, and Planning
- Data Analysis and Social Science Research

- Laboratory and Rearing Science and Research on Finfish and Shellfish
- Field Research and Assessments
- Shellfish Aquaculture Restoration

No Action Alternative

The No Action alternative serves as a baseline for which the impacts of the Proposed Action are compared and contrasted. For analysis purposes, NOAA has defined the No Action alternative as the decision by OAR to not issue federal financial assistance awards for aquaculture research and development under the NSGO.

SIGNIFICANT REVIEW

The CEQ regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity and lists ten criteria for intensity.¹ In addition, the CM for NAO 216-6A provides sixteen criteria, the same ten as the CEQ regulations and six additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and any measures to reduce impacts and considered individually as well as in combination with the others.

Analysis Summary

NOAA's NSGO evaluated the potential environmental effects of the Proposed Action and analyzed the significance based on the CEQ criteria and NAO 216-6A. The evaluation criteria used to determine potential impacts to resources from the alternatives include the *type*, *duration*, and *intensity* of the impact. Type (direct, indirect, and cumulative) of effect, analyzes the timing and proximity of potential impacts.² This PEA also analyzes significance of an impact in terms of duration (short-term, long-term). While duration is not specifically defined by the CEQ regulations, short-term and long-term are considered "relevant" under 40 C.F.R. 1508.27(a) (1978) but does not specify an associated timeframe. Significance also includes intensity which refers to the severity of the impact. Intensity is also described in terms of whether an impact would be beneficial or adverse. An adverse impact is one having unfavorable or undesirable outcomes for the environment.³ The levels of magnitude are identified based on differing levels of impact on resources as: negligible (defined in the PEA as no detectable or measurable change to the structure or function of a resource); minor (defined as slightly detectable change with an effect that is localized and of little consequence to the resource); moderate (defined as readily detectable change with a small effect to the resource); and, major (defined as readily detectable change with substantial effect to the resource over a large area).

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

¹ 40 C.F.R. § 1508.27

² 40 C.F.R. 1508.7, 1508.8

³ NOS. (2020). *Coral Reef Conservation Program Final Environmental Impact Statement*. Office of Coastal Management, Silver Spring, Maryland. Available: <https://repository.library.noaa.gov/view/noaa/27127>

The proposed action is not reasonably expected to cause either beneficial or adverse impacts that overall may result in significant effects. Examination of the Proposed Action alternative revealed that none of the project types have the potential for significant effects. As summarized in the PEA, 100% of the activities in land-based, freshwater, and ocean and coastal environments have the potential for adverse, likely short-term, negligible to minor impacts.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

The proposed action is not reasonably expected to affect public health and safety. Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. The PEA describes general locations where the activities in the Proposed Action could take place. These environments include office, classroom and community settings (both indoors and outdoors) following all local, state, and federal guidelines for COVID-19; OSHA compliant laboratories and indoor and outdoor aquaculture facilities that follow standard approved permits; and freshwater, coastal and ocean environments that follow all applicable health and safety protocols. In addition, best management practices (BMPs) and mitigation measures described in the PEA are used to further ensure that activities described in the Proposed Action minimize or avoid potential impacts on human health and safety.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

The proposed action is not reasonably expected to result in significant impacts to unique characteristics of the geographic area. Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. While the majority of the activities conducted under the Proposed Action will take place in land-based locations and facilities, and already established coastal and nearshore locations, aquaculture research and development activities may also occur in areas in proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. In these cases, permits and/or agency consultations may be required for proposed aquaculture activities. Additionally, BMPs and mitigation measures described in the PEA are used to further ensure that activities of the Proposed Action comply with applicable laws for environmental protection and minimization or avoidance of potential impacts on areas with unique characteristics.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

Given the scope, likely short-term, and general location of the activities of the Proposed Action, no highly controversial effects on the human environment are likely or expected. Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. However, historically many of the activities are small scale pilot research and development projects that take place either in land based and/or coastal and ocean environments. The intent of these projects is to better understand and find solutions to fisheries status, ecosystems, conservation and provide education on a myriad of marine fisheries and aquaculture-related topics. NOAA encourages cooperative research between scientists, managers, and the fishing industry to foster robust and resilient science and promotes positive and dynamic partnerships. Certain types of aquaculture research and development activities may have significant environmental effects, and thereby, require a more rigorous review through additional NEPA analysis and may require one or more permits intended to mitigate the potential for an entity to engage in an activity that would be prohibited (or considered controversial) under State, local and federal environmental regulations.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The proposed action is not expected to have effects on the human environment likely to be highly uncertain or involve unique or unknown risks. Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. However, many of the activities use standard techniques and equipment where the effects are well known and assessed to determine whether the activities may result in environmental effects that are uncertain, unique, or unknown. Additionally, BMPs are generally used to ensure that activities described in the Proposed Action comply with applicable laws for environmental protection and minimize or avoid potential impacts on environmental resources. Mitigation measures may also be incorporated into site-specific projects as required by the terms of a consultation, permit, or authorization necessary to implement the project.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

The Proposed Action is not reasonably expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. Although every project described in this PEA shares a common goal, and cumulatively they contribute to improving and expanding sustainable aquaculture, each site-specific or project-level/specific action is evaluated on its own merits and implemented independently. Decisions to fund or undertake site-specific or project-level/specific projects do not establish decisions about future actions or otherwise guarantee that similar actions would be funded or undertaken in the future.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

Due to the large geographic extent (nationwide) of NOAA's aquaculture research and development activities in combination with other ongoing past, present, and reasonably foreseeable future actions (other than the proposed action), analyzing cumulative effects at a programmatic level is more challenging. The scope and duration of the activities of the Proposed Action are expected to have minor to moderate cumulative impacts to the environment. In addition, BMPs are generally used to ensure that activities described in the Proposed Action comply with applicable laws for environmental protection and minimize or avoid potential impacts on environmental resources. Mitigation measures may also be incorporated into site-specific projects as required by the terms of a consultation, permit, or authorization necessary to implement the project.

