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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**[Docket No. 180628590-8590-01]**

**RIN 0648-XG333**

**Endangered and Threatened Wildlife; 90-Day Finding on a Petition to List the Cuvier's Beaked Whale in the Gulf of Mexico as Threatened or Endangered Under the Endangered Species Act**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

**ACTION:** Notice; 90-day petition finding.

**SUMMARY:** We (NMFS) announce a negative 90-day finding on a petition to list the Cuvier's beaked whale (*Ziphius cavirostris*) in the Gulf of Mexico (GOM) as a threatened or endangered distinct population segment (DPS) under the Endangered Species Act (ESA). As an alternative to listing a DPS, the petition requests that we list the Cuvier's beaked whale because it is threatened or endangered in a significant portion of its range (SPOIR). The petitioner also requests that we designate critical habitat. We find that the petition and information in our files do not present substantial scientific or commercial information indicating that the Cuvier's beaked whale in the GOM qualifies as a DPS, eligible for listing under the ESA. Similarly, we find that the petition and information readily available in our files do not present substantial scientific or commercial information indicating that listing Cuvier's beaked whale as threatened or endangered in a SPOIR may be warranted.

**ADDRESSES:** Copies of the petition and related materials are available upon request from the Assistant Regional Administrator, Protected Resources Division, Southeast Regional Office, NMFS, 263 13th Avenue South, St. Petersburg, FL 33701, or online at:

*<https://www.fisheries.noaa.gov/national/endangered-species-conservation/negative-90-day-findings>*

**FOR FURTHER INFORMATION CONTACT:** Calusa Horn, NMFS Southeast Region, 727-824-5312, or Maggie Miller, NMFS Office of Protected Resources, 301-427-8457.

**SUPPLEMENTARY INFORMATION:**

**Background**

On October 11, 2017, we received a petition from the Center for Biological Diversity to list the Cuvier's beaked whale (*Ziphius cavirostris*) population in the GOM as an endangered or threatened DPS or, alternatively, list the Cuvier's Beaked whale because it is threatened or endangered in a SPOIR, under the ESA. The petitioner also requested designation of critical habitat. The petitioner asserts that the Cuvier's beaked whale population in the GOM qualifies as a DPS because the population: (1) is physically separated from other populations of the eastern Caribbean and northwestern Atlantic Ocean, (2) exhibits high site fidelity to the GOM, (3) is delimited by international governmental boundaries within which there are differences in management and regulations, (4) occurs in an ecological setting that is unique to the species, and (5) is likely a genetically distinct species. The petitioner also states the Marine Mammal Protection Act (MMPA) stock designation supports the proposed DPS listing under the ESA. Copies of this petition are available from us (see ADDRESSES, above).

*ESA Statutory and Regulatory Provisions and Evaluation Framework*

Section 4(b)(3)(A) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*), requires, to the maximum extent practicable, that within 90 days of receipt of a petition to list a species as threatened or endangered, the Secretary of Commerce make a finding on whether that petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted, and to promptly publish such finding in the **Federal Register** (16 U.S.C. 1533(b)(3)(A)). When it is found that substantial scientific or commercial information in a petition indicates the petitioned action may be warranted (a “positive 90-day finding”), we are required to promptly commence a review of the status of the species concerned during which we will conduct a comprehensive review of the best available scientific and commercial information. In such cases, we conclude the review with a finding as to whether, in fact, the petitioned action is warranted within 12 months of receipt of the petition. Because the finding at the 12-month stage is based on a more thorough review of the available information, as compared to the narrow scope of review at the 90-day stage, a “may be warranted” finding does not prejudice the outcome of the status review.

Under the ESA, a listing determination must address a species, which is defined to also include subspecies and, for any vertebrate species, any distinct population segment (DPS) that interbreeds when mature (16 U.S.C. 1532(16)). A joint NMFS–U.S. Fish and Wildlife Service (USFWS) (jointly, “the Services”) policy clarifies the agencies’ interpretation of the phrase “distinct population segment” for the purposes of listing, delisting, and reclassifying a species under the ESA (61 FR 4722; February 7, 1996). A species, subspecies, or DPS is “endangered” if it is in danger of extinction throughout all or a significant portion of its range, and “threatened” if it is likely to become endangered within the foreseeable future throughout all or a significant

portion of its range (ESA Sections 3(6) and 3(20), respectively, 16 U.S.C. 1532(6) and (20)).

Pursuant to the ESA and our implementing regulations, we determine whether species are threatened or endangered based on any one or a combination of the following five section 4(a)(1) factors: the present or threatened destruction, modification, or curtailment of habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms to address identified threats; or any other natural or manmade factors affecting the species' existence (16 U.S.C. 1533(a)(1), 50 CFR 424.11(c)).

ESA-implementing regulations issued jointly by the Services (50 CFR 424.14(h)(1)(i)) define "substantial scientific or commercial information" in the context of reviewing a petition to list, delist, or reclassify a species as "credible scientific or commercial information in support of the petition's claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted." Conclusions drawn in the petition without the support of credible scientific or commercial information will not be considered "substantial information."

Our determination as to whether the petition provides substantial scientific or commercial information indicating that the petitioned action may be warranted will depend in part on the degree to which the petition: (1) clearly indicates the administrative measure recommended and gives the scientific and any common name of the species involved; (2) contains detailed narrative justification for the recommended measure that contains an analysis of the information presented; (3) is accompanied by literature citations that are specific enough for the Services to readily locate the information cited in the petition, and, to the extent permitted by U.S. copyright

law, electronic or hard copies of supporting materials; and, (4) for a petition to list, delist, or reclassify a species, information to establish whether the subject entity is a “species” as defined in the Act. *See* 50 CFR 424.14(c). Because this is a petition to list a species, we also evaluate the degree to which the petition includes the following types of information: (1) information on current population status and trends and estimates of current population sizes and distributions, both in captivity and the wild, if available; (2) identification of the factors under section 4(a)(1) of the ESA that may affect the species and where these factors are acting upon the species; (3) whether and to what extent any or all of the factors alone or in combination identified in section 4(a)(1) of the ESA may cause the species to be an endangered species or threatened species (*i.e.*, the species is currently in danger of extinction or is likely to become so within the foreseeable future), and, if so, how high in magnitude and how imminent the threats to the species and its habitat are; (4) information on adequacy of regulatory protections and effectiveness of conservation activities by States as well as other parties, that have been initiated or that are ongoing, that may protect the species or its habitat; and (5) a complete, balanced representation of the relevant facts, including information that may contradict claims in the petition. *See* 50 CFR 424.14(d).

