MARINE MAMMAL COMMISSION

15 July 2019

Open Ocean Trustee Implementation Group
c/o U.S. Fish and Wildlife Service
P.O. Box 49567
Atlanta, Georgia 30345

Dear Trustee Implementation Group Members:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Open Ocean Trustee Implementation Group's (Open Ocean TIG) Draft Restoration Plan 2 and Environmental Assessment: Fish, Sea Turtles, Marine Mammals, and Mesophotic and Deep Benthic Communities (draft RP/EA)[1]. The draft RP/EA summarizes the Open Ocean TIG's proposed alternatives to restore marine mammals and other marine resources in the Gulf of Mexico region injured by the Deepwater Horizon (DWH) oil spill. The Commission's comments and recommendations provided herein are limited to those alternatives pertaining to restoration of marine mammals.

Restoration alternatives for marine mammals

The injuries to marine mammals resulting from the DWH oil spill were extensive. The Trustees determined that a large number of mortalities occurred immediately following the spill, and that there were also long-term, indirect effects on reproduction and survival. Based on the injuries to marine mammals identified in the DWH Natural Resource Damage Assessment Trustees' Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement (PDARP/PEIS), funding was allocated to restore marine mammals across six restoration areas, including the Open Ocean[2].

The Open Ocean TIG developed its alternatives based on the compensatory restoration approaches outlined in the PDARP/PEIS to benefit marine mammals by addressing anthropogenic and natural stressors that cause mortality and morbidity to marine mammals. It considered projects submitted by the public, non-governmental organizations, and federal, state, and local agencies, including the Commission, and evaluated the projects in accordance with the National Environmental Policy Act (NEPA) and the Oil Pollution Act. The projects also were evaluated for consistency with the Trustees' standard operating procedures for implementation of the DWH oil spill natural resource restoration, the Trustees' 2017 Strategic Framework for Marine Mammal Restoration Activities, additional criteria and screening considerations used by the Open Ocean

[1] Notice of availability at 84 Fed. Reg. 21753; extension of public comment period at 84 Fed. Reg. 31306.
[2] Other restoration areas included Alabama, Florida, Louisiana, Mississippi, and Regionwide; Texas did not receive funding for restoration of marine mammals.

TIG, and in consideration of restoration projects proposed or funded currently by other sources[3]. The evaluation of projects led to the development of a range of alternatives intended to meet a subset of the marine mammal restoration approaches identified in the PDARP/PEIS, including—

- increasing marine mammal survival through better understanding of causes of illness and death and through early detection and intervention for anthropogenic and natural threats;
- measuring noise to improve knowledge and to identify mechanisms for reducing impacts of anthropogenic noise on marine mammals; and
- reducing injury and mortality of marine mammals from vessel collisions.

The Open Ocean TIG determined that the alternatives identified for marine mammals would also address broader needs identified in the PDARP/PEIS for monitoring and adaptive management activities to address relevant data gaps to inform restoration.

In its draft RP/EA, the Open Ocean TIG identified four preferred alternatives and one non-preferred alternative for restoration of marine mammals, as follows—

- reducing impacts to cetaceans during disasters (preferred);
- developing the Compilation of Environmental, Threats, and Animal Data for Cetacean Population Health Analyses (CETACEAN) platform for coordination of critical data for restoration (preferred);
- reducing impacts of anthropogenic noise on cetaceans (preferred);
- reducing and mitigating vessel strike mortality of cetaceans (preferred); and
- assessing northern Gulf of Mexico shelf small cetacean health, habitat use, and movement patterns (not preferred).

Analysis of Alternatives

The Open Ocean TIG proposes to reduce impacts on cetaceans during disasters and improve response activities by conducting a Gulf-wide gap analysis and risk assessment of disaster response capacity, conducting planning and developing protocols for disaster response and investigation, developing new tools and techniques to minimize or reduce injury and mortality, and providing equipment and supplies specifically intended for use in response to mass stranding events. Activities under this alternative would be implemented over ten years at an estimated cost of $4,287,000. The Commission supports the development of increased disaster response capabilities in the Gulf of Mexico given the large number of marine mammal unusual mortality events (UMEs) that have occurred there (19 since 1991, with two currently underway[4]). However, it is unclear how planning efforts and protocol development would address the current lack of on-the-ground response capabilities (specifically, the lack of trained and dedicated personnel) in certain areas of the northern Gulf, especially when timely response and reporting is critical. As such, this alternative, if it is to be successful, may need supplemental funding from the state-based and regionwide TIGs or

