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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[Docket No. 131105931-3931-01]

RIN 0648-XC970

Endangered and Threatened Wildlife; Notice of 90-Day Finding on a Petition to List the Caribbean Electric Ray as Threatened or Endangered Under the Endangered Species Act (ESA)

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

ACTION: Notice of 90-day petition finding, request for information, and initiation of status review.

SUMMARY: We (NMFS) announce a 90-day finding on a petition to list the Caribbean electric ray (*Narcine bancroftii*) as threatened or endangered under the ESA. We find that the petition and information readily available in our files present substantial scientific or commercial information indicating that the petitioned action may be warranted. We will conduct a status review of the species to determine if the petitioned action is warranted. To ensure that the status review is comprehensive, we are soliciting scientific and commercial information pertaining to this species from any interested party.

DATES: Information and comments on the subject action must be received by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit comments, information, or data on this document, identified by the code NOAA-NMFS-2014-0011, by any of the following methods:

- Electronic Submissions: Submit all electronic comments via the Federal eRulemaking Portal. Go to www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2014-0011, click the “Comment Now!” icon, complete the required fields, and enter or attach your comments.
- Mail: Submit written comments to Office of Protected Resources, NMFS, 1315 East-West Highway, Silver Spring, MD 20910.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on www.regulations.gov without change. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter "N/A" in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, or Adobe PDF file formats only.

FOR FURTHER INFORMATION CONTACT: Therese Conant, NMFS, Office of Protected Resources, (301) 427-8456.

SUPPLEMENTARY INFORMATION:

Background

On September 7, 2010, we received a petition from WildEarth Guardians to list the Caribbean electric ray as threatened or endangered throughout its historic and current range and to designate critical habitat within the territory of the United States concurrently with listing the species under the ESA. On March 22, 2011 (76 FR 15947), we made a 90-day finding that the petition did not present substantial scientific or commercial information indicating that the

petitioned action may be warranted. On March 22, 2012, we received a 60-day notice of intent to sue from WildEarth Guardians on the negative 90-day finding. On February 26, 2013, WildEarth Guardians filed a Complaint for Declaratory and Injunctive Relief in the United States District Court for the Middle District of Florida, Tampa Division, on the negative 90-day finding. On October 1, 2013, we entered a court settlement agreement to accept a supplement to the 2010 petition, if any is provided, and to make a new 90-day finding based on the 2010 petition, its supplement, and any additional information readily available in our files. On October 31, 2013, we received a supplemental petition from WildEarth Guardians and Defenders of Wildlife.

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 a petition includes substantial scientific or commercial information indicating that 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, which includes conducting a comprehensive review of the best available scientific and commercial information. In such cases, and within 12 months of receipt of the petition, we must conclude the review with a finding as to whether, in fact, the petitioned action is warranted. 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 finding that the "petition presents substantial

scientific or commercial information indicating that the petitioned action may be warranted” at this point does not predetermine the outcome of the status review.

Under the ESA, a listing determination may address a species, which is defined to also include subspecies and, for any vertebrate species, any DPS that interbreeds when mature (16 U.S.C. 1532(16)). A joint NMFS-USFWS (jointly, “the Services”) policy (DPS 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: (1) the present or threatened destruction, modification, or curtailment of habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) 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(b)) define "substantial information" in the context of reviewing a petition to list, delist, or reclassify a species as the amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted. In evaluating whether substantial information is contained in a petition, the Secretary must consider whether 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, describing, based on available information, past and present numbers and distribution of the species involved and any threats faced by the species; (3) provides information regarding the status of the species over all or a significant portion of its range; and (4) is accompanied by the appropriate supporting documentation in the form of bibliographic references, reprints of pertinent publications, copies of reports or letters from authorities, and maps (50 CFR 424.14(b)(2)).