If the petitioner provides supplemental information before the initial finding is made and states that it is part of the petition, the new information, along with the previously submitted information, is treated as a new petition that supersedes the original petition, and the statutory timeframes will begin when such supplemental information is received. *See* 50 CFR 424.14(g). We may also consider information readily available at the time the determination is made. *See* 50 CFR 424.14(h)(1)(ii). We are not required to consider any supporting materials cited by the

petitioner if the petitioner does not provide electronic or hard copies, to the extent permitted by U.S. copyright law, or appropriate excerpts or quotations from those materials (*e.g.*, publications, maps, reports, letters from authorities). *See* 50 CFR 424.14(c)(6) and 424.14(h)(1)(ii).

The “substantial scientific or commercial information” standard must be applied in light of any prior reviews or findings we have made on the listing status of the species that is the subject of the petition. Where we have already conducted a finding on, or review of, the listing status of that species (whether in response to a petition or on our own initiative), we will evaluate any petition received thereafter seeking to list, delist, or reclassify that species to determine whether a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted despite the previous review or finding. Where the prior review resulted in a final agency action - such as a final listing determination, 90-day not-substantial finding, or 12-month not-warranted finding - a petitioned action will generally not be considered to present substantial scientific and commercial information indicating that the action may be warranted unless the petition provides new information or analysis not previously considered. 50 CFR424.14(h)(iii).

At the 90-day finding stage, we evaluate the petitioner’s request based on the information in the petition, including its references, and information readily available to us. We do not conduct additional research, and we do not solicit information from parties outside the agency to help us in evaluating the petition. We will accept the petitioners’ sources and characterizations of the information presented if they appear to be based on accepted scientific principles, unless we have specific information in our files that indicates the petition’s information is incorrect, unreliable, obsolete, or otherwise irrelevant to the requested action. Information that is

susceptible to more than one interpretation or that is contradicted by other available information will not be dismissed at the 90-day finding stage, so long as it is reliable and a reasonable person conducting an impartial scientific review would conclude it supports the petitioners' assertions. In other words, conclusive information indicating the species may meet the ESA's requirements for listing is not required to make a positive 90-day finding. We will not conclude that a lack of specific information alone necessitates a negative 90-day finding if a reasonable person conducting an impartial scientific review would conclude that the unknown information itself suggests the species may be at risk of extinction presently or within the foreseeable future.

To make a 90-day finding on a petition to list a species, we evaluate whether the petition presents substantial scientific or commercial information indicating the subject species may be either threatened or endangered, as defined by the ESA. First, we evaluate whether the information presented in the petition, in light of the information readily available in our files, indicates that the petitioned entity constitutes a "species" eligible for listing under the ESA. Next, we evaluate whether the information indicates that the species faces a degree of extinction risk such that listing, delisting, or reclassification may be warranted; this may be indicated in information expressly discussing the species' status and trends, or in information describing impacts and threats to the species. We evaluate any information on specific demographic factors pertinent to evaluating extinction risk for the species (*e.g.*, population abundance and trends, productivity, spatial structure, age structure, sex ratio, diversity, current and historical range, habitat integrity or fragmentation), and the potential contribution of identified demographic risks to extinction risk for the species. We then evaluate the potential links between these demographic risks and the causative impacts and threats identified in section 4(a)(1).

Information presented on impacts or threats should be specific to the species and should reasonably suggest that one or more of these factors may be operative threats that act or have acted on the species to the point that it may warrant protection under the ESA. Broad statements about generalized threats to the species, or identification of factors that could negatively impact a species, do not constitute substantial information indicating that listing may be warranted. We look for information indicating that not only is the particular species exposed to a factor, but that the species may be responding in a negative fashion; then we assess the potential significance of that negative response.

Many petitions identify risk classifications made by nongovernmental organizations, such as the International Union on the Conservation of Nature (IUCN), the American Fisheries Society, or NatureServe, as evidence of extinction risk for a species. Risk classifications by such organizations or made under other Federal or state statutes may be informative, but such classification alone will not alone provide sufficient basis for a positive 90-day finding under the ESA. For example, as explained by NatureServe, their assessments “have different criteria, evidence requirements, purposes, and taxonomic coverage than official lists of endangered and threatened species” and, therefore, these two types of lists “do not necessarily coincide” (<http://explorer.natureserve.org/ranking.htm>). Additionally, species classifications under IUCN and the ESA are not equivalent; data standards, criteria used to evaluate species and treatment of uncertainty are also not necessarily the same. Thus, when a petition cites such classifications, we will evaluate the source of information that the classification is based upon in light of the standards on extinction risk and impacts or threats discussed above.

### **Cuvier’s Beaked Whale Species Description**

Cuvier's beaked whales are members of the beaked whale family (*Ziphiidae*) and are odontocetes (toothed whales). They can reach lengths of about 15-23 ft (4.5-7 m) and weigh 4,000-6,800 lbs (1,845-3,090 kg). Body size does not differ significantly between males and females. These medium-sized whales have round and robust bodies, with a triangular “falcate” dorsal fin located far down the whale’s back. Their coloration varies from dark gray to a reddish-brown, with a paler counter-shaded underside (Jefferson *et al.*, 1994; Baird 2016)

The Cuvier’s beaked whale has one of the most extensive distributions of all beaked whale species, occurring in deep waters worldwide and ranging from equatorial tropical to cold-temperate waters; they are not known to occur in the high latitude polar waters (Dalebout *et al.*, 2005; Heyning and Mead 2009). In the Northern Hemisphere, they are known to occur near the Aleutian Islands, Bay of Biscay, British Columbia, Gulf of California, GOM, Hawaii, Mediterranean Sea, the Shetlands, and the U.S. East and West Coasts. In the Southern Hemisphere, they are known to occur near New Zealand, South Africa, and Tierra del Fuego. They have also stranded in tropical environments such as the Bahamas, Caribbean Sea, and the Galapagos Islands. Genetic evidence suggests that Cuvier’s beaked whales may exhibit seasonal latitudinal migrations, similar to humpback whales (Dalebout *et al.*, 2005).

