



**BILLING CODE 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Parts 223 and 224**

**[Docket No. 200715-0191]**

**RTID 0648-XR113**

**Endangered and Threatened Wildlife; 90-Day Finding on a Petition to List the Black Teatfish as Threatened or Endangered under the Endangered Species Act**

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

**ACTION:** 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 black teatfish (*Holothuria nobilis*) as threatened or endangered under the Endangered Species Act (ESA). We find that the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted. Therefore, we are initiating a status review of the species to determine whether listing under the ESA is warranted. To ensure this status review is comprehensive, we are soliciting scientific and commercial information regarding this species.

**DATES:** Scientific and commercial information pertinent to the petitioned action must be received by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** You may submit comments on this document, identified by NOAA-NMFS-2020-0093 by the following method:

- *Electronic Submissions:* Submit all electronic public comments via the Federal eRulemaking Portal. Go to [www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2020-0093](http://www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2020-0093). Click the “Comment Now” icon, complete the required fields, and enter or attach your comments.

*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](http://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).

Interested persons may obtain a copy of the petition online at the NMFS website: <https://www.fisheries.noaa.gov/national/endangered-species-conservation/petitions-awaiting-90-day-findings>.

**FOR FURTHER INFORMATION CONTACT:** Adrienne Lohe, NMFS Office of Protected Resources, (301) 427-8442, [Adrienne.Lohe@noaa.gov](mailto:Adrienne.Lohe@noaa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

On May 14, 2020, we received a petition from the Center for Biological Diversity

to list the black teatfish (*Holothuria nobilis*) as a threatened or endangered species under the ESA. The petition asserts that *H. nobilis* is threatened by four of the five ESA section 4(a)(1) factors: (1) present and threatened modification of its habitat; (2) overutilization for commercial purposes; (3) inadequacy of existing regulatory mechanisms; and (4) other natural or manmade factors. The petition is available online (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 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 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: (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 to address identified threats; (5) 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 NMFS and USFWS (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.” In reaching the initial (90-day) finding on the petition, we will consider the information described in sections 50 CFR 424.14(c), (d), and (g) (if applicable).

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 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. 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).

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 petition will generally not be considered to present substantial scientific and commercial information indicating that the petitioned action may be warranted unless the petition provides new information or analysis not previously considered. *See* 50 CFR 424.14(h)(1)(iii).

At the 90-day finding stage, 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 first 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, if we conclude the petition presents substantial scientific or commercial information suggesting that the petitioned entity may constitute a "species," we evaluate whether the information indicates that the species may face an 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 whether the petition presents 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 whether the petition presents information suggesting potential links between these demographic risks and the causative impacts and threats identified in section 4(a)(1) of the ESA.

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 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”

(<https://explorer.natureserve.org/AboutTheData/DataTypes/ConservationStatusCategories>). 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.

### **Taxonomy**

Morphological characteristics were historically used to distinguish between teatfish species, though morphological features alone were determined to be unreliable markers of identification due to high interspecies variability (Uthicke *et al.* 2004). The more recent use of molecular analyses resolved taxonomic confusion between teatfish in the western Indian Ocean and southwestern Pacific Oceans, distinguishing between three species: (1) *Holothuria whitmaei*: black/dark brown specimens found in waters of Australia and the southwest Pacific; (2) *H. fuscogilva*: white/beige specimens with dark markings broadly distributed throughout the tropical Indo-Pacific; and (3) *H. nobilis*: black specimens with white ventro-lateral patches found in the western Indian Ocean

(Uthicke *et al.* 2004). The two black teatfish (*H. whitmaei*, with distribution in the Pacific Ocean, and *H. nobilis*, with distribution in the Indian Ocean) appear to be allopatric with a genetic distance of 9.2 percent, implying a divergence during the Pliocene of approximately 1.8-4.6 million years (Uthicke *et al.* 2004). Further molecular analyses support the distinction between *H. nobilis* and *H. fuscogilva*, once considered synonyms, as different species (Ahmed *et al.* 2016). We conclude that the petitioned entity, *H. nobilis*, constitutes a species eligible for listing under the ESA.

