authorizing the changes by direct final rule. EPA did not make a proposal prior to the direct final rule because we believe this action is not controversial and do not expect comments that oppose it. We have explained the reasons for this authorization in the preamble to the direct final rule. Unless we get written comments which oppose this authorization during the comment period, the direct final rule will become effective on the date it establishes, and we will not take further action on this proposal. If we receive comments that oppose this action, we will withdraw the direct final rule and it will not take effect. We will then respond to public comments in a later final rule based on this proposal. You may not have another opportunity for comment. If you want to comment on this action, you must do so at this time.

DATES: Send your written comments by October 3, 2014.

ADDRESSES: Send written comments to Alima Patterson, Region 6, Regional Authorization Coordinator, (6PD–O), Multimedia Planning and Permitting Division, at the address shown below. You can examine copies of the materials submitted by the State of Texas during normal business hours at the following locations: EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202–2733, phone number (214) 665–8533; or Texas Commission on Environmental Quality, (TCEQ) 12100 Park S. Circle, and Austin, Texas 78753–3087, (512) 239–6079. Comments may also be submitted electronically or through hand delivery/courier; please follow the detailed instructions in the **ADDRESSES** section of the direct final rule which is located in the Rules section of this **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Alima Patterson (214) 665–8533.

SUPPLEMENTARY INFORMATION: For additional information, please see the direct final rule published in the ''Rules and Regulations'' section of this **Federal Register**.

Dated: August 5, 2014.

Ron Curry,

Regional Administrator, Region 6.

[FR Doc. 2014–20788 Filed 9–2–14; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 223

[Docket No. 130718637–3637–01]

RIN 0648–XC775

Endangered and Threatened Wildlife; 90-Day Finding on a Petition To List Seven Indo-Pacific Species of Pomacentrid Reef Fish as Threatened or Endangered Under the Endangered Species Act

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

ACTION: Notice of 90-day petition finding, request for information.

SUMMARY: We (NMFS) announce a 90-day finding on seven Indo-Pacific species included in a petition to list eight species of pomacentrid reef fish as threatened or endangered under the Endangered Species Act (ESA). These are the orange clownfish (*Amphiprion percula*) and six other damselfishes: The Hawaiian dascyllus (*Dascyllus albisella*), blue-eyed damselfish (*Plectroglyphidodon johnstonianus*), black-axil chromis (*Chromis atripectoralis*), blue-green damselfish (*Chromis viridis*), reticulated damselfish (*Dascyllus reticulatus*), and blackbar devil or Dick's damselfish (*Plectroglyphidodon dickii*). Another of our regional offices is leading the response to the petition to list the yellowtail damselfish (*Microspathodon chrysurus*) and a separate 90-day finding will be issued later for this species. We find that the petition presents substantial information indicating that the petitioned action may be warranted for the orange clownfish (*Amphiprion percula*). We will conduct a status review for this 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 *Amphiprion percula* from any interested party. We find that the petition fails to present substantial scientific or commercial information indicating that the petitioned action may be warranted for the remaining six petitioned Indo-Pacific species: The Hawaiian dascyllus (*Dascyllus albisella*), reticulated damselfish (*Dascyllus reticulatus*), blue-eyed damselfish (*Plectroglyphidodon johnstonianus*), black-axil chromis (*Chromis atripectoralis*), blue-green damselfish (*Chromis viridis*), and blackbar devil or Dick's damselfish (*Plectroglyphidodon dickii*).

DATES: Information and comments on the subject action must be received by November 3, 2014.

ADDRESSES: You may submit comments, information, or data on this document, identified by the code NOAA–NMFS–2014–0072, 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-2014-0072,* click the ''Comment Now!'' icon, complete the required fields, and enter or attach your comments.
- Mail: Submit written comments to Regulatory Branch Chief, Protected Resources Division, Pacific Islands Regional Office, NMFS Protected Resources Division, 1845 Wasp Blvd., Building 176, Honolulu, HI 96818.

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 us. 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. We will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous), although submitting comments anonymously will prevent us from contacting you if we have difficulty retrieving your submission. Attachments to electronic comments will be accepted in Microsoft Word, Excel, or Adobe PDF file formats only.

Copies of the petition and references are available upon request from the Regulatory Branch Chief, Protected Resources Division, Pacific Islands Regional Office, NMFS Protected Resources Division, 1845 Wasp Blvd., Building 176, Honolulu, HI 96818, or online at: *http://www.fpir.noaa.gov/PRD/prd_esa_section_4.html.*

FOR FURTHER INFORMATION CONTACT: Jean Higgins, NMFS Pacific Islands Regional Office, 808–725–5151.