Beaked whales appear to have a habitat preference for deep (usually greater than 3,300 ft (1,000 m)), complex topographic features such as the continental slope and edge, or steep underwater geological features like banks, seamounts, and submarine canyons (Whitehead *et al.*, 1997; Hooker and Baird, 1999, 2002; Frantzis *et al.*, 2003; MacLeod and Zuur, 2005, cited in Smith 2010 thesis). Studies on beaked whales have been carried out in a number of locations including the Northwest Atlantic (Hooker and Baird, 1999), Bahamas (MacLeod and Zuur,

2005), the Ligurian Basin (D'Amico *et al.*, 2003; Moulins *et al.*, 2007), Hawaii (Baird *et al.*, 2004; 2006) and Greece (Frantzis *et al.*, 2002). The Cuvier's beaked whale is one of the more frequently observed species of beaked whale, and is considered widespread and cosmopolitan (Heyning, 1989).

Cuvier's beaked whales mature slowly and can live up to 60 years. Females reach sexual maturity at 7-11 years of age, have a gestation period of about 1 year, and give birth to a single calf every 2-3 years. Although few stomach contents have been examined, they appear to feed mostly on deep-sea squid, but also sometimes take fish and crustaceans (MacLeod *et al.*, 2003; West *et al.*, 2017). Cuvier's beaked whales likely forage between approximately 600 m to nearly 3,000 m in depth (Baird *et al.*, 2006, 2008, Tyack *et al.*, 2006, Schorr *et al.*, 2014). Dive data indicates that Cuvier's beaked whale routinely conduct some of the deepest and longest dives of any marine mammal (Baird *et al.*, 2006; Tyack *et al.*, 2006). Cuvier's beaked whales off the coast of Southern California were recorded diving to depths of 2,992 m and lasting 137.5 minutes (Schorr *et al.*, 2014).

The Cuvier's beaked whale is among the most common and abundant of all the beaked whales, and their abundance worldwide is likely over 100,000 individuals (Taylor *et al.*, 2008, downloaded October 9, 2017). Under the MMPA, we prepare stock assessment reports for several Cuvier's beaked whale stocks that occur in waters under U.S. jurisdiction. We currently evaluate Cuvier's beaked whale using six geographically defined stocks: the Alaska Stock (n = unknown), the California/Oregon/Washington stock (n = 3,274), the Hawaiian stock (n = 723), the Northern GOM stock (n = 74), the Puerto Rico and U.S. Virgin Island stock (n = unknown) and the Western North Atlantic stock (n = 6,532). The stock assessment reports with population

estimates are available online (<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock>). Our stock assessment reports for the Northern GOM stock and Western North Atlantic stock do not include a correction factor for detection probability and therefore may miscalculate actual abundance.

Beaked whales are deep divers that spend little time at the surface (Reeves *et al.*, 2002), and, therefore, their detection probabilities with traditional visual survey methods are low (Barlow and Gisiner, 2006; Barlow *et al.*, 2006). Thus, reliance on shipboard and aerial surveys can result in an underestimate of density if corrections are not applied for missed animals (Barlow 2015). The Cuvier's beaked whales are long diving animals and remain under the water's surface for extended periods, resulting in high availability and perception biases. Cuvier's beaked whale detection probability is estimated at 0.23 for shipboard surveys and 0.074 for aerial surveys (Barlow 1999). Roberts *et al.* (2016) used a correction factor to account for detection probability and estimates the abundance of beaked whales in the Northern GOM at  $n = 2,910$ . We note that the Robert's *et al.* (2016) estimate of 2,910 Cuvier's beaked whales in the Northern GOM substantially exceeded our previous stock assessment report estimate for this reason. The previous stock assessment report assumed that all animals were seen and recorded (*i.e.*,  $g(0) = 1$ ) while Robert's *et al.* (2016) estimated detection probabilities by applying a  $g(0) = 0.23$  for shipboard sightings and a  $g(0) = 0.074$  aerial sightings. The application of the correction factor to account for detection probability results in a higher abundance estimate for the Northern GOM Cuvier's beaked whale stock than that in the previous stock assessment report (Robert's *et al.*, 2016). Under the MMPA, the Cuvier's beaked whale Northern GOM stock is not considered

“strategic” because we assume that average annual human-caused mortality and serious injury does not exceed potential biological removal (Waring *et al.*, 2012).

### **Analysis of the Petition**

We first evaluated whether the petition presented the information indicated in 50 CFR 424.14(c) and 424.14 (d). The petition contains information on the Cuvier’s beaked whale, including the species description, distribution, habitat, population status and trends, and factors contributing to the status of Cuvier’s beaked whale status in the GOM. The petitioner asserts that the Cuvier’s beaked whale in the GOM qualifies as a DPS, meeting both the discreteness and significance requirements, is impacted by habitat degradation by oil spills, potential prey reduction due to fisheries, entanglement in fishing gear, vessel strikes, noise pollution, water pollution, and climate change, and that the loss of this population would represent a significant loss for the species’ diversity. Alternatively, the petition states that the Cuvier’s beaked whale is threatened or endangered in a SPOIR, which the petition identifies as the GOM.