Judicial decisions have clarified the appropriate scope and limitations of the Services' review of petitions at the 90-day finding stage, in making a determination that a petition presents substantial information indicating the petitioned action "may be" warranted. As a general matter, these decisions hold that a petition need not establish a "strong likelihood" or a "high probability" that a species is either threatened or endangered to support a positive 90-day finding.

At the 90-day finding stage, we evaluate the petitioners' request based upon the information in the petition including its references and the information readily available in our files. 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 readily available 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 would conclude it supports the petitioners'

assertions. In other words, conclusive information indicating that 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 negates a positive 90-day finding if a reasonable person would conclude that the unknown information itself suggests an extinction risk of concern for the species at issue.

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 that the subject species may be either threatened or endangered, as defined by the ESA. First, we evaluate whether the information presented in the petition, along with 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 an extinction risk that is cause for concern; 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; we then assess the potential significance of that negative response.

Many petitions identify risk classifications made by non-governmental 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 other organizations or made under other Federal or state statutes may be informative, but such classification alone may not provide the rationale for a positive 90-day finding under the ESA. For example, as explained by NatureServe, their assessments of a species' conservation status do "not constitute a recommendation by NatureServe for listing under the U.S. Endangered Species Act" because NatureServe assessments "have different criteria, evidence requirements, purposes and taxonomic coverage than government lists of endangered and threatened species, and therefore these two types of lists should not be expected to coincide" (<http://www.natureserve.org/prodServices/statusAssessment.jsp>). 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.

Analysis of the Petition

The following analyzes the 2010 petition from WildEarth Guardians and the 2013 supplement to the petition from WildEarth Guardians and Defenders of Wildlife.

General

The petition clearly indicates the administrative measure recommended and gives the scientific and common name of the species. Based on the information presented in the petition,

the supplement to the petition, along with the information readily available in our files, we find that the petitioned species, Narcine bancroftii, constitutes a valid “species” eligible for listing under the ESA as it is considered a valid taxonomic species. The petition also contains a narrative justification for the recommended measures and provides limited information on the species’ geographic distribution, habitat, and threats. Finally, the petition is accompanied by supporting documentation.

Species Description and Distribution

The petition describes the Caribbean electric ray as a small, shallow-water ray found on soft, sandy substrates from the intertidal zone to depths of 35 m (Carvalho et al. 2007) to 55 meters (Press 2010). It concentrates in the surf zone or sand bars adjacent to barrier beaches during warm months and moves offshore in winter (Rudloe 1989). It is the only electric ray that inhabits shallow waters along the United States coastline. The Caribbean electric ray is sandy or brown in color with darker, dusty blotches, and the underside is white to creamy, sometimes with grey or brown blotches (McEachran and Carvalho 2002). It is characterized by a flattened, oval-shaped disc, large pelvic fins, and oversized dorsal and caudal fins that cover most of its tapering tail (Tricas et al. 1997). The Caribbean electric ray produces 14-37 volts of electricity that can deliver a small jolt but is not strong enough to harm humans (Smith 1997; Tricas et al. 1997). The shock may be used to stun prey or as a defense against predators (Smith 1997). The Caribbean electric ray eats bottom-dwelling invertebrates, primarily sand worms, but also small fishes, young snake eels, anemones, and crustaceans (Tricas et al. 1997; Press 2010). Predators include large fishes and sharks (Press 2010).

Caribbean electric ray males mature at a size of 22-33 cm and females at 20-26 cm body length. It can reach a maximum size of 60 cm total length (Press 2010; Carvalho et al. 2007).

Females reach sexual maturity at about two years (Carvalho et al. 2007) and retain developing embryos during a three-month gestation period (Press 2010). However, diapause is possible, extending the gestation period to up to 11-12 months (Press 2010). Embryos are first nourished with yolk and then with histotroph, a protein-rich liquid (Press 2010). Females move into the surf zone in late summer to bear approximately 20 live pups (Smith 1997; Tricas et al. 1997; McEachran and Carvalho 2002; Carvalho et al. 2007). Pups average about 11 cm in length at birth and, like other sharks and rays, have a more intense color pattern than adults (Tricas et al. 1997). At birth, the young are able to produce the electrical charge (Press 2010).

