



MARINE MAMMAL COMMISSION

6 February 2017

Dr. Stephania Bolden, Branch Chief
Species Conservation Branch
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

Re: Bryde's Whale 12-month Finding
(NOAA–NMFS–2014–0101)

Dear Dr. Bolden:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the 8 December 2016 *Federal Register* notice (81 Fed. Reg. 88639) published by the National Marine Fisheries Service (NMFS) announcing its 12-month finding and proposed determination on a petition to list the Gulf of Mexico Bryde's whale (*Balaenoptera edeni*) as an endangered species under the Endangered Species Act (ESA). In addition, the Commission has reviewed NMFS's status review of this population (Rosel et al. 2016). NMFS's review concluded that the "Gulf of Mexico Bryde's whale is taxonomically a subspecies of the Bryde's whale," and, based on its "small population (likely fewer than 100 individuals), its life history characteristics, its extremely limited distribution, and its vulnerability to existing threats,...that the species faces a high risk of extinction." The status review therefore concluded that the Gulf of Mexico Bryde's whale "meets the definition of an endangered species" under the ESA. The Commission agrees with the findings of the status review and also with NMFS's proposed determination that listing the Gulf of Mexico Bryde's whale population as endangered is warranted.

Justification for listing as endangered

The proposed rule and status review make a compelling case that the population of Gulf of Mexico Bryde's whales should be considered a distinct subspecies of Bryde's whale and that the population is in immediate danger of extinction due to ongoing threats throughout all of its range. Recent genetic analyses (Rosel et al. 2014) demonstrated that the Gulf of Mexico population of Bryde's whales is evolutionarily distinct from other members of the Bryde's whale complex examined to date, and should be considered at least a subspecies of *B. edeni*. These analyses found that Gulf of Mexico Bryde's whales are more closely related to the subspecies of Bryde's whales found in the Pacific and Indian Oceans (*B. e. edeni*) than to the subspecies of Bryde's whales found in the Atlantic and elsewhere in tropical to warm temperate waters (*B. e. brydei*). There is no evidence to suggest that Gulf of Mexico Bryde's whales occur regularly outside of the Gulf of Mexico. Further, the degree of genetic separation between Gulf of Mexico Bryde's whales and other Bryde's whales is similar to the separation between those Bryde's whales and the species' other closest relative, the sei whale. The status review team reviewed and agreed with the conclusions of Rosel et al. (2014). The team also consulted with the Society for Marine Mammalogy's Committee on Taxonomy regarding

the level of taxonomic distinctiveness of this population, based on the best available science. The Committee concluded that it is “highly likely” that this population constitutes at least an undescribed subspecies of *B. edeni* (Rosel et al. 2016).

NMFS and the status review team identified and assessed environmental and anthropogenic factors that may pose current and future risks to the Bryde’s whale population and its habitat. Such threats include energy exploration and development, oil spills and spill response, vessel strikes, entanglement in fishing gear, and anthropogenic noise, which collectively seriously degrade the habitat of the Gulf of Mexico Bryde’s whale population and put the population at a “heightened risk of extinction.” In addition, NMFS and the status review team found that the current population size is dangerously low. The team concluded, with a high level of confidence, that the population size is less than 100 and likely less than 50. Data from the most recent ship-based, line-transect survey, collected in 2009, led to an abundance estimate of 33 Bryde’s whales in the Gulf of Mexico, although there was considerable uncertainty in this estimate ($CV = 1.07$). A second estimate, derived using a habitat model and shipboard and aerial survey data collected between 1993 and 2009, suggested that the population size was somewhat larger, 44 whales ($CV = 0.27$).¹ The extremely small population size puts the subspecies at considerable risk of extinction due to ‘small population effects,’ such as Allee effects, demographic stochasticity, and genetic stochasticity (inbreeding depression, loss of adaptive genetic diversity, and accumulation of mutations). That risk is exacerbated by slow population growth potential and the risk of stochastic and catastrophic events (Rosel et al. 2016), such as the 2010 Deepwater Horizon oil spill.

The status review team determined that the inadequacy of existing regulatory mechanisms is a significant threat to the Bryde’s whale population, particularly the inadequacy of mechanisms for addressing future expanded energy exploration and development in the eastern Gulf, the potential for increased vessel activity resulting in vessel strikes, and increased research and restoration activities that have the potential to harass or harm Bryde’s whales. Further, the status review team identified impacts from oil and gas exploration and development as potentially restricting the expansion of the Bryde’s whale population to areas west of DeSoto Canyon. Although the risk of vessel strikes or entanglement in fishing gear was not quantitatively estimated, the distribution of these threats relative to the distribution of the whales, coupled with what is known about the vulnerability of similar species to these threats in other areas, suggests that vessel- and fishery-related threats need to be mitigated.