8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

The Proposed Action is not reasonably expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. Analysis of the specific details will be conducted on a project specific basis to determine if it triggers a National Historic Preservation Act (NHPA) Section 106 consultation. However, it is anticipated that none of the environments (land based, ocean and coastal, or freshwater) described in the PEA contain districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. In addition, NOAA will work to ensure that project specific analyses respect the Indian tribes in their role as managers and stewards of tribal trust resources for cultural, spiritual, economic, subsistence, and recreational purposes.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. As a result, the PEA does not contain an exhaustive list of threatened and endangered species and/or critical habitat protected under the Endangered Species Act (ESA). However, prior to funding a site-specific or project-level/specific action, project staff will review the lists of protected species and or critical habitat in the project area to determine whether permits and/or agency consultations should be initiated.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

The activities of the Proposed Action are not reasonably expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection. All grantees must provide copies of all state, federal and local permits (as required by federal financial law terms and conditions) which are reviewed prior to issuing awards, to ensure compliance.

11. Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act?

Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. As a result, the PEA does not contain an exhaustive list of species protected under the MMPA. However, prior to funding a site-specific or project-level/specific action, project staff will review the lists of protected species in the project area to determine whether permits and/or agency consultations should be initiated. Activities involving acoustic technology (such as sonar) that could adversely affect marine mammals, will be individually assessed to ensure that frequency, magnitude, and duration will have minor or negligible temporal and spatial impacts based on the hearing ranges of sensitive species within a given project location.

12. Can the proposed action reasonably be expected to adversely affect managed fish species?

Adverse impacts on managed fish species from activities of the Proposed Action exist but are limited. Study areas used for the activities funded by this work may be closed to other uses, thereby reducing the benefits that may have been provided by fishing, workforce development, and recreation and tourism in those areas. Also, there has been a historically held view that the aquaculture industry could have adverse impacts on the commercial fishing industry by competing for consumers, ocean space and resources required to produce commercial fish feed.⁴ However, the most recent data makes it clear that both forms of seafood production will be needed to meet U.S. seafood demand (both for processing and consumption), and that a sustainably managed domestic aquaculture industry does not necessarily cause a negative impact on a sustainably managed commercial fishing industry.⁵

13. Can the proposed action reasonably be expected to adversely affect essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act?

⁴ Anderson, J. (1985). Market Interactions Between Aquaculture and the Common-Property Commercial Fishery. *Marine Resource Economics*. 2(1) 1-23. DOI: 10.1086/mre.2.1.42628874.

⁵ Froehlich, et al. (2021). Securing a sustainable future for US seafood in the wake of a global crisis. *Marine Policy*. Vol. 124(2021)104328

Details of the Proposed Action, such as specific location and site conditions, are not known until NOAA receives project-specific proposals for review during the financial assistance award process. As a result, the PEA does not contain an exhaustive list of habitats protected under the Magnuson-Stevens Fishery Conservation and Management Act. However, prior to funding a site-specific or project-level/specific action, project staff will review the project area to determine whether it adversely affects essential fish habitat and triggers the initiation of a section 305(b) consultations. The aquaculture research and development activities described in the PEA are not generally expected to result in adverse effects to essential fish habitat.

14. Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?

The proposed action is not reasonably expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems. Any activities from land-based aquaculture facilities that could potentially discharge water into the environment, are conducted in compliance with federal, state and local laws (NPDES, SPDES) and with best practices and safeguards in place to prevent environmental impacts through any facility practices (e.g., appropriate facility design, optimization of efficient feed formulations). Activities that take place in coastal and ocean environments, will be limited to impacting living resources on a small-scale relative to the size of the populations, and limited to methodologies and locations to ensure that there are no long-term adverse impacts to ecosystems. In addition, BMPs and mitigation measures described in the PEA are used to further ensure that activities described in the Proposed Action minimize or avoid potential impacts.

15. Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.)?

The proposed action is not reasonably expected to adversely affect biodiversity or ecosystem functioning. Impact from human presence can include increases in boat traffic and sound, or direct disturbance of the water column or benthos. Experimental gear and associated infrastructure would be removed at the conclusion of the research activities, thus these impacts would be localized to the site where activities are occurring and likely be short-term. In addition, BMP's will be incorporated into activities such as the use of existing oceanic and coastal instrumentation to gather data where applicable, mounting instrumentation to existing structures or surfaces (such piers, buoys, or docks), and minimizing physical presence in the environment by using ships of opportunity (boats/ships that will already be in the area for alternative use/needs).

16. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

The proposed action is not reasonably expected to result in the introduction or spread of a nonindigenous species. Unintended release of organisms into an environment, such as

mangrove forests, submerged aquatic vegetation, algae, or reefs, can occur. This may result in potential adverse impacts by affecting the long-term genetic structure of wild populations. However, the potential for this impact is minor with the implementation of mitigation measures to prevent unintended release of organisms or waste to the environment as required by the laboratory and aquaculture facility permits issued by regulatory agencies.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for NOAA Funding Aquaculture Research and Development Projects, it is hereby determined that the Funding Aquaculture Research and Development Projects will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

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Director of the National Sea Grant College Program

Date