[3] Including the RESTORE Act Gulf Coast Ecosystem Restoration Trust Fund, the National Fish and Wildlife Gulf Environmental Benefit Fund, and the National Academies of Science, Engineering, and Medicine Gulf Research Program.
[4] https://www.fisheries.noaa.gov/national/marine-life-distress/active-and-closed-unusual-mortality-events

other sources to build and maintain consistent and reliable capacity (specifically, trained and dedicated personnel) for marine mammal stranding response in all areas of the northern Gulf.

The proposed CETACEAN platform would provide the means to better manage data currently being collected and archived by various organizations using different databases. The platform would provide user-friendly, web-based access to datasets and protocols for integrating data collected by various partners. This alternative involves selection of key datasets, parameters, analyses, and partners, and training on standardized data collection protocols. Target species would include Gulf of Mexico Bryde's whales, sperm whales, and continental shelf bottlenose and Atlantic spotted dolphins. Activities under this alternative would be implemented over five years at an estimated cost of $5,808,500. The Commission supports the development of the CETACEAN platform but encourages the Open Ocean TIG to ensure existing data holders and potential data providers[5] are fully engaged in this process.

The Open Ocean TIG has proposed to reduce impacts of anthropogenic noise on cetaceans by identifying actions that could be taken to reduce sound levels in the Gulf, including learning more about the status of new technologies, identifying mechanisms for applying new and existing sound-reduction techniques in the Gulf, and working with groups to identify partnership opportunities to advance sound-reducing technologies for testing and implementation. Activities under this alternative would be implemented over six years at an estimated cost of $8,992,200. The reduction of sound levels in the Gulf is a critical need, given that it could be one of the loudest deep-water marine regions in the world. Shipping and seismic surveys are two of the most significant and widespread anthropogenic sources of underwater sound in the Gulf. Those sources dominate the low-frequency band below 50 Hz, where sound propagation at depth is greatest (Estabrook et al. 2016, Wiggins et al. 2016). Other sources of underwater sound in the Gulf include military training activities, pile driving, and explosives used in oil and gas platform decommissioning. Studies of the effects of various types and levels of sound on marine mammals are ongoing but studies to determine the long-term and cumulative impacts of chronic anthropogenic sound sources on marine mammals in the Gulf are limited. The Commission supports this alternative as it represents an opportunity to maintain and expand passive acoustic monitoring and identify sound-reducing technologies and techniques, with the ultimate aim of minimizing sound sources in the Gulf that are most harmful to the marine mammal species that live there. Close coordination with representatives from the seismic and shipping industries, in particular, as well as addressing other underwater sound-generating activities in the Gulf will be key to leveraging available funds to develop and implement effective sound-reduction technologies and techniques under this alternative. Those partnerships, if successful, would benefit marine mammals not only in the Gulf but worldwide.

The proposed alternative to reduce mortality and serious injury of cetaceans from vessel strikes would first identify areas where high-volume vessel activity and high cetacean densities overlap, and where presumably there are the greatest risks of vessel strikes. Once those areas are identified, partnerships would be established with relevant stakeholders to implement the most efficient and effective actions to reduce vessel-strike mortality. Activities under this alternative would be implemented over four years at an estimated cost of $3,834,000. Reducing vessel strikes is

[5] Including, for example, the regional marine mammal stranding network members, the Gulf of Mexico Coastal Ocean Observing System, the Gulf of Mexico Research Initiative GRIIDC, the Southeast Coastal Ocean Observing Regional Association, and the Gulf of Mexico Dolphin Identification System.

particularly important for endangered large whales, including sperm whales and Bryde's whales[6]. The Bryde's whale is the only baleen whale species that is a year-round resident of the Gulf. Bryde's whales were significantly impacted by the DWH oil spill, with an estimated population of only 33 individuals remaining (Hayes et al. 2018). Vessel strikes are thought to be one of the greatest threats to the population (Rosel et al. 2016). The Commission supports this alternative as a means to reduce vessel strikes of Bryde's whales, sperm whales, and other large cetaceans in the Gulf.