### **DPS Analysis**

The petition requests that we list the Cuvier’s beaked whales in the GOM as a threatened or endangered DPS, and presents arguments that Cuvier’s beaked whales in the GOM meet the Services’ requirements for identifying a DPS eligible for listing. Our joint NMFS–USFWS DPS policy (61 FR 4722; February 7, 1996) identifies two elements to be considered when identifying a DPS: (1) the discreteness of the population segment in relation to the remainder of the species (or subspecies) to which it belongs; and (2) the significance of the population segment to the species to which it belongs. A population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: (1) it is markedly separated from

other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the ESA. If a population segment is considered discrete under either of the above conditions, its biological and ecological significance will then be considered in light of Congressional guidance (see Senate Report 151, 96th Congress, 1<sup>st</sup> Session) that the authority to list DPSs be used “sparingly” while encouraging the conservation of genetic diversity. In carrying out this examination, the Services consider available scientific evidence of the discrete population segment’s importance to the taxon to which it belongs.

In evaluating this petition, we first looked for information to suggest that the Cuvier’s beaked whale in the GOM may qualify as a DPS. We evaluated the information provided in the petition and readily available in our files to see if the data suggest that the Cuvier’s beaked whale in the GOM is discrete, meaning that the population is markedly separated as a consequence of physical, physiological, ecological, or behavioral factors from other populations of the Cuvier’s beaked whale.

According to the petitioner, the Cuvier’s beaked whale in the GOM is physically and ecologically separated from other Cuvier’s beaked whale populations, and is delimited by international governmental boundaries within which there are differences in management and regulations, thereby qualifying the GOM population as discrete under the DPS policy. Further, the petitioner states that the Cuvier’s beaked whale Northern GOM stock designation under the

MMPA is based on distribution data that supports their conclusion that the population is delimited by international boundaries.

The petitioner asserts that Cuvier's beaked whales in the GOM are physically separated from populations in the Caribbean and North Atlantic. The petition describes the GOM as being semi-enclosed by land on all sides, with an opening to the Caribbean Sea through the Yucatan Channel and another opening to the North Atlantic Ocean through the Straits of Florida. According to the petition, the population occurs along the continental shelf and deep-water canyons in the northern GOM (Roberts *et al.*, 2016). The petition states that sightings have occurred almost exclusively in the northern GOM, but notes a limited number of unconfirmed sightings in the Yucatan Channel (Nino-Torres *et al.*, 2015) and in the Straits of Florida off northern Cuba (Jefferson and Lynn 1994; Whitt *et al.*, 2014).

We do not find that the information presented in the petition and in our files supports the conclusion that Cuvier's beaked whales in the GOM are physically isolated from other Cuvier's beaked whale populations. While the GOM is a semi-enclosed sea, no information suggests that Cuvier's beaked whales in the GOM are unable to travel through the Yucatan Channel or Straits of Florida. As the petitioner acknowledges, there are confirmed and unconfirmed sightings data of the species potentially from the Yucatan channel and Straits of Florida. The petitioner provided information on a confirmed sighting of four Cuvier's beaked whales in the Straits of Florida offshore of Havana Cuba (Jefferson and Lynn, 1994, as cited in Whitt *et al.*, 2014). Additionally, data on other cetacean species that prefer similar habitats (slopes, canyons, and escarpments in the northern GOM) and have similar foraging niches (undertaking long, deep dives to hunt for mesopelagic squid and fish) to the Cuvier's beaked whale suggests individuals

can travel out of the GOM and into the North Atlantic Ocean and Caribbean Sea. For example, opportunistic tracking data from two rehabilitated short-finned pilot whales showed that the animals released off the Florida Keys traveled through the Straits of Florida to the Blake Plateau in the North Atlantic Ocean (offshore North and South Carolina) (Wells *et al.*, 2013). Similar movement patterns have been observed in a rehabilitated and released Risso's dolphin. In that case, tracking data from an animal released offshore of Sarasota, Florida, in the GOM, traveled more than 3,300 km into the North Atlantic Ocean off Delaware (Wells *et al.*, 2009). In addition, male sperm whales are known to move in and out of the GOM from the Atlantic Ocean and Caribbean Sea (Best 1979; Rice 1989; Whitehead 1993; and Englehaupt *et al.*, 2009). The GOM is connected to the Caribbean Sea via the Yucatan Channel, a relatively deep (2,000 m) channel, and to the Atlantic Ocean through the Straits of Florida, a channel with a depth of about 860 m (Davis and Fargion, 1996). These channels likely allow cetaceans, like Cuvier's beaked whale, to migrate to and from the North Atlantic Ocean and Caribbean Sea. No information in the petition or readily available in our files supports the conclusion that the channels are an impediment to their movement. The limited information available suggests that cetaceans that occur in deep water habitat along the continental slope similar to Cuvier's beaked whales, including the short-finned pilot whale, Risso's dolphin, and sperm whale, can move into the North Atlantic Ocean and Caribbean Sea from the GOM. This, in combination with the confirmed and unconfirmed sightings data of Cuvier's beaked whales in the Yucatan channel and Straits of Florida, indicates that Cuvier's beaked whales in the GOM can travel freely outside of the GOM. As such, we find that the petition does not present substantial information indicating that the Cuvier's beaked

whale in the GOM are markedly separated as a consequence of physical factors from Cuvier's beaked whale populations worldwide.

