



**Billing Code 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**[Docket No. 160517429-6429-01]**

**RIN 0648-XE635**

**Endangered and Threatened Wildlife; 90-Day Finding on a Petition to List The Maui and Kona Reef Manta Ray Populations as Threatened Distinct Population Segments Under the Endangered Species Act**

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

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

**SUMMARY:** We, NMFS, announce a 90-day finding on a petition to list the Maui and Kona reef manta ray (*Manta alfredi*) populations as threatened distinct population segments (DPSs) under the Endangered Species Act (ESA). We find that the petition and information in our files do not present substantial scientific or commercial information indicating that either the Maui or Kona reef manta ray population may qualify as a DPS under the ESA. As such, we find that the petition does not present substantial scientific or commercial information indicating that the Maui and Kona reef manta ray populations are “species” eligible for listing under the ESA. However, in response to a previous petition to list the entire reef manta ray species under the ESA, we are currently conducting a status review of *M. alfredi* to determine if the species warrants listing throughout all or a significant portion of its range.

**ADDRESSES:** Copies of the petition and related materials are available on our website at <http://www.fisheries.noaa.gov/pr/species/fish/manta-ray.html>.

**FOR FURTHER INFORMATION CONTACT:** Maggie Miller, Office of Protected Resources, 301-427-8403.

**SUPPLEMENTARY INFORMATION:**

**Background**

On April 26, 2016, we received a petition from Dr. Mark Deakos to list the Maui and Kona reef manta ray (*M. alfredi*) populations as threatened DPSs under the ESA. The Maui reef manta ray is described as occurring in the State of Hawaii around the islands of Maui, Molokai, Lanai, and Kahoolawe. The Kona reef manta ray is described as occurring off the western side of the Big Island of Hawaii, referred to as the Kona coast. The petition also requested that critical habitat be designated concurrent with the listing. The petition was submitted as a public comment on our previous 90-day finding response on a petition to list the giant manta ray (*M. birostris*) and reef manta ray under the ESA (81 FR 8874; February 23, 2016). Copies of the petitions are available upon request (see **ADDRESSES**).

**ESA Statutory, Regulatory, and Policy 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 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 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 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–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; and 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, we 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)).

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 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; then we assess the potential significance of that negative response.

#### **Analysis of Petition and Information Readily Available in NMFS Files**

As mentioned above, in analyzing the request of the petitioner, we first evaluate whether the information presented in the petition, along with information readily available in our files, indicates that the petitioned entity constitutes a “species” eligible for listing under the ESA. Because the petition specifically requests listing of DPSs, we evaluate whether the information indicates that the petitioned entities, the Maui and Kona reef manta ray populations, constitute DPSs pursuant to our DPS Policy.

When identifying a DPS, our DPS Policy stipulates two elements that must be considered: (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 remainder of the species (or subspecies) to which it belongs. In terms of discreteness, the DPS Policy states that a population 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 one or more of the above conditions, then its biological and ecological significance is considered. Significance under the DPS Policy is evaluated in terms of the importance of the population segment to the overall welfare of the species. Some of the considerations that can be used to determine a discrete population segment's significance to the taxon as a whole include: (1) persistence of the population segment in an unusual or unique ecological setting; (2) evidence that loss of the population segment would result in a significant gap in the range of the taxon; (3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; or (4) evidence that the population segment differs markedly from other populations of the species in its genetic characteristics.

In evaluating this petition, we looked for information to suggest that the petitioned entities, the Maui and Kona reef manta ray populations, may qualify as DPSs under both the discreteness and significance criteria of our DPS Policy. Our evaluation is discussed below.

*Qualification of the Maui reef manta ray population as a DPS*

The petition asserts that the Maui population of reef manta ray qualifies as a DPS. The petition references research on the population's size (Deakos *et al.* 2011), demographics (Deakos 2010a), home range (Deakos *et al.* 2011), reproductive ecology

(Deakos 2012), threats, and ongoing photo-identification, tagging and genetic analysis as evidence that suggests that the Maui population is a DPS that is insular to the Maui County region. While the petition itself fails to provide any details regarding how the population may satisfy either the discreteness or significance criteria of the DPS Policy, we reviewed the referenced documents and our own files for information that may support this assertion.