### **Distribution, Habitat, and Life History**

The black teatfish occurs in coral reef habitats between 0 and 40 meters depth, and is most commonly found in reef flats and outer reef slopes with a preference for hard substrates (CITES 2019; Conand *et al.* 20013; Eriksson *et al.* 2012; Idreesbabu and Sureshkumar 2017; Lawrence *et al.* 2004). The species may also be found in shallow seagrass beds (CITES 2019; Conand *et al.* 2013). *H. nobilis* is distributed in the Indian Ocean, including along the east coast of Africa, the Red Sea, and coastal waters of Madagascar, La Reunion, Yemen, Oman, the west coast of India, Sri Lanka, Seychelles, Comoros, and the Maldives (Conand *et al.* 2013; Uthicke *et al.* 2004).

Sea cucumbers of the order Aspidochirotida, including *H. nobilis*, are deposit and detritus feeders that digest organic matter such as bacteria in the top few millimeters of sediment (as reviewed by Purcell *et al.* 2016). Teatfish are non-migratory and relatively sedentary, with slow growth rates and longevity estimated at several decades (FAO 2019). Teatfish generally mature at 3-7 years (FAO 2019), and *H. nobilis* is reported to mature at 4 years (Conand *et al.* 2013). Teatfish reproduce sexually through broadcast

spawning, therefore successful fertilization depends upon density and proximity of male and female teatfish to one another (CITES 2019; FAO 2019; Purcell *et al.* 2010; Purcell *et al.* 2011). As teatfish generally exhibit low natural mortality rates, low to moderate population growth, and suspected high larval mortality, their overall productivity is low (CITES 2019; FAO 2019).

### **Abundance and Population Trends**

Although data on abundance and population trends for *H. nobilis* are sparse, available data indicate that the species has declined by 60-70 percent across at least 80 percent of its range since the 1960s, and continues to decrease (CITES 2019; Conand *et al.* 2013). Intense pressure from harvest for international trade has resulted in extremely low densities or no black teatfish observed at surveyed sites throughout its range with few exceptions, and these observations are matched by decreased exports (FAO 2019). In Madagascar and Egypt, very few individuals of the species have been observed and stocks are considered depleted due to overexploitation (CITES 2019). In Tanzania, where *H. nobilis* once dominated the catch, the species now makes up a very small percentage of sea cucumber species harvested (CITES 20129; Conand *et al.* 2013). The species has also been depleted in Mozambique, India, Sri Lanka, the Red Sea, Maldives, and likely in Tanzania and Kenya, due to overfishing (Conand *et al.* 2013; Purcell *et al.* 2012). In Seychelles, harvest of *H. nobilis* was stable from 2003-2006 and harvest peaked at 10,371 individuals, and then fell in 2007 and 2008 to 5,687 individuals; this fishery is likely not depleted (Conand *et al.* 2013). Though teatfish harvest in small-scale, artisanal fisheries has generally not been monitored long-term, *H. nobilis* abundance is considered low

compared to recognized baselines, and populations are declining throughout their range (FAO 2019).

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

The petition asserts that *H. nobilis* is threatened by four of the five ESA section 4(a)(1) factors: present and threatened modification of coral reef and seagrass bed habitat, overutilization for commercial trade, inadequacy of existing regulatory mechanisms to control the threats of trade, fisheries and climate change, and other natural or manmade factors including a lack of basic biological and ecological information, risks of rarity, and bycatch. The primary threat facing the species is overharvest for commercial international trade (CITES 2019; FAO 2019), and we find that listing the black teatfish as a threatened or endangered species under the ESA may be warranted based on this threat alone. As such, we focus our discussion below on the evidence of overutilization for commercial purposes. However, we note that in the status review for this species, we will evaluate all ESA section 4(a)(1) factors to determine whether any one or a combination of these factors are causing declines in the species or likely to substantially negatively affect the species within the foreseeable future to such a point that the black teatfish is at risk of extinction or likely to become so in the foreseeable future.