SUPPLEMENTARY INFORMATION:

Background

On September 14, 2012, we received a petition from the Center for Biological Diversity to list eight species of pomacentrid reef fish as threatened or endangered under the ESA and to designate critical habitat for these species concurrent with the listing. The species are the orange clownfish (*Amphiprion percula*) and seven other damselfishes: The yellowtail damselfish (*Microspathodon chrysurus*), Hawaiian dascyllus (*Dascyllus albisella*), blue-eyed damselfish (*Plectroglyphidodon johnstonianus*), black-axil chromis (*Chromis atripectoralis*), blue-green damselfish (*Chromis viridis*), reticulated damselfish (*Dascyllus reticulatus*), and blackbar devil or Dick's damselfish (*Plectroglyphidodon dickii*). Copies of this petition are available from us online (*http://www.nmfs.noaa.gov/pr/species/petitions/pomacentrid_reef_fish_petition_2012.pdf*) or by mail (see **ADDRESSES,** above). Given the geographic range of these species, we divided our initial response to the petition between our Southeast Regional Office (SERO) and Pacific Islands Regional Office (PIRO). PIRO led the response for the seven Indo-Pacific species reported herein. SERO is leading the response to the petition to list the yellowtail damselfish (*Microspathodon chrysurus*) and a separate 90-day finding will be issued for this species.

ESA Statutory and Regulatory Provisions and Evaluation Framework

Section 4(b)(3)(A) of the ESA of 1973, as amended (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 promptly publish such finding in the **Federal Register** (16 U.S.C. 1533(b)(3)(A)). When we find 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, which includes conducting a comprehensive review of the best available scientific and commercial information. Within 12 months of receiving 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 significantly 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 at the 90-day stage does not prejudge the outcome of a 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 and U.S. Fish and Wildlife Service (USFWS) policy clarifies the agencies' interpretation of the phrase ''distinct population segment'' for the purposes of listing, delisting, and reclassifying a species under the ESA (''DPS Policy''; 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, the determination of whether a species is threatened or endangered shall be 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 NMFS and USFWS (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 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 whether a 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 stage, we evaluate the petitioner's 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 petitioner's 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 that it supports the petitioner's assertions. 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 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 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 at issue faces 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 at issue (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 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 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 the classification alone may not provide the rationale for a positive 90-day finding under the ESA. Thus, when a petition cites such classifications, we will evaluate the source of information upon which the classification is based in light of the species extinction risk and impacts or threats discussed above.

Species Descriptions

Orange Clownfish (Amphiprion percula)

The orange clownfish is also referred to as an anemone fish because of its symbiotic relationship with host sea anemones. Individuals are orange with three white bands, with the middle band bulging forward toward the head centrally. Black stripes separate the orange and white coloration on the body. They can reach a maximum length of 11 cm (Florida Museum of Natural History, 2011). *Amphiprion percula* ranges from Queensland, Australia to parts of Melanesia, including the northern Great Barrier Reef (GBR), northern New Guinea, New Britain, Vanuatu, and the Solomon Islands (Fishbase.org). This range is mostly restricted to areas inside the Coral Triangle area of the Pacific (with the exception of the northern GBR). It does not occur anywhere within U.S. jurisdiction. It is a non-migratory species that inhabits lagoon and seaward reefs at depths of one to 15 m (Florida Museum of Natural History, 2011). The petition did not present any information on the global population size or trends of *A. percula* and we do not have any information on *A. percula's* global population size in our files.

Amphiprion percula individuals live in symbiotic association with three species of anemone, *Heteractis crispa, H. magnifica,* and *Stichodactyla gigantea* (Ollerton *et al.,* 2007). This species forages on algae and plankton as well as bits of food leftover on its host anemone tentacles (Florida Museum of Natural History, 2011). Reproduction occurs throughout the year when the male prepares a nest site. The petition states that females lay anywhere from 100 to over 1,000 eggs depending on body size and age citing Buston and Elith (2011), however the authors actually report an average of 324 eggs per clutch (ranged from 1 to 878) in their results. Incubation takes six to seven days, after which larvae hatch and enter an eight to twelve day pelagic larval phase (Buston *et al.,* 2007). The expected life span for a female clownfish is 30 years (Buston and Garcia, 2007).

Black-axil Chromis (Chromis atripectoralis)

The Black-axil chromis is a damselfish with a broad geographic range occurring throughout most of the Indo-Pacific; they range from the Ryuku Islands to the Great Barrier Reef, Lord Howe Island, east through the islands of Oceania except the Hawaiian Islands, Marquesas, and Pitcairn Islands, and west in the Indian Ocean to the Maldives and Seychelles (Randall, 2005). Within U.S. Pacific possessions this species occurs in American Samoa and the Marianas archipelago (Allen, 1991). *Chromis atripectoralis* and *C. viridis* are difficult to distinguish in the field and have overlapping ranges. They have often been treated as a species complex by researchers.