The petitioner also asserts that the GOM Cuvier's beaked whales are ecologically separated from neighboring Cuvier's beaked whale populations and bases this conclusion on data from other regions of the world where Cuvier's beaked whale populations exhibit long-term site fidelity behavior. Specifically, the petition cites McSweeney *et al.* (2007), who studied site fidelity, patterns of association, and movements of Cuvier's beaked whales (n=35) off Hawaii using a 21-year photographic data set, which included re-sightings of 14 individuals over the course of 15 years. The mean distance between re-sightings ranged from 2.88 km to 88.75 km, which the petitioner states is relatively small. The petition also states that Cuvier's beaked whales are year-round residents off Cape Hatteras, North Carolina, and cite to Baird *et al.* (2016), McLellan *et al.* (2015), and unpublished data. Specifically, Baird *et al.*, (2016) found that satellite tagged individuals (n=9) remained in the study area off Cape Hatteras, where the Gulf Stream crosses the continental shelf, for up to two months. According to the petitioner, photo identification studies (A. Read unpublished data) and aerial surveys also confirm long-term site fidelity in this area (McLellan *et al.*, 2015). The petitioner references a publication abstract (McLellan *et al.*, 2015) that states that aerial surveys found Cuvier's beaked whale to be the most commonly encountered species, observed in every month of the year off Cape Hatteras. Based on these studies, the petitioner asserts that it is reasonable to infer that Cuvier's beaked whales in the GOM exhibit similar site fidelity, and, as a result, are ecologically isolated from Cuvier's beaked whale populations in the North Atlantic and Caribbean. The petition did not provide the reference for "A. Read unpublished data," and we were unable to locate it within our files.

We evaluated the information provided in the petition and readily available in our files to determine if it presented substantial information indicating that Cuvier's beaked whale populations exhibit long-term site fidelity in other locations and whether Cuvier's beaked whales in the GOM would exhibit a similar behavior that could suggest ecological separation. First, we evaluated if information provided in the petition supports the assertion that Hawaii's population of Cuvier's beaked whale exhibits long-term site fidelity. McSweeney *et al.* (2007) is the primary source cited by the petitioner to support this claim. This study described site fidelity and movement patterns using photographic data for Cuvier's and Blainville's beaked whales off Hawaii's west coast. A total of 4,611 photographs of Cuvier's beaked whales were obtained from 35 encounters (23 directed, 12 opportunistic) from 1986 to 2006. The authors determined that the photographs represented 35 individuals. Of the 35 individuals, 21 (60 percent) were seen only once and 14 (40 percent) were seen on two or more occasions (McSweeney *et al.*, 2007). Five adult males and nine adult females (n=14) were seen more than once. The interval between the first and last sighting of adult males ranged from 3 to 728 days (median = 11 day). The interval between the first and last sighting of adult females ranged from 16 to 5,676 days (median = 737 days). Re-sighting intervals (*i.e.*, duration between sightings) were significantly longer for adult females (median = 432 days, range = 16 to 5,676 days) than for adult males (median = 11 days, range = 3 to 728 days). McSweeney *et al.* (2017) acknowledge that, depending on the species, male cetaceans often travel long distances in search of mating opportunities, whereas females will remain in an area or return to an area if prey are abundant or reliably concentrated (Clutton-Brock, 1989). Of the 14 individuals re-sighted, there were 13 within year re-sightings and 8 across year re-sightings. While some individual whales were re-sighted during the 21-year data

set, the intervals between re-sightings spanned multiple years. It is unknown whether the whales remained in the area or moved out of the area in the years between sightings. McSweeney *et al.* (2007) acknowledge that these Cuvier's beaked whales have a broader range and that the study area does not represent their full range. While McSweeney *et al.* (2007) suggest long-term repeated use of an area off Hawaii's west coast by some Cuvier's beaked whales (n=14), the full range of those individuals is unknown. The movements of those 14 individuals during long gaps between re-sightings (sometimes spanning years) are unknown and it is likely that their movements extended beyond the study area, as noted by the study's authors. In addition, 60 percent of the Cuvier's beaked whales recorded in McSweeney *et al.* (2017) exhibited no site fidelity. Thus, McSweeney *et al.*, (2007) does not present substantial evidence indicating that Cuvier's beaked whales exhibit long-term population level site fidelity.

Next, we evaluated the information in the petition and readily available in our files to determine whether it supports the petitioner's assertion that Cuvier's beaked whales in the northwest Atlantic exhibit high site fidelity, in support of their claim that Cuvier's beaked whales in the GOM would exhibit similar behavior. Baird *et al.* (2016) provided information on the movements and habitat use of Cuvier's beaked whales tagged off Cape Hatteras, North Carolina. Six Cuvier's beaked whales were tagged in 2015 and three animals were tagged in 2014. During 2 to 59 days of tracking, all of the tagged Cuvier's beaked whales remained on or near the continental slope off Cape Hatteras, which the authors suggest provide more evidence of a resident population than an oceanic population. Similarly, using sighting data from aerial surveys and strandings records, McLellan *et al.* (2018) concluded that the waters off Cape Hatteras provide important year-round habitat for multiple species of beaked whales. The waters off Cape

Hatteras, at the convergence of two major currents, the Labrador Current and the Gulf Stream, are an area of high biological productivity (Schaff *et al.*, 1992). Roberts *et al.* (2016) also identified a high level of marine mammal biodiversity and beaked whale abundance off Cape Hatteras. These studies indicate the waters offshore Cape Hatteras are an area of high productivity and an important habitat for marine mammals, including several species of beaked whales. However, these studies do not demonstrate that individual Cuvier's beaked whales are year-round residents of the Cape Hatteras area. Rather, the limited tracking studies and sightings data only demonstrate that Cuvier's beaked whales can regularly be found in this area of high biological productivity, likely for foraging purposes, for a period of up to 59 days. Given that the duration of the available tracking study was limited to a maximum of about 2 months, the data do not comprise substantial information indicating that any individual whale – much less any population of whales – resides exclusively in that area.

Finally, we did not find any information in the petition or readily available in our files indicating that Cuvier's beaked whales in the GOM exhibit long-term site fidelity. Site fidelity is the tendency for individuals to return to the same area repeatedly or remain in an area for an extended period, and may occur at both breeding and feeding areas. Site fidelity, in and of itself, does not necessarily mean that a population is distinct as it is possible that individuals are emigrating or migrating within the population. We found no information in the petition or readily available in our files addressing site fidelity of Cuvier's beaked whales in the GOM.