In terms of discreteness, information cited within the petition suggests that the reef manta rays in the Maui County area (the islands of Maui, Molokai, Lanai and Kahoolawe) exhibit strong, long-term site fidelity (Deakos *et al.* 2011). From 2005 to 2009, 229 SCUBA surveys were conducted at a manta ray aggregation site approximately 450 m off the west coast of Maui, Hawaii. The study area was ~30,000 m<sup>2</sup> in size (Deakos *et al.* 2011). Because manta rays contain unique and distinct markings on their ventral side that appear to remain throughout the animal's lifespan, photo-identification can provide a useful tool to identify new and previously observed manta rays with a high degree of certainty. Over the course of the study, 1,494 manta rays were encountered, with 290 unique individuals identified through the use of photo-identification (Deakos *et al.* 2011). Of the 290 individuals, 73 percent (n=212) were observed more than once in the study area, with 198 individuals re-sighted within a 1-year period and 95 re-sighted over multiple years (Deakos *et al.* 2011). Times between re-sightings ranged from 1 day to over 3 years, with a mean of around 6 months (Deakos *et al.* 2011). Although site fidelity varied between individuals, the authors indicate that the high number and frequency of re-sightings within and across years supports long-term site fidelity to the study area.

In addition to using photo-identification to examine residency and movement, Deakos *et al.* (2011) tagged an adult male and female reef manta ray with acoustic transmitters and tracked these rays for 28 hours and 51 hours, respectively. Results from the tracking data showed that the male traveled a linear distance of 40 km from the tagging site to the island of Lanai, and the female traveled a linear distance of 32 km to the island of Kahoolawe (Deakos *et al.* 2011). The distance from the study area to the Big Island of Hawaii is 49 km (using closest geographic points; Deakos *et al.* 2011), which would appear attainable for *M. alfredi* given that recent satellite and photo-identification studies observed *M. alfredi* making regular migrations over much larger distances (>700 km) (Convention on Migratory Species (CMS) 2014). However, using a catalog of photos identifying 146 reef manta rays from a well-monitored population off Kona (Big Island, Hawaii), the authors note that none of the 290 uniquely identified individuals from the Maui population were a match to the Kona individuals. The authors suggest that depth could be a barrier to migration from Maui to the Big Island (identifying the 2,000 m depth of the Alenuihaha Channel between the two islands) and also from Molokai to Oahu (where depths between the two islands reach 600 m), but recognize future research is needed to confirm this hypothesis, including photo-identification between Oahu individuals and the Maui population (Deakos *et al.* 2011). Deakos *et al.* (2011) suggest that a more likely explanation for the absence of photo-identification matches between the Big Island and Maui reef manta rays is the presence of sufficient resources within the Maui County area to sustain the Maui population, making movement between the two islands unnecessary. While it is clear that further information is required to definitively determine whether the Maui population is discrete from other *M. alfredi* populations,

with the authors' own implication that transit may occur if resources diminish, we find that the above information provides substantial information that the Maui reef manta ray population may be markedly separated from other populations of the same taxon as a consequence of physical, ecological, or behavioral factors.

While we find that the Maui population may satisfy the discreteness criteria under our DPS Policy, the petition provides no information on the importance of this population segment to the overall welfare of the species. In reviewing the cited references within the petition, as well as information in our files, we found no evidence to suggest that the population segment persists in an unusual or unique ecological setting. The Maui population segment, described in the petition's references, exists in waters off the islands of Maui, Molokai, Lanai and Kahoolawe. Only a main aggregation site for the population is described in the references, consisting of primarily fringing coral reef, extending away from the shoreline for approximately 550 m, with coral substrate cover composed of lobe (*Porites lobata*), rice (*Acroporidae* spp.), cauliflower (*Pocillopora meandrina*), and finger coral (*Porites compressa*), as well as sand and sea grass (*Halimeda* spp.) (Deakos 2010a; Deakos *et al.* 2011). We have no information, however, to indicate that this substrate cover in the aggregation site is unique to this location. Furthermore, as Marshall *et al.* (2009) describe *M. alfredi* as a species commonly observed inshore, around coral and rocky reefs, productive coastlines, tropical island groups, atolls, and bays, we do not find the Maui County area, which shares these same attributes, to be unique or unusual in terms of an ecological setting for the species. We also do not consider loss of the Maui population segment as resulting in a significant gap in the range of the taxon, nor do we have evidence to suggest that this population segment represents the only surviving

natural occurrence of *M. alfredi* within its historical range. As noted in the previous 90-day finding addressing this species (81 FR 8874; February 23, 2016), *M. alfredi* is widespread in tropical and subtropical waters throughout the Indian Ocean (from South Africa to the Red Sea, and off Thailand and Indonesia to Western Australia) and the western Pacific (from the Yaeyama Islands, Japan in the north to the Solitary Islands, Australia in the south), and it occurs as far east as French Polynesia and the Hawaiian Islands (Marshall *et al.* 2009; Mourier 2012). A few historical reports and photographs also place the species off the Canary Islands, Cape Verde Islands, and Senegal (Marshall *et al.* 2009). Furthermore, if the Maui population segment was lost, the species would still be represented in the Central Pacific, and even within the Hawaiian Islands, by other *M. alfredi* populations (e.g., the Kona population; Deakos *et al.* 2011; CITES 2013).