The petition did not present any information regarding the global population size or trends of *C. atripectoralis.* The NMFS Coral Reef Ecosystem Division (CRED) conducts surveys on coral reefs throughout the U.S. Pacific territories including the Main and Northwestern Hawaiian Islands, Guam, the Northern Mariana Islands, American Samoa, and the Pacific Remote Island Areas (PRIAs). Data from surveys conducted roughly biennially since 2009 provides some insight into this species' abundance in the outer edges of this species range. Since this is relatively recent, we consider all of these surveys to represent current estimates of density and not to contain any trend information. For the *C. atripectoralis/C. viridis* complex, CRED provided us an average population estimate from within U.S. Pacific possessions of approximately 770,000 based on calculations of density and habitat area at survey sites; the estimated population range was identified as 0 to 1,500,000 (one standard error on either side of the mean). Although these abundance estimates have large error bars associated with them and must be interpreted with caution, they represent the best available information regarding the species' current abundance. These survey areas only represent a small portion of the broad geographic ranges for these two species. Density is likely higher in other parts of their ranges because CRED survey sites are located at the edges of their geographic ranges, where we would expect population densities to be lower in comparison to the core range. However, even if we assume the densities measured by CRED and applied to the total habitat area within survey sites apply throughout the entire ranges of these species which includes hundreds of thousands of square kilometers of coral reef habitat area, the current global population size is likely in the hundreds of millions.

Chromis atripectoralis individuals are blue-green in color shading to white ventrally and can grow up to 11 cm in length. While very similar in appearance to *C. viridis, C. atripectoralis* is distinguished by the black base (axil) of the pectoral fin and more branched pectoral rays (Froukh and Kochzius, 2008). This species is commonly observed associated with branching corals, primarily *Acropora* and *Pocillopora,* in a depth range of two to 15 m. Adults are typically seen in foraging aggregations above corals where they feed on zooplankton in the water column (Randall, 2005). *Chromis* species exhibit a pelagic larval phase that ranges from 17 to 47 days (Allen, 1991). The petition provided no additional biological information for this species, nor do we have any in our files.

Blue-green Damselfish (Chromis viridis)

The blue-green damselfish has a broad geographic range occurring throughout most of the Indo-Pacific; they range from the Red Sea and east coast of Africa to the Line Islands and Tuamotu

Archipelago, Ryuku Islands to the Great Barrier Reef and New Caledonia (Randall, 2005). Within U.S. Pacific possessions, *C. viridis* occurs in American Samoa, the Marianas archipelago (Allen, 1991), and the PRIAs (NMFS' Pacific Islands Fisheries Science Center (PIFSC) unpublished data).

The petition did not present any information regarding the global population size or trends of *C. viridis.* As noted above, we treated *C. atripectoralis* and *C. viridis* as a species complex and estimate a current global population size in the hundreds of millions, based on CRED data from survey areas within U.S. Pacific possessions.

Individuals are blue-green in color shading to white ventrally with a blue line from the front of the snout to the eye and can reach 10 cm in length (Randall, 2005). *Chromis viridis* inhabits shallow protected inshore and lagoon reefs and is commonly observed associated with branching corals, primarily *Acropora* and *Pocillopora,* in a depth range of one to 12 meters (Allen, 1991). This species is planktivorous, feeding mainly on copepods and crustacean larvae in large aggregations above branching corals (Randall, 2005). Spawning involves a large number of eggs that hatch in two to three days. The species is oviparous with distinct pairing during breeding (Fishbase.org). *Chromis* species exhibit a pelagic larval phase that ranges from 17 to 47 days (Allen, 1991). The petition provided no additional biological information for this species, nor do we have any in our files.

Hawaiian Dascyllus (Dascyllus albisella)

The Hawaiian dascyllus, also known as the domino damselfish, is endemic to the United States, occurring only in Hawaii and Johnston Atoll (Danilowicz, 1995; Asoh and Yoshikawa, 2002).

The petition provided no estimate of global population size or trends for this species. The entire range of *D. albisella* is within CRED survey areas so we have information in our files regarding current density. CRED then calculated for us estimates of abundance based on the density data and habitat area at survey sites as described above. These abundance estimates have large error bars associated with them and must be interpreted with caution, however, they represent the best available information regarding the species' current abundance. The current global population estimate provided to us by CRED for *D. albisella* ranges from 5,866,000 to 17,121,000 (one standard error on either side of the mean) with a mean estimate of 11,493,000. However, because *D. albisella* is common at depths down to 80 meters, far deeper than the 30 meter maximum depth of CRED surveys and the estimated 20 meter depth of coral reef area figures, the entire population may be even larger.

Individuals are small and deep-bodied, reaching a maximum length of 13 cm. Adults are pale or dark with white spots fading with age, while juveniles are black with a white spot on each side and a turquoise spot on the head (Stevenson, 1963). *Dascyllus albisella* is commonly observed associated with branching corals (Allen, 1991; Randall, 1985) in a depth range of one to 84 m. This species is planktivorous, feeding in schools above the reef on the larvae of mysid shrimp, shrimp and crabs, copepods, pelagic tunicates, and other zooplankton (Randall, 1985). Spawning occurs cyclically throughout the year, though spawning activity peaks from June to September or October (Asoh and Yoshikawa, 2002). Cycles last two to three days and subsequent cycles occur every five to seven days (Asoh, 2003). Increasing temperature appears to cue the initiation of spawning and females spawn repeatedly over a season with various partners (Asoh and Yoshikawa, 2002). Females lay an average of 25,000 eggs per clutch (Danilowicz, 1995). The species has a pelagic larval phase estimated to last for 25 to 29 days (Booth, 1992). Life expectancy is estimated at up to 11 years. The petition provided no other biological information for this species, nor do we have any in our files.