We conclude that the available information does not suggest that the Cuvier's beaked whales generally exhibit site fidelity to a degree that would result in the ecological separation of Cuvier's beaked whales in the GOM. The studies cited by the petitioner do not present

substantial information that Cuvier's beaked whale off the west coast of Hawaii or off Cape Hatteras, North Carolina, are distinct from other populations of the same taxon because of site fidelity. The majority of individuals studied by McSweeney *et al.* (2007) did not show repeated use of steep and isolated Hawaiian shelf waters, and those that were re-sighted had long intervals of time between encounters to move and mix with a broader population. Similarly, although McLellan *et al.* (2018) suggest the productive mixing zone off Cape Hatteras is an important year-round habitat for Cuvier's beaked whales, their tracking data were of insufficient duration to suggest individual whales do not mix with a broader population to an extent that would imply a markedly separate population. In addition, the GOM is a very different ecosystem from the Hawaiian shelf or the Cape Hatteras convergence zone, characterized by more broadly distributed resources, more ephemeral upwelling current patterns, and a more gradual continental slope. It is reasonable to assume that different oceanic features can influence prey availability, which can drive beaked whale distributions or preferences for particular foraging areas.

Thus, after examining the petition's references and information readily available in our files, we conclude there is not sufficient information to indicate that the Cuvier's beaked whales in the GOM are behaviorally or ecologically separated from other Cuvier's beaked whale populations. The spatial and temporal movement patterns throughout this species' range are largely unknown and no information was presented for the putative GOM DPS. Although some studies have suggested that individual Cuvier's beaked whales may exhibit some site-fidelity and repeated use of waters off Hawaii's west coast and Cape Hatteras, those findings do not support the petitioner's conclusion that the Cuvier's beaked whales in the GOM are markedly separate from other neighboring areas.

Additionally, no information in our files or in the petition indicates that Cuvier's beaked whales in the GOM are functioning independent of other populations through ecological or behavioral processes such as reproduction, communication, or foraging. Although the referenced studies provide evidence of repeated use of certain areas by Cuvier's beaked whales, they do not provide substantial evidence indicating that Cuvier's beaked whale individuals exhibit long-term site-dependency that might lead to the separation of Cuvier's beaked whales in the GOM. The available information indicates that Cuvier's beaked whales have extensive ranges with substantial mixing, which is further supported by genetic evidence confirming that Cuvier's worldwide represent a single independent genetic entity (Dalebort *et al.*, 2005). As such, the available information does not constitute substantial information indicating that Cuvier's beaked whales in the GOM are discrete from Cuvier's beaked whales worldwide because of ecological or behavioral factors. No other information on other physical, physiological, ecological, or behavioral factors for the GOM population that would suggest marked separation from other populations was in the petition or readily available in our files.

While the petitioner did not describe the genetic information in their evaluation of the discreteness criteria, we have included this information here because quantitative measures of genetics can provide evidence of separation from other populations. Although there are few samples available for genetic investigation of population structure of Cuvier's beaked whale, the data suggest limited gene flow among ocean basins. Daleboat *et al.* (2005) presented the first description of phylogeographic structure among Cuvier's beaked whales worldwide using mitochondrial DNA (mtDNA) control sequences obtained from strandings (n = 70), incidental fisheries takes (n = 11), biopsy (n = 1) and whale-meat markets (n = 5). Specimens were grouped

in ocean basins and regions within ocean basins as follows: Southern Hemisphere, n = 25 (South Pacific, n = 19; Indian Ocean, n = 6); North Pacific, n = 31 (Eastern-Central, n = 22; Western, n = 9); North Atlantic, n = 31 (Eastern, n = 5; Mediterranean, n = 12; Western-Tropical, n = 14). Strong mtDNA differentiation was observed among Cuvier's beaked whales worldwide, with over 42 percent of the total molecular variance attributed to variation between the three ocean basins (*i.e.*, Southern Hemisphere, North Atlantic, and North Pacific). Phylogenetic reconstruction revealed strong frequency differences among ocean basins, but no reciprocal monophyly or fixed character differences. The estimated rates of female migration among ocean basins are low ( $\leq 2$  individuals per generation or 15 years). These results revealed that there is little movement of female Cuvier's beaked whales among the three ocean basins. The authors note that regional sample size was too small to detect subdivisions within ocean basins except in the Mediterranean region (n = 12) where the Cuvier's beaked whale population was highly differentiated from those whales in the North Atlantic Ocean basin. The phylogeographic pattern revealed that the population in the Mediterranean differed significantly from eastern Atlantic and western-tropical Atlantic, but the latter two did not differ significantly from one another (Dalebout *et al.*, 2005). The authors note that few conclusions can be drawn about the possible existence of regional divisions within other basins until more comprehensive sampling is conducted.

While mtDNA evidence shows some population structuring indicating differences between Cuvier's beaked whale populations in the Southern Hemisphere, North Pacific and North Atlantic, it does not indicate that the Cuvier's beaked whales in the GOM are genetically separated from neighboring populations. In fact, while limited in sample size, the mtDNA

samples from the GOM (n = 1) were not significantly different from those samples from the eastern Atlantic (n = 5) and western tropical Atlantic (n = 13). Thus, the available mtDNA evidence does not suggest population structuring between the GOM and North Atlantic samples. In addition, because mtDNA is maternally inherited, differences in mtDNA haplotypes between populations do not necessarily mean that the populations are substantially reproductively isolated from each other because they do not provide any information on males. In some cases, mtDNA may indicate discreteness if female and male movement patterns are the same, but for species in which male and female movements differ, mtDNA is not sufficient to evaluate the discreteness in a population (see *e.g.*, loggerhead sea turtle, 68 FR 53947, September 15, 2003 at 53950–51 and Conant *et al.*, 2009, at 18, 22, 25–28; southern resident killer whale, Krahn *et al.*, 2002, at 23–30). The intermediate levels of mtDNA diversity observed in Cuvier’s beaked whale samples suggest that social groups are unlikely to be strongly matrifocal (Dalebout *et al.*, 2005). Additionally, the mtDNA evidence for Cuvier’s beaked whales is not coupled with nuclear DNA evidence and, at this time, it is unknown if male Cuvier’s beaked whales take seasonal migrations or whether sexes differ temporally or spatially in their distribution. As such, the available genetic evidence does not provide substantial information indicating that Cuvier’s beaked whales in the GOM are markedly separated from Cuvier’s beaked whales worldwide. We therefore conclude that the information available in our files does not provide substantial information that Cuvier’s beaked whales in the GOM are markedly separate from other populations of Cuvier’s beaked whales as a consequence of quantitative measures of genetics.