The petition cites Carvalho et al. (2007), which describes the Caribbean electric ray as ranging in the western Atlantic from North Carolina, through the Gulf of Mexico, the Caribbean (except for the Bahamas where its presence is unknown), the Lesser and Greater Antilles, and the north coast of South America. Individual populations are localized, but individuals move onshore during warm months and offshore during winter months in the Gulf of Mexico (Rudloe 1989).

Species Status

The petition states the ray has declined 98 percent since 1972 in the northern Gulf of Mexico citing Carvalho et al., (2007). The petition refers to a study by Shepherd and Myers (2005) that estimated the species' relative abundance from fisheries independent survey data available from 1972 to 2002. The data presented in that study show what appears to be a significant decline in mean standardized catch per tow of the Caribbean electric ray from 1972 to 1973, then consistently low catch through 2002. Shepherd and Myers (2005) found steep declines in catch per tow for shallow water shark and ray species, including the Caribbean electric ray, while catch per tow increased for deep water species. They concluded, "While a

suitable time series of elasmobranch bycatch in this fishery [shrimp] was not available, our results and supporting evidence suggest that the declines we observed are because of bycatch in the shrimp trawl fishery, from which deeper waters provide refuge.” Shepherd and Myers (2005; supplement S2) found a more positive, but not significant, trend in Caribbean electric ray abundance since 1992 when turtle excluder devices (TEDs) were required by regulation to be used in shrimp trawls operating in the Gulf of Mexico.

Additional data in our files is from the Southeast Area Monitoring and Assessment Program (SEAMAP-Gulf of Mexico <http://seamap.gsmfc.org/>) for the period 1992 through 2012 regarding the annual capture of Caribbean electric rays. This is a continuation of the same dataset analyzed by Shepherd and Myers (2005). Using the NMFS Gulf Shrimp Landing Statistical Zones (for a Zone map see Figure 1:

http://www.sefsc.noaa.gov/sedar/download/S27_RD_05_SEAMAP%20TRAWL%20PROTOCOL.pdf?id=DOCUMENT) we analyzed the additional data at finer geographic resolution. That analysis shows high variability in catch both temporally and spatially. For example, if we divide the data by decade in Zone 11 (off shore Mississippi and Alabama) in the autumn, 60 Caribbean electric rays were counted between 1982 to 1991; 25 between 1992-2001; and 20 between 2002-2011. During spring in the same Zone 11, 97 Caribbean electric rays were counted between 1982-1991 and 0 between 1992-2011. In Zone 12 (off shore Louisiana), 19 Caribbean electric rays were counted in 1989 and virtually were absent in all other years. Yet other zones appear to have increased counts of Caribbean electric rays. For example, Zone 20 (off shore mid to lower Texas) during the summer, 1 Caribbean electric ray was captured between 1982-1991; 4 between 1992-2001; and 34 between 2002-2011. The apparent trends in the counts could be due to many factors, including sampling error, sampling regime (e.g., not consistently sampling habitat types

where the Caribbean electric ray is found), and environmental conditions that cue the ray to congregate or disperse. However, this interpretation is tempered by the Shepherd and Myers (2005) abundance study in the northern Gulf of Mexico, and the examination of the updated SEMAP- GOM showing high counts in some zones followed by zero counts over several decades. In the absence of a detailed sampling regime for the SEMAP-GOM surveys, we would anticipate such long-term data set to account, in part, for catch variability due to distribution and abundance or sampling regimes. Thus, one fair interpretation of the data is that localized populations are being depleted in some areas of the northern Gulf of Mexico.

