



MARINE MAMMAL COMMISSION

1 August 2021

Ms. Danielle Blacklock, Director
Office of Aquaculture
National Marine Fisheries Service
1315 East West Highway, 12th Floor
Silver Spring, Maryland 20910

Re: NOAA–NMFS–2022–0044

Dear Ms. Blacklock:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's (NMFS) 1 June 2022 Notice of Intent to prepare a Programmatic Environmental Impact Statement for Aquaculture Opportunity Areas (AOAs) in the Gulf of Mexico. The Commission previously submitted comments on the Request for Information regarding the identification of AOAs in the Gulf of Mexico, California, and nationwide.¹

The Rice's whale (formerly known as the Gulf of Mexico Bryde's whale; 86 Fed. Reg. 47022) is found primarily in the eastern Gulf of Mexico, in waters from 100 to 400 m deep (Rosel et al. 2016). With an estimated total species population size of only around 50 individuals (Hayes et al. 2021), the Rice's whale is depleted under the Marine Mammal Protection Act and was listed as endangered under the Endangered Species Act in 2019 (84 Fed. Reg. 15446). As noted in the Commission's previous comments, Rice's whales, like other large whales, are vulnerable to vessel strikes, entanglement in active and derelict fishing gear, and disturbance from sound generated by ships and various aspects of energy exploration and development (NMFS 2021). The construction and maintenance of aquaculture facilities in Rice's whale habitat could create additional problems for the species, such as displacement by aquaculture structures, degradation of water quality, enhancement of harmful algal blooms, and greater exposure to marine debris. The available information is inadequate for predicting with any confidence the outcomes of direct or indirect interactions between Rice's whales and aquaculture operations, but even one fatality would be detrimental to the population.

The Commission is relieved to note that the options for AOAs in the Gulf of Mexico, as identified in the Aquaculture Opportunity Atlas for the Gulf of Mexico (Riley et al. 2021), do not overlap with either the Rice's whale's core distribution area in the eastern Gulf or habitat suitable for

¹ See the Commission's [22 December 2020](#) letter.

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Rice's whales in the central and western Gulf. The options for AOAs also do not overlap with the distribution area of two other marine mammals listed under the Endangered Species Act that occur in the Gulf of Mexico — sperm whales and the Florida stock of West Indian manatees.

However, the aquaculture sites identified in the Atlas overlap with habitat of other marine mammal species, such as common bottlenose dolphins and Atlantic spotted dolphins. Dolphins can become entangled in netting used for aquaculture enclosures, and in the anchor lines and buoy lines associated with aquaculture gear. Dolphins are often attracted by the foraging opportunities represented by certain types of fish or shellfish farms (Barrett et al. 2019), and this increases the potential for entanglement in lines and netting, as well as the risk to dolphins of being struck or disturbed by vessels (Methion and López 2019). Attempts by dolphins to forage on farmed fish or shellfish can also provoke aquaculture operators to use harmful or even fatal methods to keep the animals away from their facilities. The illegal use of explosives and guns to deter dolphins from commercial and recreational fishing vessels is well documented in the Gulf of Mexico (Vail et al. 2016). The attraction of dolphins to aquaculture operations can result in damage to aquaculture gear, loss of farmed fish or shellfish, and harm to the dolphins involved. The Commission recommends that NMFS draw on lessons learned from dolphin interactions with commercial and recreational fishermen in the Gulf of Mexico, and from marine mammal interactions with aquaculture operations elsewhere, to develop strong and effective non-lethal measures to prevent dolphins from interacting with aquaculture gear, whether incidentally or intentionally. This might involve limiting the use of loose, unattended, or unnecessary lines to reduce the risk of entanglement, as well as the use of safe and effective deterrents to prevent foraging by dolphins on farmed fish or shellfish. The Commission further recommends that NMFS implement, from the outset of aquaculture site development, a comprehensive monitoring program to document interactions between marine mammals and aquaculture operations.

The Commission appreciates the opportunity to provide comments on AOAs being considered for the Gulf of Mexico. Please contact me if you have questions about the Commission's recommendations or comments.

Sincerely,



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

cc: Laura K. Engleby, Chief, Marine Mammal Branch, NMFS, Southeast Regional Office
Jessica R. Powell, Biologist, NMFS, Southeast Regional Office

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