MARINE MAMMAL COMMISSION

18 December 2023

Mr. Jon Kurland, Regional Administrator
Alaska Region, National Marine Fisheries Service
National Oceanic and Atmospheric Administration
Juneau, Alaska

Dear Mr. Kurland:

The Marine Mammal Commission (Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Oceanic and Atmospheric Administration's (NOAA) 19 October 2023 notice (88 Fed. Reg. 72046) requesting information on its process for identifying Aquaculture Opportunity Areas (AOAs) in Alaskan state waters suitable for invertebrate and seaweed aquaculture operations.

Aquaculture facilities and activities may affect marine mammals in a number of ways, including attracting marine mammals, entanglement and other gear interactions, habitat exclusion and modification, noise disturbance, and vessel strikes. General comments and recommendations concerning the potential impacts of aquaculture activities on marine mammals were provided by the Commission in a 22 December 2020 letter (attached) to the National Marine Fisheries Service's Office of Aquaculture, commenting on plans for AOAs in the Gulf of Mexico, southern California, and nationwide.[1] That letter recommended that NOAA:

- Place emphasis on delineating foraging areas and migratory corridors of endangered whale species;
- Ensure that aquaculture facilities are sited to avoid foraging areas and migratory corridors of large whales and are designed to minimize the likelihood of entanglement;
- Take a precautionary approach in assessing the suitability of AOAs, given the potential for increasing the risk of entanglement of large whales; and
- Implement relevant mitigation measures in tandem with an adaptive management and monitoring program.

Herein, we address three issues specific to siting aquaculture facilities in Alaska.

Biologically Important Areas

A NOAA-led and Navy-supported initiative identifies biologically important areas (BIAs), where cetaceans are known to concentrate for feeding, breeding, and migratory purposes, and where small and resident populations occur. The Marine Mammal Commission recommends that NOAA,

[1] https://www.mmc.gov/wp-content/uploads/20-12-22-Blacklock-AOAs_.pdf

in its analysis of potential AOA sites, incorporate BIA data for the Gulf of Alaska (Wild et al. 2023) and the Bering Sea/Aleutians Islands (Brower et al. 2022) and exclude aquaculture activities that may adversely affect cetaceans from all BIAs.

North Pacific Right Whales

Entanglement of large whales in aquaculture gear has been reported from around the world (see references in Bath et al. 2023), indicating that aquaculture facilities pose a risk to the species of endangered large whales that occur in Alaskan state waters, including two stocks of humpback whales, fin whales, and especially North Pacific right whales. In 2015, a North Pacific right whale was entangled in the main rope linking vertical mussel lines at an aquaculture farm in South Korea.

With possibly fewer than eight females remaining, the eastern stock of North Pacific right whales is at an extreme risk of extirpation.[2] Extensive research and monitoring of a closely related species, the North Atlantic right whale, have demonstrated that entanglement in buoy ropes and vessel strikes are the greatest threats driving that species toward extinction (e.g., Pace et al. 2017, 2021; Knowlton et al. 2022; Brillant 2023). Although the density of fishing gear and the volume of vessel traffic are much less in Alaska than in the western North Atlantic, there is no reason to believe that North Pacific right whales are any less vulnerable to entanglement and ship strikes. Therefore, ropes and vessel traffic associated with aquaculture facilities would be a significant risk to North Pacific right whales where they co-occur. NOAA has proposed four 'study areas' in the Gulf of Alaska for the potential siting of AOAs.[3] The southwest 'study area', which includes the Unalaska and Akutan Islands, overlaps with right whale foraging and migratory habitat.[4] To reduce the possibility of fatal entanglements of North Pacific right whales, the Commission recommends that NOAA remove the proposed southwest study area from consideration. In addition, the Commission recommends that NMFS i) use the best information available on large whale distributions and data from the Alaskan BIAs in its review of AOA siting options, ii) exclude areas that overlap with North Pacific right whale critical habitat and other areas of known importance to the species,[5] and iii) establish infrastructure and vessel speed requirements in any AOA that is sited within an area identified as being important for large whales.

Northern Sea Otters

Northern sea otters occur in coastal waters throughout the Gulf of Alaska and Aleutian Islands. Sea otter diets include many of the invertebrate species (e.g. mussels, clams, oysters, crabs, sea urchins, sea cucumbers) that could be raised in Alaskan aquaculture facilities. Although the Commission could find no documentation of sea otter depredation of invertebrates at aquaculture facilities, there is concern that sea otters could significantly impact such operations where they co-

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[2] The size of entire population likely is fewer than 50 whales (see 2020 SAR for the eastern stock of the North Pacific right whale).

[3] "Request for Information: Identifying Aquaculture Opportunity Areas in Alaska", https://coastalscience.noaa.gov/news/alaska-aquaculture-opportunity-areas/

[4] 2020 SAR for the Eastern North Pacific Stock of the North Pacific right whale; Wright et al. 2018, 2019

[5] NMFS is currently undertaking a reassessment of North Pacific right whale critical habitat

occur.[6] Therefore, the Commission recommends that NOAA, in selecting study areas for the siting of AOAs, coordinate with the U.S. Fish and Wildlife Service to i) assess the potential for sea otter depredation, ii) require the use of appropriate mitigation measures, and iii) implement surveillance for and monitoring of sea otter depredation.

Small Cetaceans and Pinnipeds

The displacement of small cetaceans or pinnipeds from habitat in and around invertebrate and seaweed aquaculture facilities has been demonstrated in several studies (see references in Bath et al. 2023). Loss of habitat could be a significant issue if it reduces the availability of a limiting resource such as prey, breeding rookeries or haul-out sites.

A number of species of pinnipeds and small cetaceans occur and breed in Alaskan waters, creating the potential for interactions with invertebrate and seaweed aquaculture facilities and activities. While pinnipeds may be less likely to depredate aquaculture facilities devoted to shellfish than they would finfish facilities, similar concerns to those raised for sea otters should be considered and addressed as appropriate.

The Commission recommends that NMFS, in assessing the suitability of sites for AOAs in Alaska, identify and take into account important small cetacean and pinniped habitat, and ensure that all facilities are constructed and operated in a manner that will minimize the opportunities for entanglement and depredation by pinnipeds and small cetaceans.

The Commission appreciates the opportunity to submit recommendations during the planning process for the identification of AOAs in Alaskan state waters. Please do not hesitate to be in contact if you have questions about the Commission's recommendations or comments.

Sincerely,

Peter O. Thomas, Ph.D.,
Executive Director

Cc: Ms. Danielle Blacklock, Director, Office of Aquaculture, NMFS, NOAA
Mr. Charles Hamilton, Acting Chief, Marine Mammals Management Office, Alaska Region, USFWS

[6] Monson and DeGrange 1988; https://alaskaseagrant.org/2023/04/investigating-interactions-between-sea-otters-and-oyster-farms/

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