The petition cites Shepherd and Myers (2005) claiming that the population has decreased around 95 percent in coastal areas between Cape Canaveral, Florida, and Cape Hatteras, North Carolina, in trawl surveys between 1989 and 2001. Although we were unable to find such statement in the referenced study, we found it in the IUCN report (Carvalho et al. 2007). We accept the characterization of the information at this 90-day finding, but note that Carvalho et al. (2007) provide no citation or source to support their statement. Also, we were unable to locate information readily available in our files to support the statement. The 2013 supplement to the petition provided Southeast Area Monitoring and Assessment Program (SEAMAP-SA) reports from 1990 through 2007 (<https://www.dnr.sc.gov/marine/mrri/SEAMAP/SMreports.html>). SEMAP trawl surveys were conducted in coastal waters from Cape Hatteras, North Carolina, south to Cape Canaveral, Florida. From 1990-2000, 98 Caribbean electric rays were counted, of which 96 were reported from shallow water (4-10 meter depth) surveys. In 2001, outer strata sampling stations were eliminated and inner strata stations increased from 78 to 102. Given that the majority of rays were found in shallow water strata, we averaged the annual number of Caribbean electric rays counted at shallow water stations from 1990 through 2000 (8.7 rays/year)

and 2001 (the year sampling methods changed) through 2007 (7.9 rays/year). The data can also be presented as the number of Caribbean electric ray observations per unit sampling effort for inner strata stations, which shows 0.037 (96 observations / 2570 inner strata stations) from 1990 through 2000 and 0.026 (55 observations / 2142 inner strata stations) from 2001 through 2007. We do not have the raw data to derive the confidence intervals around all of these numbers, and we cannot assume a normal distribution given the possibility of catch variability. However, the numbers are lower in recent years, which may indicate changes in sampling regimes, habitat type surveyed, or localized environmental events. Also plausible, the lower counts in recent years may indicate a decline in the Caribbean electric ray population in the region.

The petitioner claims the Caribbean electric ray has such a critically low population count that it is increasingly vulnerable to extirpation from stochastic events. To determine that there is substantial information indicating that the species may be in danger of extinction now or in the foreseeable future due to small population size or stochastic events, information provided in the petition or readily available in our files should be specific to the species and should reasonably suggest that these factors may be operative threats that act on the species to the point that it may warrant protection under the ESA. Broad statements about a generalized threat to species with small populations do not constitute substantial information that listing may be warranted. The petition mischaracterizes Rudloe (1989) as indicating the Caribbean electric ray exhibits small home ranges and is highly localized within an area (Rudloe 1989). Instead, Rudloe (1989) reports on capture of Caribbean electric rays from four offshore stations where sampling was designed to include areas utilized by the species at various seasons as the ray moves on and offshore through the year. Rudloe (1989) found that the Caribbean electric ray was “concentrated over an extremely limited area on each bar” and “as little as several tens of meters

change in position could determine whether there were two or 20 rays.” The petition cites Rudloe (1989) stating the Caribbean electric ray does not migrate extensively. Rudloe (1989) tagged 455 rays and released them at the point of capture off Franklin and Gulf Counties, Florida. Ten rays were recaptured between 1 and 7 months. Although Rudloe (1989) did not provide distances between release and recapture, three of the 10 were found at the release point after 1 or 2 months, and an examination of maps indicate those that travelled went a linear distance of approximately 25 miles (40 km) between release and recapture. Rudloe (1989) did not provide population estimates but concluded that “...its low rate of reproduction and localized distribution make it highly vulnerable to over fishing.”

Although, the petition fails to provide substantial evidence that the Caribbean electric ray’s population is critically low throughout its range, data in the petition and in our files suggest the number of Caribbean electric rays reported from fisheries independent survey data has been variable (SEAMAP-Gulf of Mexico <http://seamap.gsmfc.org>) and declines of 98 percent of their 1972 survey abundance may have occurred in the northern Gulf of Mexico (Shepherd and Myers 2005). Also, fewer rays have been reported annually since 2001 despite increased sampling in nearshore waters along the U.S. Atlantic coast (SEAMAP-Gulf of Mexico <http://seamap.gsmfc.org>). However, the petition and information in our files do not provide evidence that the species’ distribution and abundance is vulnerable to threats and at greater extinction risk due to stochastic and chronic events.