While the petition indicates that a genetic analysis examining the connectivity between the Maui and Kona reef manta ray populations “is almost complete” and “should provide insight into the degree that these populations represent genetically independent stocks,” the petition does not provide any further information on the genetics of these populations, nor do we have this type of data available in our files. As such, we have no information to evaluate whether the Maui population segment may differ markedly from other populations of the species in its genetic characteristics. Additionally, none of the references cited by the petition (Deakos 2010a; Deakos 2010b; Deakos *et al.* 2011; Deakos 2012), nor the information in our files, provide any other evidence to suggest that the Maui reef manta ray population segment may make a significant contribution to the adaptive, ecological, or genetic diversity of the taxon.

Overall, based on the information in the petition and in our files, and guided by the DPS Policy criteria, we found evidence to suggest that the Maui reef manta ray population may be discrete, but we were unable to find evidence that could support the potential significance of the Maui reef manta ray population to the taxon as a whole. Thus, we conclude that the petition does not present substantial information to indicate that the Maui reef manta ray population may qualify as a DPS under the DPS Policy.

*Qualification of the Kona reef manta ray population as a DPS*

The petition also asserts that the Kona population of reef manta ray qualifies as a DPS. The petition states that photo-identification and tagging of the Kona population suggests that it is also a DPS that is insular to the Big Island region, and possibly restricted to the west coast of the Big Island. However, the petition fails to provide any further information or references to support this assertion. Mentions of the Kona population in the references cited in the petition only exist in relation to the catalog of photos identifying 146 manta rays from this population (citing *www.mantapacific.org*), which was used to compare against photos of individuals from the Maui reef manta ray population (Deakos 2010a; Deakos *et al.* 2011).

In terms of discreteness, we do not consider the lack of photo-identification matches between the Maui population and the Kona population to be substantial evidence indicating that the Kona population may be discrete. As noted above, the Maui population study also included time-series information on re-sightings of individuals within the population, providing support for long-term site fidelity, as well as acoustic tracking of individuals (Deakos 2010a; Deakos *et al.* 2011). Similar information was not provided for the Kona population, nor do we have this information available in our files.

Even if we were to consider that the Kona population may be discrete by using the information supporting the potential discreteness of the Maui population as a proxy (e.g., physical barriers, ecological and/or behavioral factors contributing to marked separation), the petition provides no information on the importance of the Kona population segment to the overall welfare of the species, nor do we have that information readily available in our files. Similar to the Maui population, the ecological setting that the Kona population occupies is similar to that of the rest of the species; loss of the population would not constitute a significant gap in the taxon's extensive range; the Kona population does not represent the only surviving natural occurrence of *M. alfredi* within its historical range; and we have no available genetic or other data to suggest that the population may make a significant contribution to the adaptive, ecological, or genetic diversity of the taxon.

Overall, based on the information in the petition and in our files, and guided by the DPS Policy criteria, we were unable to find evidence to suggest that the Kona reef manta ray population may be both discrete and significant. Thus, we conclude that the petition does not present substantial information to indicate that the Kona reef manta ray population may qualify as a DPS under the DPS Policy.

#### *ESA Section 4(a)(1) Factors*

Because we concluded that the petition does not present substantial information to indicate that the Maui and Kona reef manta ray populations may qualify as DPSs under the DPS Policy, the petitioned entities do not constitute “species” that are eligible for listing under the ESA. As such, we do not need to evaluate whether the information in the petition indicates that these populations face an extinction risk that is cause for concern.

#### **Petition Finding**

After reviewing the information contained in the petition, as well as information readily available in our files, and based on the above analysis, we conclude that the petition does not present substantial scientific or commercial information indicating that the petitioned action of identifying the Maui and Kona reef manta ray populations as DPSs may be warranted. As such, we find that the petition does not present substantial scientific or commercial information indicating that the Maui and Kona reef manta ray populations are “species” eligible for listing under the ESA.

While this is a final action, and, therefore, we do not solicit comments on it, we note that we are currently conducting a status review of *M. alfredi* (which considers all global populations of reef manta rays, including the Maui and Kona populations) to determine whether the reef manta ray is in danger of extinction or likely to become so throughout all or a significant portion of its range. More information on that action can be found in the **Federal Register** notice (81 FR 8874; February 23, 2016) announcing the initiation of this status review.

## **References Cited**

A complete list of references is available upon request to the NMFS Office of Protected Resources (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: June 20, 2016.

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Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

[FR Doc. 2016-15201 Filed: 6/27/2016 8:45 am; Publication Date: 6/28/2016]