Finally, the petitioner asserts that international boundaries and differences in the control of exploitation, habitat management, and regulatory mechanisms among the United States,

Mexico, and Cuba qualify Cuvier's beaked whales in the GOM as discrete under the DPS policy. The petitioner states that these differences are highly significant in light of Section 4(a)(1)(D) of the ESA. In support, the petition states that Cuvier's beaked whales in the GOM are partly delineated by the international boundaries of Mexico and Cuba and therefore are subject to different management mechanisms that are limited in comparison to those in the United States. The only existing foreign or international regulations cited in the petition are the International Whaling Commission (IWC) and Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES). The petition states that these regulations do not address current threats to the GOM population.

We examined whether a delineation of a DPS could be made based on international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the ESA. The petition provides no information regarding Mexico or Cuba's regulatory mechanisms and does not discuss how they differ from those in the United States. In the United States, the Cuvier's beaked whale is protected by the MMPA (16 U.S.C. 1361 *et seq.*). The MMPA includes a general moratorium on the "taking" of marine mammals by any person subject to the jurisdiction of the United States within the United States, its territorial waters, the U.S. exclusive economic zone (EEZ), or on the high seas, which include for purposes of the MMPA, foreign EEZs (16 U.S.C. 1371). The MMPA also contains certain import restrictions and sets forth a national policy to prevent marine mammal species or population stocks from diminishing to the point where they are no longer a significant functioning element of their ecosystem.

While the petition asserts that the regulatory mechanisms in Mexico and Cuba are limited and are markedly different from those in the U.S., the petition fails to include any discussion related to the existing regulatory mechanisms for those countries to support its assertion. The information readily available in our files indicates that in Cuba all marine mammals are afforded protections under the Environmental Law 81, the Fishery Decree-Law 164, and the Protected Areas Decree-Law 201. The Ministry of Science Technology and Environment enacted Resolution 160/2011, listing all marine mammals as ‘Species with Special Significance’ for the country. The information readily available in our files also indicates that the government of Mexico has several environmental laws and statutes that offer protections for marine mammals, including the General Law on Ecological Equilibrium and Environmental Protection, the General Law on Wildlife, and Fisheries Law. Neither the petition nor the information in our files provide information supporting the petitioner’s claim that control of exploitation, management of habitat, conservation status, or regulatory mechanisms for the Cuvier’s beaked whale in the Gulf of Mexico differ significantly across international boundaries.

With regard to international regulatory mechanisms, the U.S., Mexico, and Cuba are all parties to the CITES. The Cuvier’s beaked whale is listed on CITES Appendix I, which means, aside from exceptional circumstances, commercial trade of products of Cuvier’s beaked whale across international borders of member countries is prohibited. Lastly, the IWC was established under the International Convention for the Regulation of Whaling, signed in 1946. The IWC established an international moratorium on commercial whaling for all large whale species in 1982, effective in 1986. This moratorium affected all member nations (IWC 2009), including Mexico and numerous other nations within the range of Cuvier’s beaked whale. Based on the

above, we have no information from which to conclude that the GOM population of Cuvier's beaked whale is discrete from other populations due to differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms that are significant in light of Section 4(a)(1)(D) of the ESA.

#### *The Relationship Between "Stock" and DPS*

The petition notes that the Northern GOM Cuvier's beaked whale is managed as a stock under the MMPA (<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock>). The petitioner states that the Cuvier's beaked whale Northern GOM stock designation under the MMPA included distribution information, which supports their assertion that the GOM whales are delimited by international boundaries, meeting the discreteness criteria under the DPS. Under the MMPA, we divided all marine mammal species into management units (stocks) based on distinct oceanographic regions (Barlow *et al.*, 1995; Wade and Angliss 1997). These stocks include Cuvier's beaked whales in Alaska, California- Oregon-Washington, Hawaii, Puerto Rico and U.S. Virgin Islands, Western North Atlantic, and Northern GOM. We consider a number of different factors when identifying marine mammal stocks under the MMPA including: (1) distribution and movements; (2) population trends; (3) morphological differences; (4) differences in life history; (5) differences in genetics; (6) contaminant and natural isotope loads; (7) parasite differences; and (8) oceanic habitat differences (NMFS 2005).

As the petitioner acknowledges, a stock under the MMPA is not equivalent to a DPS under the ESA. As discussed in the Northern GOM Cuvier's beaked whale stock assessment report (Waring *et al.*, 2012), there is no stock differentiation between Cuvier's beaked whales in

the GOM and those in nearby waters. In the absence of information, a species' range in an ocean can be divided into defensible management units (Waring *et al.*, 2012) and examples of stock areas include oceanographic regions (*e.g.*, GOM, Gulf of Alaska, California Current) (Wade and Angliss, 1997; Barlow *et al.*, 1995). Thus, we considered the Cuvier's beaked whales in the Northern GOM as a separate stock for management purposes under the MMPA (Blaylock *et al.*, 1995). However, as described above, our DPS policy contains different criteria for identifying a population as a DPS. The DPS policy requires that a population be both discrete from other populations and significant to the taxon to which it belongs. While in most circumstances we evaluate some or all of the same evidence in determining whether a population of marine mammals should be considered a stock under the MMPA or a DPS for purposes of the ESA, our determination will not always be the same for both purposes. In this case, we do not find that the distribution information for the Cuvier's beaked whale in the GOM satisfies either of the conditions for discreteness under the DPS policy. The available information does not suggest that the Cuvier's beaked whale in the GOM is markedly separate from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors, nor is it limited by international governmental boundaries within which difference in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the ESA. At this time, we find that the information in the petition and in our files, including that information which was considered in identifying the stock for management purposes under the MMPA, do not suggest that the Cuvier's beaked whale in the GOM may be discrete under the DPS policy.