The petition describes several other demographic factors specific to the Caribbean electric ray that could indicate extinction risk, including the abortion of embryos by gravid females when stressed (Acevedo et al. 2007a) and low survival rates of incidentally caught individuals (Carvalho et al. 2007; Moreno et al. 2010). The majority of the other demographic

factors are discussed in the IUCN (Carvalho et al. 2007) synopsis of the threats to the species, which the petitioner relies heavily upon to support the assertion that the Caribbean electric ray is imperiled. The IUCN could not identify a population trend for the Caribbean electric ray.

The petition cites the abortion of embryos by gravid females caught in shrimp trawls as another characteristic that imperils the species by lowering its reproductive output (Acevedo et al. 2007a). The petition cites Acevedo et al. (2007a) as a source for abortions by gravid females as a result in Colombian artisanal shrimp fisheries. Acevedo et al. (2007a) reported on two adult females caught in Colombian artisanal shrimp fisheries and one female had placental material in the uterus. It is unclear whether the exposure to the fishery was the cause for the absence of embryos or whether the individual had given birth recently. Although removing gravid females from a population is a characteristic that would lower reproductive output, the petition provides no information on the rate at which gravid females are caught or the rate of spontaneous natural abortion. The petition also asserts that Caribbean electric rays are generally discarded at sea, and survivorship rates are believed to be quite low, citing Moreno et al. (2010) and the IUCN's assessment of the species (Carvalho et al., 2007). Moreno et al. (2010) state the Caribbean electric ray has no commercial value in Colombia and is returned to the sea. They do not provide data on bycatch condition or survivability. Review of the IUCN assessment provided no additional information, and we have no information readily available in our files on the survivorship of incidentally caught Caribbean electric rays. Beyond the IUCN statement, the petition provides no additional information on the survival rates of Caribbean electric rays incidentally caught in shrimp trawls. Without specific information on the extent of bycatch of reproductive females, rates of abortion, and post-interaction survivorship, it is difficult to determine what effects these traits may have on the species' extinction risk.

The petition cites García et al. (2010) who found that chondrichthyans tend to have a higher extinction risk if they are matrotrophically viviparous (i.e., embryos are nourished by their mothers during development) as are Caribbean electric rays. Garcia et al. (2010) also found that the life-history traits and the extinction risk of chondrichthyans are highly associated with habitat. That is, deep water chondrichthyans with longer turnover times (i.e. slower growth, later age at maturity, and higher longevity) are at higher risk of extinction than oceanic and continental shelf chondrichthyans (Garcia et al. 2010) as are Caribbean electric rays. These data on life-history traits and extinction risk are general statements on risk to the Class Chondrichthyans and are not specific to the Caribbean electric ray. Broad statements about generalized extinction vulnerability do not constitute substantial information indicating that listing may be warranted due to concerns for extinction risk.

Threats to the Caribbean Electric Ray

The petition asserts that the Caribbean electric ray meet three of the ESA section 4(a)(1) listing factors: the present or threatened destruction, modification, or curtailment of habitat or range; inadequacy of existing regulatory mechanisms; and other natural or manmade factors affecting the species' existence.

In terms of habitat destruction, the petition claims the Caribbean electric ray is threatened from energy development, burgeoning human populations, and other pressures. The petition states that although the Caribbean electric ray's range is relatively large, localized habitat loss and degradation are threats to significant portions of the species' range. The petition also makes a general reference to how coastal areas of the United States and other nations are being threatened and destroyed, and references studies suggesting these changes are affecting all species of sharks and rays (Camhi et al., 1998). The only specific statement provided in the