Reticulated Damselfish (Dascyllus reticulatus)

Dascyllus reticulatus is a damselfish with a broad geographic range occurring throughout most of the Indo-Pacific; it ranges from southern Japan to the Great Barrier Reef, Lord Howe Island, New Caledonia, and Micronesia, east to the Tuamotu Archipelago and Pitcairn Islands, and west to western Australia, Cocos-Keeling Islands, and the Andaman Sea (Randall, 2005). Within U.S. Pacific possessions, they occur in American Samoa, the Marianas archipelago (Allen, 1991), and the PRIAs (PIFSC, unpublished data).

The petition did not present any information regarding the global population size or trends of *D. reticulatus.* For *D. reticulatus,* CRED provided us a population estimate from within U.S. Pacific possessions ranging from 1.5 million to 7.7 million (one standard error on either side of the mean) with a mean of 4.6 million. Again, although these abundance estimates have large error bars associated with them and must be interpreted with caution, they represent the best available information regarding the species' current abundance. These survey areas only represent a small portion of the broad geographic range for *D. reticulatus.* Density is likely higher in other parts of its range because CRED survey sites are located at the edges of its geographic range. However, even if we assume the densities measured by CRED and applied to the total habitat area within survey sites applies throughout the entire range of this species which includes hundreds of thousands of square kilometers of coral reef habitat, the current global population size is likely in the billions.

Individuals are pale blue-grey, the edges of the scales are narrowly black with a blackish bar anteriorly on the body continuing as a broad outer border on the spinous portion of the dorsal fin. They can attain 8.5 cm in length (Randall, 2005). *Dascyllus reticulatus* is commonly observed associated with branching corals, primarily *Acropora* and *Pocillopora,* in a depth range of one to 50 m (Allen, 1991; Randall, 2005). This species is planktivorous and feeds on zooplankton a short distance above the reef (Sweatman, 1983; Randall, 2005). *Dascyllus* species exhibit a pelagic larval phase that ranges from 17 to 47 days (Allen, 1991). The petition did not provide any other biological information for this species, nor do we have any in our files.

Blackbar Devil or Dick's Damselfish (Plectroglyphidodon dickii)

Plectroglyphidodon dickii is a damselfish with a broad geographic range occurring throughout most of the Indo-Pacific; it ranges from the Red Sea and east coast of Africa to the Islands of French Polynesia, and from the Ryuku Islands to New South Wales and Lord Howe Island in Australia (Randall, 2005). Within U.S. Pacific possessions, it occurs in American Samoa (Allen, 1991), the Marianas archipelago, and the PRIAs (PIFSC, unpublished data).

The petition did not present any information regarding the global population size or trends of *P. dickii.* For *P. dickii,* CRED provided us a population estimate from within U.S. Pacific possessions ranging from 5.3 million to 9 million (one standard error on either side of the mean), with a mean of 7.2 million. Again, although these abundance estimates have large error bars associated with them and must be interpreted with caution, they represent the best available information regarding the species' current abundance. These survey areas only represent a small portion of the broad geographic range for *P. dickii.* Density is likely higher in other parts of its range because CRED survey sites are located at the edges of its geographic range. However, even if we assume the density measured by CRED and applied to the total habitat area within survey sites applies throughout the entire range of this species which includes hundreds of thousands of square kilometers of coral reef habitat, the current global population size is likely in the billions.

Individuals are light brown with a sharp black band toward the back end with a white back end and tail; they reach a maximum length of 8.5 cm (Randall, 2005). They are commonly observed associated with branching corals, primarily *Acropora* and *Pocillopora* (Allen, 1991; Randall, 2005). The petition states this species has a depth range of one to 12 meters, however information in our files from survey data collected by CRED indicates this species has been recorded in the 18 to 30 meter depth range in the Marianas, PRIAs, and American Samoa. *Plectroglyphidodon dickii* is a territorial grazer that feeds on filamentous algae and small benthic invertebrates (Walsh *et al.,* 2012). Cole *et al.* (2008) report this species to be a facultative corallivore (i.e., coral may make up some portion of its diet but is not an obligate diet requirement). Additional references provided by the petitioner indicate this species is primarily herbivorous, feeding on diatoms, blue-green algae, other types of filamentous red algae, small benthic invertebrates, and occasionally small fishes (Jones *et al.,* 2006; Walsh *et al.,* 2012; Fishbase.org), and has been observed actively killing coral polyps in order to make more room for algae growth within its territory (Jones *et al.,* 2006). The petition provided no other biological information for this species, nor do we have any in our files.

Blue-eyed Damselfish (Plectroglyphidodon johnstonianus)

The blue-eyed damselfish has a broad geographic range occurring throughout most of the Indo-Pacific; it ranges from the east coast of Africa to the Hawaiian Islands, French Polynesia, and Pitcairn Islands, and from the Ryuku and Ogasawara Islands to the Great Barrier Reef, Lord Howe, and Norfolk Island (Randall, 2005). Within U.S. Pacific possessions, it occurs in Hawaii, American Samoa, the Marianas archipelago (Allen, 1991) and the PRIAs (PIFSC, unpublished data).