### **Conclusion Regarding DPS**

Overall, based on the information in the petition and readily available in our files, and guided by the DPS Policy criteria, we are unable to find evidence to suggest that the GOM population of Cuvier's beaked whale may be discrete. Because the data do not suggest that the Cuvier's beaked whales in the GOM may be discrete from other Cuvier's beaked whale populations, we are not required to determine whether the Cuvier's beaked whales in the GOM may be significant to the global taxon of Cuvier's beaked whales, per the DPS policy. Therefore, based upon the information from the petitioner and the information readily available in our files, we conclude that the petition does not present substantial information to indicate that the GOM population of Cuvier's beaked whale may qualify as a DPS under the DPS Policy.

#### **Other Information Provided by the Petitioner**

The petitioner provided information on the general life history and biology of the Cuvier's beaked whale, a global abundance estimate, abundance estimates for the northern GOM stock, and threats (*e.g.*, oil spills, oil and gas exploration, vessel strike, acoustic impacts, fishery entanglement etc.) to Cuvier's beaked whales in the GOM. Because we conclude that the petition does not present substantial information to indicate that the GOM population may qualify as a DPS under the DPS Policy, the petitioned entity does not constitute a "species" that is eligible for listing under the ESA. Thus, we do not need to evaluate whether the information in the petition indicates that this population faces an extinction risk that is cause for concern.

#### **Significant Portion of its Range**

As an alternative to listing the GOM Cuvier's beaked whale as a DPS, the petitioner requests the Cuvier's beaked whale be listed because the species is threatened or endangered in a SPOIR, which the petition identifies as the GOM.

The petitioner states that NMFS incorrectly interprets SPOIR in the NMFS/FWS SPOIR Policy (79 FR 37578; July 1, 2014), and recommends that NMFS should interpret the phrase “significant portion of its range” as a portion of a species’ range that faces high extinction risk (threatened or endangered) and that is biologically significant based on the principles of conservation biology using the concepts of redundancy, resilience, and representation (the three Rs) (Shaffer & Stein 2000). Such concepts can also be expressed in terms of the four population viability characteristics commonly used by NMFS: abundance, spatial distribution, productivity, and diversity of the species. While the petitioner requests we apply their alternative interpretation of SPOIR, the petition does not include any specific explanation or analysis addressing how the GOM is “biologically significant” based on the concepts of redundancy, resilience, and representation.

We acknowledge that the SPOIR Policy’s definition of “significance” has been invalidated in recent litigation involving FWS. *See Desert Survivors v. DOI*, No. 16-cv-01165-JCS, 2018 WL 2215741 (N.D. Cal. May 15, 2018); *Ctr. for Biological Diversity v. Jewell*, 248 F. Supp. 3d 946 (D. Ariz. 2017). While we do not apply that definition in this finding, we note that the remainder of the SPOIR Policy remains valid and binding, including the provision that any listings made as a consequence of being threatened or endangered in a SPOIR must be rangewide.

For purposes of reviewing this particular petition, but without adopting a standard for other decisions, we analyzed the data provided in the petition and information readily available in our files to see if there is any basis to conclude that the GOM population of Cuvier’s beaked whales is “significant.” As previously discussed, the Cuvier’s beaked whale is among the most

common and abundant of all the beaked whales, and their abundance worldwide is likely over 100,000 individuals (Taylor *et al.*, 2008). Cuvier's beaked whales in the GOM comprise only a very small portion of this relatively large global population (Dalebout *et al.*, 2005; Taylor *et al.*, 2008). The more recent abundance estimate (n = 2,910, in Roberts *et al.*, 2016) for the Cuvier's beaked whales in the GOM indicates that those whales comprise less than 3 percent of the taxon's global abundance. Additionally, the species has an extensive distribution, with Cuvier's beaked whales found throughout the world's oceans, ranging from equatorial tropical to cold temperate waters (Heyning and Mead 2009), and no available information suggests that the Cuvier's beaked whales in the GOM are physically isolated from other Cuvier's beaked whale populations (Best 1979; Rice 1989; Whitehead 1993; Englehaupt *et al.*, 2009; and Wells *et al.*, 2009, 2013). The available genetic evidence also does not provide substantial information indicating that Cuvier's beaked whales in the GOM are markedly differentiated from Cuvier's beaked whale worldwide (Dalebout *et al.*, 2005) that may indicate genetic significance. The available genetic evidence indicates the Cuvier's beaked whale is a single global species (monotypic genus) that is relatively abundant and widely distributed throughout the world's oceans (Dalebout *et al.*, 2005). There is no evidence of genetic differentiation between Cuvier's beaked whales in the GOM and neighboring populations, and thus no information to suggest that the loss of the GOM would result in a significant loss in genetic diversity to the species as a whole or affect the species' ability to adapt to changes in its environment.

Based on the information presented in the petition and readily available in our files, we do not find substantial information to suggest that the GOM population may be "biologically significant" to the taxon as a whole based on the concepts of redundancy, resilience, and

representation. We therefore conclude that the petition does not present substantial information that the GOM population may be “significant,” nor that it is of such significance that would be commensurate with the SPOIR Policy’s direction that the listing be rangewide. Because the petition does not provide evidence or discussion as to how the GOM qualifies as a SPOIR, and the information in the petition and our files do not support such a conclusion, we conclude that the petition does not present substantial information indicating that listing Cuvier’s beaked whale as endangered or threatened in a SPOIR may be warranted.

### **Petition Finding**

After reviewing the information contained in the petition, as well as information readily available in our files, we conclude the petition does not present substantial scientific or commercial information indicating that the petitioned action may be warranted.

### **References Cited**

A complete list of all references is available upon request from the Protected Resources Division of the NMFS Southeast Regional Office (see ADDRESSES).

### **Authority**

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

**Dated:** March 20, 2019.

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Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.  
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