petition regarding the extent of habitat degradation is from the proposed rule to list the largemouth sawfish under the ESA (75 FR 25174; May 7, 2010), which stated that wetland losses from 1998 to 2004 in the Gulf of Mexico region averaged annual net losses of 60,000 acres (242.8 km²) of coastal and freshwater habitats, largely due to commercial and residential development, port construction (dredging, blasting, and filling activities), construction of water control structures, modification to freshwater inflows (Rio Grande River in Texas), and gas and oil related activities. The species description provided in the petition states the Caribbean electric ray concentrates in the surf zone adjacent to barrier beaches and sand bars in warm months and moves offshore in winter (Rudloe 1989), and “are unable to penetrate fresh water to any extent.” Given this description, the petition fails to demonstrate why or how the loss of wetlands and freshwater habitats would affect a species commonly found in sandy marine habitats.

The petition mentions the BP Deepwater Horizon (DWH) oil spill that occurred in April 2010. The petition claims that following the DWH oil spill disaster, the threat of habitat modification and degradation is now more acute for Gulf of Mexico marine life, including the Caribbean electric ray. The petition concludes that “the current oil spill situation, combined with the already-strained ecosystems in the Gulf of Mexico and coastal areas within the Ray’s range, is a recipe for extinction, particularly given its current lack of ESA protection.” The petition further states that drilling for oil and gas subjects marine species, including the Caribbean electric ray, to elevated risks. Finally, the petition references the IUCN’s statement that pollution and oil exploration may also adversely affect the habitat of the Caribbean electric ray, although no specific information is available (Carvalho *et al.*, 2007), as supporting evidence of habitat degradation.

We acknowledge that coastal habitats in the United States are being impacted by urbanization and oil and gas exploration may adversely affect the marine environment. The DWH oil spill was an unprecedented disaster, likely impacting the marine ecosystem in ways that may not be fully known for decades. However, the petition fails to provide any information on the specific effects to Caribbean electric rays beyond broad statements on the impacts of coastal development and oil and gas exploration. Thus, these threats do not constitute substantial information that listing may be warranted.

Beyond the impacts from habitat loss and oil and gas exploration, the petition also presents arguments that the destruction of coral reef habitats may be adversely affecting the Caribbean electric ray. The petition states that habitat degradation in the form of coral reef destruction is a serious threat to Caribbean electric ray populations living in coral reef habitats. The petition erroneously cites Press (2010) as describing the Caribbean electric ray possibly inhabiting coral reefs. Press (2010) describes the electric ray habitat as “shallow coastal waters buried beneath the sand, mud or swimming among the sea grass beds.” Press (2010) also states that the species can be found at greater depth, but does not specify the habitat type. Reef habitats in the Gulf of Mexico and Caribbean are threatened by multiple factors, including: natural abrasion and breakage, anthropogenic abrasion and breakage, sedimentation, persistent elevated sea surface temperature, competition, excessive nutrients, and sea level rise. However, the petition fails to demonstrate to what extent, if any, the Caribbean electric ray use these habitats and how impacts to coral reefs would cause specific adverse effects to the species. Thus, the petition fails to provide substantial information that listing may be warranted because of destruction of coral reef habitat.

The petition also requests that we consider the effects of Florida red tide in limiting the range of Caribbean electric ray. The petition asserts that the red tide (Karenia brevia) impacts many species of fish and wildlife in the Gulf of Mexico and along the Florida coast. While red tide events can cause deaths of aquatic species, possibly even the Caribbean electric ray, the petition fails to describe how and to what extent red tides may be affecting the species. More importantly, the petition fails to provide compelling evidence regarding how the natural, localized phenomenon of red tide is impacting habitat used by the Caribbean electric ray. Thus, the petition fails to provide substantial information that listing may be warranted due to the present or threatened destruction, modification, or curtailment of habitat or range.

In terms of the inadequacy of existing regulatory mechanisms, the petition asserts there are no specific regulations in place to protect the Caribbean electric ray. The petition claims that since shrimp trawl bycatch is the primary threat to the species, the regulations requiring the use of TEDs and bycatch reduction devices (BRDs) are inadequate because TEDs and BRDs do not effectively release Caribbean electric rays.