The petition did not present any information regarding the global population size or trends of *P. johnstonianus.* For *P. johnstonianus,* CRED provided us a current population estimate from within U.S. Pacific possessions ranging from 9.6 million to 20.3 million (one standard error on either side of the mean), with a mean of 15 million. Again, although these abundance estimates have large error bars associated with them and must be interpreted with caution, they represent the best available information regarding the species' current abundance. These survey areas only represent a small portion of the broad geographic range for *P. johnstonianus.* Density is likely higher in other parts of its range because CRED survey sites are located at the edges of its geographic range. However, even if we assume the densities measured by CRED and applied to the total habitat area within the survey sites apply throughout the entire range of this species which includes hundreds of thousands of square kilometers of coral reef habitat, the current global population size is likely well into the billions.

Individuals have a pale yellowish grey body with a very broad black posterior bar, a head that is gray dorsally shading to yellowish grey ventrally, a violet-blue line on the sides of the snout, and lavender scales rimming the eyes (Randall, 2005). This species inhabits passes and outer reefs and is often observed associated with *Acropora* or *Pocillopora* corals (Allen, 1991; Randall, 2005). The petition provides a depth range for this species of two to 18 meters, however CRED data indicate this species has also been recorded in the 18 to 30 meter depth range in all U.S. territories in which it occurs. *Plectroglyphidodon johnstonianus* may be an obligate corallivore feeding primarily on live coral polyps from *Acropora, Monitpora, Porites,* and *Pocillopora* species (Cole *et al.,* 2008), although their diet is also reported to include benthic algae (Fishbase.org).

Analysis of the Petition

For each of the seven petitioned species, we evaluated whether the petition provides the information and documentation required in 50 CFR 424.14(b)(2). The petition clearly indicates the administrative measure recommended and gives the scientific and any common name of the species involved. The petition also contains a narrative justification for the recommended measures and provides limited information on the species' geographic distribution, habitat use, and threats. The petition did not include any information on past or present population numbers and it states that abundance and population trends are unknown for all petitioned species. The petition does not identify any risk classifications by other organizations for any petitioned species. The petition includes supporting references. The petition states that primary threats to the petitioned species include loss of coral reef habitat due to climate change, overharvest for the marine aquarium fish trade, inadequate regulatory mechanisms, and direct harm to essential biological functions from ocean acidification and ocean warming.

The petition begins with general biological and ecological information about pomacentrids, and then provides sections for each petitioned species that contain a brief discussion of unique material for each species, including a species description, information on distribution, habitat, natural history, and threats, each with a range map. These sections are followed by sections providing generalized discussion of four of the five ESA listing factors that the petition states are affecting the extinction risk of the petitioned species, some of which contain limited species-specific information for one or more of the petitioned species.

In the following sections, we use the information presented in the petition and in our files to determine whether the petitioned action may be warranted. We summarize our analysis and conclusions regarding the information presented by the petitioner and in our files on the specific ESA section 4(a)(1) factors affecting each of the species' risk of global extinction below.

General Threat Information

According to the petition, four of the five causal threat factors in section 4(a)(1) of the ESA are adversely affecting the continued existence of each of the seven Indo-Pacific petitioned species: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (D) inadequacy of existing regulatory mechanisms; and (E) other natural or manmade factors affecting its continued existence.

In this section we assess the generalized information that was provided regarding these four threats; the species-specific threat information will be addressed below in the individual species sections.

Climate Change Effects on Coral Habitat

Under Listing Factor A, the petition states the petitioned species are ''threatened by the loss and degradation of coral reef habitat due to temperature-induced mass bleaching events and ocean acidification. . . .'' The petition states broadly that ''the petitioned pomacentrid reef fish are habitat specialists that directly depend on live corals for survival, including shelter, reproduction, recruitment, and food.'' The petition explains this by stating ''[t]hese damselfish all specialize on sensitive branching corals such as *Acropora* and *Pocillopora* which are particularly prone to bleaching. . . .''

The petition discusses at length climate change impacts to corals and coral reefs and future predictions for worsening impacts to corals at a global scale. In general terms, ''climate'' refers to average weather conditions, as well as associated variability, over a long period of time (e.g., decades, centuries, or thousands of years). Thus we define ''climate change'' as a non-random change in the state of the climate (whether due to natural variability, human activity, or both) that can be identified by changes in the mean or variability of its properties and that persists for an extended period, typically decades or longer. In the context of coral reefs, the primary climate variables described relevant to climate change are ocean temperatures and acidity. Many of the climate-change references provided by the petitioner offer global predictions on future rises in sea surface temperature (Donner *et al.,* 2005; Donner, 2009), ocean acidity (Hoegh-Guldberg *et al.,* 2007), coral bleaching (Hoegh-Guldberg, 1999; Donner *et al.,* 2005; 2007; Burke *et al.,* 2011) or coral reef decline in general (Hoegh-Guldberg, 1999; Veron *et al.,* 2009) based on regional or global averages.