The Open Ocean TIG identified the assessment of northern Gulf of Mexico small cetacean health, habitat use, and movement patterns as a fifth, but not preferred, alternative. This alternative would collect and analyze health data and deploy satellite tags to improve understanding of (1) current and emerging stressors of small cetaceans[7] that reside in the coastal, continental shelf, and open ocean waters of the northern Gulf and (2) habitat use and movement patterns of small cetaceans, all with the goal of developing effective restoration strategies. Activities under this alternative would be implemented over five years at an estimated cost of $4,620,000. The Open Ocean TIG preliminarily determined that delaying implementation of this alternative would enhance its cost-effectiveness by waiting until information from other projects becomes available that could improve methods for safe capture, assessment, and tagging of small cetaceans in open-water environments. However, because no details were provided regarding the location or species involved in those 'other' projects, the Commission was unable to assess whether, and the extent to which, results from those projects might result in greater cost-effectiveness. The Commission is aware of ongoing broad-scale vessel and aerial surveys in coastal and offshore waters of the northern Gulf being conducted under the Gulf of Mexico Marine Assessment Program for Protected Species[8]. Data from those surveys will be used to develop spatially explicit density models for small and large cetaceans; however, the surveys were not designed to provide information on species-specific habitat use, and interpretations of findings are limited by the fact that surveys do not cover the entire Gulf of Mexico. The Commission just became aware of a new project funded by the Florida RESTORE Act Centers of Excellence Program to conduct health assessments and attach satellite-linked tags on bottlenose and Atlantic spotted dolphins on the West Florida Shelf, but that study has yet to start and will be limited in sample size and geographic scope. The Commission is not aware of any other ongoing projects in the Gulf that would improve methods used for health assessment of small cetaceans in open water environments. However, the deployment of satellite-linked tags on small cetaceans as a first step (without the inclusion of health assessment studies at this time) would provide better information on species-specific habitat use and finer-scale data than is currently available on seasonality and movement patterns.

Based on its review of the draft RP/EA, the Commission recommends that the Open Ocean TIG move forward with implementation of the four preferred alternatives identified for restoration of marine mammals. The Commission further recommends that the Open Ocean TIG either include the deployment of satellite-linked tags on small cetaceans that reside in the coastal, continental shelf, and open ocean waters of the northern Gulf, beyond where health assessment and tagging activities are beginning to occur over the West Florida Shelf, as an additional preferred

[6] Section 2.2.3 of the draft RP/EA erroneously identified the sperm whale as the only endangered marine mammal in the Gulf of Mexico.
[7] Small cetaceans include bottlenose and Atlantic spotted dolphins.
[8] https://www.boem.gov/GOMMAPPS/

alternative, or provide more details to explain specifically how the outcomes of other projects are expected to improve the cost-effectiveness of tagging studies.

In the absence of detailed budget information for each of the marine mammal alternatives, it is not possible to comment on the cost-effectiveness of the alternatives. The proposed activities potentially overlap with one another or with activities identified under the Open Ocean's alternatives for other taxonomic groups. As such, the Commission encourages the Open Ocean TIG to ensure close coordination across restoration alternatives to minimize potential redundancies and ensure cost-effectiveness in meeting over-arching restoration goals for marine mammals and other marine resources.

Marine mammal restoration goals and approaches not addressed in this RP

As noted herein, the Open Ocean TIG considered only a subset of the goals for marine mammal restoration from the PDARP/PEIS in this first draft RP/EA. The remaining restoration approaches, as identified in the PDARP/PEIS, include—

- reducing commercial fishery bycatch through collaborative partnerships;
- reducing injury and mortality of bottlenose dolphins from hook-and-line fishing gear;
- reducing injury, harm, and mortality to bottlenose dolphins by reducing illegal feeding and other activities that result in harassment;
- reducing marine mammal takes through enhanced enforcement of the Marine Mammal Protection Act by state officials; and
- protecting and conserving marine, coastal, estuarine, and riparian habitats.