The lack of species-specific regulations does not necessarily mean a species' listing is warranted. To conclude that listing may be warranted because of inadequate regulatory mechanisms, there must be evidence that the lack of regulations has actually caused or is a contributing factor to the potential endangerment of the Caribbean electric ray. The petition fails to provide any supporting information about how the lack of species specific regulations has actually contributed to the endangerment of the Caribbean electric ray. Regarding the efficacy of TEDs and BRDs in releasing Caribbean electric rays, the petition fails to provide substantial information specific to the species regarding the release or retention rates of Caribbean electric rays in shrimp nets equipped with TEDs and BRDs. Instead, the claim that TEDs and BRDs are

ineffective is based on broad statements about finfish swimming ability related to size. Specifically, the petition states that devices intended to reduce bycatch are ineffective for this species due to its size and slow speed (Steele et al. 2002). Steele et al. (2002) did not include the Caribbean electric ray or any other ray species. The statement that larger fish are more likely to escape than smaller fish because swimming ability is positively associated with size is not applicable to the Caribbean electric ray because it is not a finfish. The petition fails to present any information to suggest that TEDs and BRDs are ineffective in releasing Caribbean electric ray. Thus, the petition fails to provide substantial information that listing may be warranted due to inadequacy of existing regulatory mechanisms.

In terms of other natural or manmade factors, the petition claims that the Caribbean electric ray faces threats from incidental take in inshore shrimp trawls and other fisheries in U.S. waters and abroad. The 2013 supplement characterizes this threat under the listing factor: overutilization for commercial, recreational, scientific, or educational purposes. For purposes of this notice, we will keep the discussion under other natural or manmade factors as there is no evidence of directed harvest. The petition cites several documents indicating that the Caribbean electric ray is incidentally taken in shrimp fisheries, especially in Colombia (Acevedo et al. 2007a, b; Grijalba-Bendeck et al. 2007, 2012; Moreno et al. 2010). We accept that the Caribbean electric ray is bycaught in fisheries. Approximately 140 females and 60 males were incidentally taken in artisanal and commercial fisheries operating in Colombia from August 2005 through October 2006 (Moreno et al. 2010; Grijalba-Bendeck et al. 2007, 2012). The bycatch consisted mostly of sexually mature adults, but all life stages were represented. Acevedo et al. (2007a) subsampled discards from the shrimp trawl fleet operating in Colombia from August through November 2004. A total of six Caribbean electric rays were sampled, and all were

mature adults (Acevedo et al. 2007a). However, these studies looked at reproductive aspects by necropsying individuals, and it is unclear whether the samples were killed in the fisheries or were killed for the study. Either scenario is plausible. Other studies examined composition and distribution of shark and ray assemblages bycaught in fisheries over short periods of time in different regions of Colombia (Acevedo et al. 2007b; Grijalba-Bendeck et al. 2007). None of these studies provide specific information on how the species may be responding to the exposure to the Colombian fisheries. The petition also cites Shepherd and Myers (2005) as indicating that nearshore shrimp trawl fisheries are impacting the Caribbean electric ray in the northern Gulf of Mexico. Shepherd and Myers (2005) analyzed fisheries independent data and found a severe decline in catch per unit effort between 1972 and 1973 of the Caribbean electric ray in the northern Gulf of Mexico. Shepherd and Myers (2005) concluded that the decline was due to bycatch in the shrimp trawl fishery (see Species Status section above). All other petition documents and information readily available in our files provide general information on the threat of bycatch to rays; none of these documents are specific to the Caribbean electric ray. Thus, we know some bycatch of the Caribbean electric ray occurs in fisheries operating in Colombia (Acevedo et al. 2007a, b; Grijalba-Bendeck et al. 2007, 2012; Moreno et al. 2010), and we have one study (Shepherd and Myers 2005) indicating that nearshore shrimp trawl fisheries operating in the northern Gulf of Mexico may impact the Caribbean electric ray in this region. It is reasonable to infer that if Caribbean electric ray populations may have declined in one area due to fisheries, then it is plausible that similar impacts to the species may occur in other areas of known fisheries bycatch. For these reasons, we conclude that the information in the petition and readily available in our files constitute substantial information indicating that listing may be warranted due to impacts from incidental take in fisheries.