Based on the best available scientific and commercial information, as presented in the proposed rule and associated status review, the Commission agrees with NMFS’s assessment that the Gulf of Mexico Bryde’s whale constitutes a “species” under the ESA’s definition of that term and that it is in immediate danger of extinction throughout all of its range. For these reasons, the Commission recommends that NMFS promptly complete the process of listing the Gulf of Mexico Bryde’s whale population as endangered under the ESA. The Commission further recommends that, immediately upon listing as endangered, NMFS consider management options to address the

¹ This estimate of the population size included a correction for availability bias, the chance that animals are missed on the trackline because they are submerged. If the 2009 estimate had included a similar correction it would have been closer to the 1993-2009 estimate.

inadequacy of existing regulatory mechanisms through, among other things, the development of a recovery plan under section 4(f) of the ESA, and allocation of sufficient funds to begin implementing that plan. The Commission concurs with the conclusion in the proposed rule that, “Given its narrow range in the De Soto Canyon region of the northeastern Gulf of Mexico, and existing threats, a regional cooperative effort to protect and restore the population is necessary. Federal, state, and the private sectors will need to cooperate to conserve listed [Gulf of Mexico] Bryde’s whales and the ecosystem upon which they depend.”

Designation of critical habitat

The ESA generally requires critical habitat to be designated concurrent with a species’ listing under the ESA. However, as allowed under section 4(b)(6)(C)(ii) of the ESA, NMFS is deferring making a critical habitat designation at this time, because it did not have sufficient information “to determine what [sic] physical and biological feature(s) within that habitat facilitate the species’ life history strategy and are thus essential to the conservation” of the population. The Commission understands the complexity of designating critical habitat given current uncertainties regarding the primary constituent elements that Bryde’s whales may need to survive and recover, and appreciates NMFS’s intent to “publish a proposed designation of critical habitat...in a separate rule.” Nonetheless, the Commission recommends, given the acute risk of extinction faced by this population that NMFS proceed immediately with the designation of critical habitat using the best information and data available at this time. The ESA specifies that critical habitat should include those physical or biological features essential to the conservation of the species. As pointed out in the status review: “Bryde’s whales have been consistently located in a very narrow depth corridor along the shelf break in the northeastern [Gulf of Mexico] for the past 25 years and few have been sighted elsewhere despite a large amount of dedicated cetacean survey effort that covered both continental shelf and oceanic waters of the northern [Gulf of Mexico].” The population’s occurrence and persistence in this small area of the northeastern gulf (see Figure 2 in the status review report), defined at a minimum by a narrow range of depths (roughly 200-300m) and sea-surface temperatures (roughly 21.5–26°C), over the continental shelf, is, *ipso facto*, evidence that the physical and biological features essential to its survival, persistence, and conservation are present in that area. The Commission believes this is sufficient evidence that these areas include physical or biological features essential to the conservation of the species, and therefore, recommends that NMFS, at a minimum, designate the identified core area of occurrence for Bryde’s whales in the Gulf of Mexico as critical habitat, and consider other areas that may be essential for the growth and expansion of the population as more data and time for analysis become available. In addition, to facilitate the timely designation of “full” critical habitat, the Commission recommends that NMFS specify in its final listing notice its plans over the next year² and the funding needed to collect any additional data that may be necessary to revise or amend the critical habitat designation beyond the recommended immediate minimum as described above.

² Although section 4(b) of the ESA allows the designation of critical habitat to be postponed and separated from a listing rule, such a designation can be deferred only for an additional year.

Effects of the Deepwater Horizon oil spill

The Commission is particularly concerned about the potential long-term effects of the Deepwater Horizon oil spill on the Gulf of Mexico Bryde's whale population. Of all marine mammal stocks occurring on the continental shelf and oceanic waters in the Gulf of Mexico, Bryde's whales were the most affected by the Deepwater Horizon oil spill. An estimated 48 percent of the population was exposed to oil and up to 22 percent of the population is believed to have died as a result of oil exposure (DWH Trustees 2016). The impact of the oil spill on the Gulf of Mexico Bryde's whale population has not been fully evaluated by NMFS or the status review team, but the likely effects further underscore the need for additional conservation efforts under the ESA and targeted restoration activities under the Oil Pollution Act. The Commission therefore recommends that NMFS conduct dedicated shipboard, aerial, and/or passive acoustic surveys of the northern Gulf of Mexico to (1) contribute to the full assessment of the short- and long-term effects of the Deepwater Horizon oil spill on the Gulf of Mexico Bryde's whale population and its status under the ESA and (2), collect additional information needed to identify or revise critical habitat. The Commission further recommends that NMFS and other agencies implement targeted activities under the Oil Pollution Act to restore the Bryde's whale population to pre-oil spill levels.

Please contact me if you would like to discuss any of these comments and recommendations.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

Literature cited

- DWH Trustees (Deepwater Horizon Natural Resource Damage Assessment Trustees). 2016. Deepwater Horizon Oil Spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement. Available at: <http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan>.
- Rosel PE, and LA Wilcox. 2014. Genetic evidence reveals a unique lineage of Bryde's whales in the northern Gulf of Mexico. *Endangered Species Research* 25:19-34.
- Rosel, PE, P Corkeron, L Engleby, D Epperson, KD Mullin, MS Soldevilla, and B Taylor. 2016. Status Review of Bryde's Whales (*Balaenoptera edeni*) in the Gulf of Mexico under the Endangered Species Act. *NOAA Technical Memorandum NMFS-SEFSC-692*.