Although the Commission supports the alternatives identified by the Open Ocean TIG, it is not yet clear whether, when, and to what extent the remaining marine mammal restoration approaches will be implemented. To date, only one other TIG, the Alabama TIG, has developed and begun implementation of a restoration plan for marine mammals injured by the DWH oil spill, a plan which the Commission fully supported[9]. However, drafting and implementing marine mammal restoration plans by the other TIGs has lagged behind.

Of primary and immediate concern is the lack of a plan to restore bottlenose dolphin stocks in Barataria Bay, Mississippi River Delta, and Mississippi Sound—three stocks which experienced significant mortality due to the DWH oil spill. These dolphins exhibit very strong site fidelity to bay and coastal waters (Mullin et al. 2017, Wells et al. 2017). Health assessments conducted after the oil spill revealed increased morbidity associated with adrenal gland abnormalities and lung disease (Schwacke et al. 2014, Venn-Watson et al. 2015), decreased immune function (De Guise et al. 2017), high reproductive failure rates (Kellar et al. 2017), and decreased abundance (McDonald et al. 2017, Mullin et al. 2017). Follow-up studies showed persistent lung disease and impaired stress response in the Barataria Bay and Mississippi Sound stocks of bottlenose dolphins four years after the oil spill

[9] The Alabama TIG has allocated a portion of its total funding for marine mammal restoration to implement two restoration projects: (1) protection of Alabama estuarine bottlenose dolphins and (2) enhancement of capacity for the Alabama marine mammal stranding network. A third project, the assessment of estuarine bottlenose dolphin populations and health, was proposed for funding under the monitoring and adaptive management allocation. See the Commission's 17 May 2018 letter to the Alabama TIG commenting on its proposed restoration plan.

(Smith et al. 2017). The Louisiana TIG issued a draft strategic plan in 2018 for restoration of wetland, coastal, and nearshore habitat in Barataria Bay, which included plans for large-scale sediment diversions. Such activities pose significant risks to resident bottlenose dolphins from freshwater exposure[10]. Bottlenose dolphins across the northern Gulf of Mexico are currently experiencing a UME, with some stranded dolphins exhibiting skin lesions indicative of freshwater exposure. The Louisiana TIG funded an expert-panel assessment of marine mammal physiological response to low salinity exposure, and a photo-identification survey of Barataria Bay dolphins was conducted in Spring 2019 to inform NEPA analyses of habitat restoration alternatives. However, restoration activities have yet to be proposed for the three Louisiana and Mississippi bottlenose dolphin stocks most heavily impacted by the DWH oil spill. Instead, plans are moving forward that could result in significant potential collateral damage to these stocks as a result of the restoration activities themselves[11].

The Commission would welcome an opportunity to meet with the Trustees or their representatives on the various TIGs to review information and anticipated schedules for the publication of draft plans to address all of the restoration approaches identified in the PDARP/PEIS for Gulf of Mexico marine mammals. An update would be particularly helpful on information and a schedule regarding the availability of draft restoration plans for the Barataria Bay, Mississippi River Delta, and Mississippi Sound stocks of bottlenose dolphins.

Monitoring and adaptive management

The PDARP/PEIS identified monitoring and adaptive management (MAM) as one of its programmatic restoration goals. MAM plans are provided for each of the preferred alternatives and include information regarding monitoring goals, objectives, methods, timing/frequency, potential corrective actions, and monitoring schedules. The Commission has reviewed the MAM plans for the four preferred alternatives and finds them to be sufficient for this stage of planning. The Commission understands that if the Open Ocean TIG were to include satellite-linked tagging of small cetaceans or any other aspect of the non-preferred alternative in the final RP/EA, a MAM plan would also be developed for those activities.

The Commission appreciates the opportunity to review the RP/EA and hopes that the Open Ocean TIG finds these comments helpful. Please contact me if you have any questions concerning any issues raised in this letter.

Sincerely,

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Executive Director

[10] See the Commission's 5 February 2018 letter to the Louisiana TIG commenting on the draft strategic restoration plan and EA #3.

[11] OPA regulations at 15 C.F.R. § 990.54 state that once trustees have developed a reasonable range of alternatives, they must select a preferred alternative based on an evaluation of, among other things, the extent to which each alternative will prevent future injury as a result of the incident, and avoid collateral injury as a result of implementing the alternative.

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