We have additional information regarding climate change impacts and predictions for coral reefs readily available in our files, much of which is more recent than the literature presented in the petition. This information indicates a highly nuanced and variable pattern of exposure, susceptibility, resilience, and recovery of coral reefs to climate change over regionally and locally different spatial and temporal scales, and reflects the high level of uncertainty associated with future predictions. The literature underscores the multitude of factors contributing to coral response to thermal stress, including taxa, geographic location, biomass, previous exposure, frequency, intensity, and duration of thermal stress events, gene expression, and symbiotic relationships (Pandolfi *et al.,* 2011; Putman *et al.,* 2011; Buddemeier *et al.,* 2012; Sridhar *et al.,* 2012; Teneva *et al.,* 2012; van Hooidonk and Huber, 2012).

Vulnerability of a coral species to a threat is a function of susceptibility and exposure, considered at the appropriate spatial and temporal scales. Susceptibility is primarily a function of biological processes and characteristics, and can vary greatly between and within coral taxa (i.e., family, genus, or species). Susceptibility depends on direct effects of the threat on the species, and it also depends on the cumulative (i.e., additive) and interactive (i.e., synergistic or antagonistic) effects of multiple threats acting simultaneously on the species. For example, ocean warming affects coral colonies through the direct effect of bleaching, together with the interactive effect of bleaching and disease, because there is evidence that bleaching increases disease susceptibility in some species. Vulnerability of a coral species to a threat also depends on the proportion of colonies that are exposed to the threat. Exposure is primarily a function of location and physical processes and characteristics that limit or moderate the impact of the threat across the range of the species. Information in our files suggests that not all coral species are highly vulnerable to the threats associated with global climate change (Brainard *et al.,* 2011; van Woesik *et al.,* 2011; Darling *et al.,* 2012; van Woesik *et al.,* 2012; Foden *et al.,* 2013). Even species that may be moderately vulnerable to ocean warming and acidification can have low extinction risk because demographic characteristics such as high abundance and/or a broad spatial (e.g., depth) and geographic distribution can moderate exposure to the threat which is predicted to occur in a spatially non-uniform pattern.

The petition's general discussion of climate change acknowledges that some corals are resistant to bleaching, but continues to attempt to generalize bleaching as an extinction threat to all corals. Likewise the petition implies that ocean acidification is a threat to all coral species with which the petitioned species may associate. Data in our files as summarized by Brainard *et al.* (2011) show that adaptation and acclimatization to increased ocean temperatures are possible; that there is intra-genus variation in susceptibility to bleaching, ocean acidification, and sedimentation; that at least some coral species have already expanded their range in response to climate change (thus decreasing their extinction risk); and that not all coral species are seriously affected by ocean acidification. Thus at the broad level of coral reefs, the information in the petition and in our files does not allow us to conclude that coral reefs generally are at such risk from climate change effects to threaten the viability of the petitioned species.

In addition to predicted vulnerabilities based on biological and demographic characteristics, we consider empirical information on overall trends of live coral cover within the range of the petitioned species. No recent, region-wide reports of current overall live coral cover are available for the Indo-Pacific as a whole. However, recent reports from parts of the region have found current live coral cover to be stable or increasing in many areas, while others have experienced some decreases. Monitoring data collected annually from 47 sites on the GBR from 1995 to 2009 averaged 29 percent live coral cover (Osborne *et al.,* 2011). More importantly, this study found no evidence of consistent, system-wide decline in coral cover since 1995. Instead, fluctuations in coral cover at sub-regional scales (10–100 km), driven mostly by changes in fast-growing *Acropora* species, occurred as a result of localized disturbance events and subsequent recovery (Osborne *et al.,* 2011). However, another recent study, based on 2,258 surveys of 214 GBR reefs over 1985–2012, showed declines in live coral cover from 28 percent to 14 percent, a loss of half of the initial coral cover (the majority of which occurred at the end of the study period and after the Osborne *et al.* (2011) study had concluded) (Sweatman *et al.,* 2011). A study of 317 sites in the Philippines from 1981 to 2010 showed live coral cover increased from 29 percent in 1981 to 37 percent in 2010 (Magdaong *et al.,* 2013). A study of 366 sites from 1977 to 2005 in the Indian Ocean documented significant variation in coral cover trends over time and space, but overall following the mass 1998 bleaching event there was a large decline of 44 percent of the original live coral cover followed by partial recovery to 72.6 percent of pre-disturbance levels (Ateweberhan *et al.,* 2011). A study in Western Australia from 2005 to 2009, following a 1998 and 2003 bleaching events which left the area with relatively low coral cover, documented recovery to 10 percent total live hard coral cover and 5 percent soft coral cover in 2005 and 30 percent hard coral cover and 22 percent soft coral cover in 2009 (Ceccarelli *et al.,* 2011). Further, a study in the Andaman Islands of India following a 2010 bleaching where corals were bleached from 74–77 percent documented recovery of live coral cover from 13 to 21 percent in two years (Marimuthu *et al.,* 2012). These recent studies illustrate the dynamic nature of live coral cover. It is likely that the overall region-wide live coral cover in the Indo-Pacific is declining over the decade to century scales (Birkeland 2004; Fenner 2012; Pandolfi et al. 2003; Sale and Szmant 2012), but with fluctuations on shorter time scales.