#### *Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

An estimated 10,000 tons of dried and processed sea cucumber are traded internationally each year, corresponding to about 200 million individuals harvested from marine ecosystems annually (Purcell *et al.* 2016). *H. nobilis* is one of the most highly valued sea cucumber species in the Indo-Pacific region (Bruckner 2006; Conand 2018;

Conand *et al.* 2013; Muthiga & Conand 2013) and is sold dried and processed as “beche-de-mer” primarily to luxury food markets in Hong Kong, Singapore, Taiwan, China, Korea and Malaysia (CITES 2019; Purcell *et al.* 2012). Black teatfish is sold for \$20 to \$80/kg dry weight, depending on size and condition; prices in Hong Kong retail markets range from \$106 to \$139/kg dried (Purcell *et al.* 2012). Since the 1980s, the global sea cucumber fishery has dramatically increased in terms of number of producing countries, number of exploited species, increased fishing effort, and expanded fishing areas, leading to overexploitation and depletion of teatfish in most range countries (CITES 2019).

Several of the black teatfish’s life history traits make it vulnerable to overexploitation, including its low mobility, slow growth, late maturity, density-dependent reproduction, and low recruitment rates (CITES 2019; FAO 2019). These traits, combined with its occurrence in shallow, easily accessible waters, and high value in international markets, have led to local extirpations and depletion of stocks throughout most of its range (CITES 2019; FAO 2019). The species is estimated to have declined between 60-70 percent over at least 80 percent of its range, as evidenced by vastly reduced catch per unit effort, reduced sizes of harvested individuals, and extremely low observed population densities (Conand *et al.* 2013). For example, transect data reveal population densities of 0.66 and 1.0 individuals per hectare in nearshore waters off Egypt and Eritrea, respectively, and range-wide density is estimated between 0.12 and 10 individuals per hectare (Conand *et al.* 2013). Even with fishery closures, sea cucumber stocks may recover slowly, potentially taking decades for populations to be restored (Anderson *et al.* 2011). Due to high demand that is not being met by current beche-de-

mer production, fisheries pressure on the species is expected to continue (Conand *et al.* 2013; FAO 2019; Muthiga & Conand 2013). The information presented in the petition and briefly summarized here regarding the threat of overutilization for commercial purposes indicates that *H. nobilis* may be in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range.

### **Petition Finding**

After reviewing the petition, the literature cited in the petition, and other information readily available in our files, we find that listing *H. nobilis* as a threatened or endangered species may be warranted. Therefore, in accordance with section 4(b)(3)(A) of the ESA and NMFS' implementing regulations (50 CFR 424.14(h)(2)), we will commence a status review of this species. During the status review, we will determine whether *H. nobilis* is in danger of extinction (endangered) or likely to become so (threatened) throughout all or a significant portion of its range. As required by section 4(b)(3)(B) of the ESA, within 12 months of the receipt of the petition (May 14, 2020), we will make a finding as to whether listing the black teatfish as an endangered or threatened species is warranted. If listing is warranted, we will publish a proposed rule and solicit public comments before developing and publishing a final rule.

### **Information Solicited**

To ensure that the status review is based on the best available scientific and commercial data, we are soliciting comments and information from interested parties on the status of the black teatfish. Specifically, we are soliciting information in the following areas:

- (1) Historical and current abundance, density, and distribution of *H. nobilis*;
- (2) Historical and current condition of habitat for *H. nobilis*;
- (3) The effects of harvest for commercial international trade on the distribution and abundance of *H. nobilis* over the short- and long-term;
- (4) The effects of other known or potential threats, including coral reef and seagrass bed degradation, climate change, disease and predation, and the inadequacy of existing regulatory mechanisms, on the distribution and abundance of *H. nobilis* over the short- and long-term; and
- (5) Management or conservation programs for *H. nobilis*, including mitigation measures related to any of the threats listed above.

We request that all data and information be accompanied by supporting documentation such as maps, bibliographic references, or reprints of pertinent publications. Please send any comments to one of the **ADDRESSES** listed above. We will base our findings on a review of the best available scientific and commercial information available, including all information received during the public comment period.

### **References Cited**

A complete list of all references cited herein is available upon request (See **FOR FURTHER INFORMATION CONTACT**).

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

Dated: July 15, 2020.

**Samuel D. Rauch III,**

*Deputy Assistant Administrator for Regulatory Programs,*

*National Marine Fisheries Service.*

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