Petition Finding

We conclude that the 2010 petition and 2013 supplement to the petition present substantial scientific or commercial information indicating that the petitioned action may be warranted due to the following ESA section 4(a)(1) factor that may be causing or contributing to an increased risk of extinction for the Caribbean electric ray: other natural and manmade factors due to incidental capture in fisheries. Data in the petition suggest that declines in Caribbean electric ray populations in localized areas in the northern Gulf of Mexico may have occurred. Data in the petition and in our files suggest that numbers of Caribbean electric rays reported in the fisheries independent surveys in both the Gulf of Mexico are highly variable: some areas have increased counts and others have decreased counts. One explanation is that the concentrated distribution of the ray would result in variable catch data. However, some areas have high counts followed by zero counts over the decades of the data series, indicating an absence of individuals from an area over time. Data in the petition and in our files show fewer Caribbean electric rays have been reported in the southeast Atlantic since 2001 when surveys were increased in shallow waters where the ray has historically been found. Data in the petition and in our files suggest that in the northern Gulf of Mexico those declines may be due to incidental capture in fisheries and incidental capture in fisheries occurs in other areas of the species' range. Further, we conclude that the petition does not present substantial scientific or commercial information indicating that the petitioned action may be warranted based on the following ESA section 4(a)(1) factors: the present or threatened destruction, modification, or curtailment of its habitat or range; or inadequacy of existing regulatory mechanisms. The petition also asserts that listing the Caribbean electric ray may not be warranted based on the ESA section 4(a)(1) factors: overutilization for commercial, recreational, scientific, or

educational purposes (note: The 2013 supplement categorized incidental capture in fisheries under this factor, whereas the original petition discussed it under other natural or manmade factors. For purposes of the analysis, we considered it as categorized by the original petition because there is no evidence of directed harvest); or disease or predation. Because we have determined that the petitioned action may be warranted, we did not examine those assertions as they will be analyzed in the status review.

After reviewing the information contained in the petitions, as well as information readily available in our files, and based on the above analysis, we conclude that the petition presents substantial scientific information indicating that the petitioned action of listing the Caribbean electric ray may be warranted. Therefore, in accordance with section 4(b)(3)(B) of the ESA and NMFS' implementing regulations (50 CFR 424.14(b)(2)), we will commence a status review of the species.

Information Solicited

To ensure that the status review is based on the best available scientific and commercial data, we are soliciting information on whether the Caribbean electric ray may warrant listing as threatened or endangered. Specifically, we are soliciting data and information, including unpublished data and information, in the following areas: (1) historical and current distribution and abundance of this species throughout its range; (2) historical and current population trends; (3) life history and habitat requirements (4) population structure information, such as genetics data; (5) past, current and future threats specific to the Caribbean electric ray, including any current or planned activities that may adversely impact the species, especially information on destruction, modification, or curtailment of habitat and on bycatch in commercial and artisanal fisheries worldwide; (6) ongoing or planned efforts to protect and restore the species and its

habitat; and (7) management, regulatory, and enforcement information species and their habitats; We request that all information be accompanied by: (1) supporting documentation such as maps, bibliographic references, or reprints of pertinent publications; and (2) the submitter's name, address, and any association, institution, or business that the person represents.

References Cited

A complete list of references is available upon request from NMFS Protected Resources Headquarters 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: January 24, 2014.

Alan D. Risenhoover,

Director, Office of Sustainable Fisheries, performing the functions and duties of the Deputy Assistant Administrator for Regulatory Programs,
National Marine Fisheries Service.

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