In conclusion, information in our files regarding live coral cover confirms that there has been a long-term overall decline in live coral cover in the Indo-Pacific (Birkeland 2004; Fenner 2012; Pandolfi et al. 2003; Sale and Szmant 2012), and that those declines are likely ongoing and likely to continue in the future due to a multitude of global and local threats at all spatial scales. However, as the above information illustrates, live coral cover trends are highly variable both spatially and temporally, producing patterns on small scales that may not be extrapolated beyond the localized area. Live coral cover trends are complex, dynamic, and highly variable across space and time. Thus their interpretation requires the appropriate spatiotemporal context, and an understanding of the various physical, biological, and ecological processes at work within coral communities and coral reef ecosystems. The ranges of the petitioned reef fish are expansive and encompass much of the variability in environmental conditions discussed above, indicating that while overall habitat may have declined, some portions of their range may have experienced declines in coral cover while some have experienced stability or increasing coral cover over the last few decades.

The petitioner goes on to discuss more specific coral habitat and describes the preferred habitat for most of the petitioned species, excluding *Amphiprion,* as ''branching corals, mostly *Acropora* and *Pocillopora.''* The petition did not provide information on the extent to which *Acropora* and *Pocillopora* corals are no longer available as preferred habitat within the ranges of the petitioned species, or predictions for future distribution or availability of these coral genera as a result of climate change impacts. Information in our files (and provided in Bonin, 2012) indicates that *Acropora* and *Pocillopora* species may respond negatively to a bleaching event; however, there is high variability in susceptibility to bleaching and acidification among *them,* which is demonstrated in observed responses to bleaching events. For example, Bonin (2012) shows the 16 species of *Acropora* he studied being affected to varying degrees by bleaching. A majority of those species exhibited moderate bleaching susceptibility (less than 50 percent of colonies severely bleached or dead). The incidence of severe bleaching (more than 50 percent of colony with strong pigmentation loss) among species ranged from zero to 62 percent, with an average of 25 percent among the 16 species. The incidence of unbleached colonies (healthy colonies with no visible loss of color) ranged from zero to 46 percent among species with an average of 20 percent. Mortality among the 16 species evaluated ranged from zero to 40 percent, with an average of 5.2 percent mortality. His surveys were conducted in two to six meters of water in Kimbe Bay, Papua New Guinea. In such a narrow and shallow depth range within the coral triangle area, we'd expect to see severe results from a bleaching event, yet this site still shows high variability among the 16 *Acropora* species evaluated.

In another study from our files, Foden *et al.* (2013) developed a framework for identifying the species most vulnerable to extinction from a range of climate change induced stresses. Their evaluations included 797 species of reef building corals, including 165 species of *Acropora* and 17 species of *Pocillopora,* and incorporated species' physiological, ecological, and evolutionary characteristics, in conjunction with their predicted climate change exposure. The results indicate that just eight of those 165 *Acropora* species, and four of the 17 *Pocillopora* species, have high overall vulnerability to climate change. The remaining 157 *Acropora* and 13 *Pocillopora* have low overall vulnerability, indicating they are the least vulnerable to extinction due to climate change stresses within this group. In fact, acroporids (which includes the Genus *Acropora*) were highlighted by the authors as one of three coral families that have a mean climate change vulnerability score significantly lower than the mean for all corals. Of the eight species of *Acropora* that were rated as highly vulnerable to climate change, several have plating or short bushy morphologies and all of them occur in very restricted ranges in either the western Indian Ocean or in Japan. Thus, these highly vulnerable species are unlikely to represent habitat of significance to the petitioned reef fish that occur in these waters because the reef fish have expansive ranges (beyond the Indian Ocean and/or Japan). Similarly, the four *Pocillopora* species rated as highly vulnerable are also unlikely to represent significant habitat for the petitioned species. Specifically, two of them are limited to small ranges in the East Pacific, outside the ranges of the petitioned reef fish species, one occurs in deep water, and the other has a restricted range limited to waters around Madagascar, which only represents a small fraction of the expansive ranges of the petitioned chromis and plectroglyphidodon species. Other information in our files also indicates that *Acropora* corals are some of the fastest to re-grow and recover from disturbance (Adjeroud *et al.,* 2009; Diaz-Pulido *et al.,* 2009; Osborne *et al.,* 2011).

The petition presented site specific studies from bleaching events in Okinawa, Japan (Loya *et al.,* 2001) and the Great Barrier Reef (Marshall and Baird, 2000) indicating branching *Acropora* and *Pocillopora* corals were among the most susceptible to bleaching. Marshall and Baird (2000) reported a mixed response to bleaching with fewer than 10 percent of colonies of *Pocillopora damicornis* unbleached and the majority of *Pocillopora* species were either severely bleached or dead six weeks after a large scale bleaching event in 1998. They also observed a mixed response to bleaching among *Acropora* corals. For example, 25 percent of caespitose (tufted) and corymbose (bushy) species of *Acropora* were severely bleached or dead, yet over 60 percent of the colonies of these species remained unbleached. They found significantly different bleaching responses among sites, depths, and taxa. Spatial variation in bleaching impacts may be driven by variation between sites in environmental conditions, including differences in temperature at a particular site. However, Marshall and Baird (2000) noted that the local-scale variation in this study was likely driven by ecological factors such as assemblage composition or biological factors such as acclimatization, because bleaching was less severe at sites with consistently higher temperatures. Site specific studies like these present a localized picture, the results of which can be extremely variable depending on the environmental and ecological variables associated with the study site, and have limited usefulness in predicting range-wide impacts to habitat for the petitioned species.

Foden *et al.* (2013) provide an overall range-wide perspective that incorporates species' physiological, ecological and evolutionary characteristics, in conjunction with their predicted climate change exposure to identify those coral species most at risk from climate change. We find Foden *et al.*'s (2013) approach to be informative for considering the potential for range-wide impacts to *Acropora* and *Pocillopora* habitat that may threaten the continued existence of the petitioned reef fish species that commonly associate with these coral species because it provides information on a wide range of species within those genera and the results are not specific or limited to any particular geographic area. Data in our files demonstrates that most *Acropora* and *Pocillopora* corals have low vulnerability to bleaching due to ocean warming. Thus, even though all *Acropora* and *Pocillopora* species are likely to be negatively affected by coral bleaching to some degree, or in some locations depending on environmental variables, the information in the petition and in our files suggests the effects overall are likely to be low for most of those species and we cannot reasonably infer that there may be a risk to the petitioned species because of high mortality of these corals.

Based on the information in the petition and our files, we cannot infer that the general information on coral bleaching and acidification effects on pomacentrid habitat, in conjunction with the high variability in response to climate change, indicates a threat that may warrant protection for the petitioned fishes under the ESA. Species-specific issues related to this threat are discussed in species-specific sections below.

The petition also presents scientific studies indicating pomacentrid reef fishes show a strong preference for inhabiting live coral rather than sub-lethally bleached or dead corals, and pomacentrid recruitment on bleached and dead corals declines quickly after a bleaching event. However, Bonin *et al.* (2009) and Coker *et al.* (2012), cited in the petition, show no significant difference in settlement of *Pomacentrus moluccensis* or density of *Dascyllus aruanus* (respectively) on healthy versus sub-lethally bleached corals. These two studies only found significantly fewer recruits and lower density on dead corals. As noted earlier, not all corals are subject to mortality from bleaching; for example, Bonin (2012) found an average of only 5.2 percent mortality from bleaching. In addition, the petition argues that bleaching reduces available habitat, leading to increased competition effects, reduced growth rates, and generally negative fitness consequences for pomacentrids. The results of Bonin *et al.* (2009) and Coker *et al.* (2012) only support this claim for bleaching-induced mortality and not bleaching alone. The implications of this for the petitioned species would depend on their individual levels of exposure and susceptibility to habitat that has experienced bleaching and some level of bleaching-induced mortality. This is discussed further for each species in the species sections because, as discussed previously, exposure and response to threats is variable between species.

In general, considering the effects of climate change on damselfishes and their habitat based on the information in the petition and in our files, we acknowledge the growing threat that ocean warming and acidification present to coral reef ecosystems. Even though all species of *Acropora* and *Pocillopora* are likely to be negatively affected by climate change to some degree, the information in the petition and in our files suggests the effects are likely be low to moderate for most species and will be variable both spatially and temporally throughout the ranges of the petitioned species, providing areas of refuge from the potential effects of habitat disturbance. Thus we cannot infer from the general information presented that climate change induced habitat loss by itself is a threat that may warrant protection for these pomacentrids under the ESA.

Overharvest

Under Listing Factor B, the petitioner identified four of the seven petitioned Indo-Pacific species as potentially threatened by overharvest for the marine aquarium fish trade and stated that the harvest of corals threatens all of the petitioned species by removing their habitat. This section addresses overharvest of corals only. The threat of overharvest to the four identified fish species, *A. percula, C. atripectoralis, C. viridis,* and *D. albisella,* is discussed in the relevant species-specific sections below.

The petition states ''[t]he widespread and growing trade in coral reef fish and corals adds to the cumulative stresses that the petitioned pomacentrids face from ocean warming and ocean acidification.'' The petition provides no further information on the threat of harvest of corals as it pertains to the petitioned species. Information in our files suggests that coral trade can have significant local effects on targeted coral species, but the overall contribution of ornamental trade to the extinction risk of 82 species of reef building corals was determined to be a threat of low importance (Brainard *et al.,* 2011). The petition has presented no information, and we have no information in our files, to suggest that the petitioned species are particularly dependent on species of coral that are targeted for trade. Further, we have no information to suggest that this may be an operative threat across all or a significant portion of the range of these species. All hard corals are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which allows trade but requires findings that trade is sustainable. There is no evidence presented in the petition or in our files that trade in corals may be significantly impacting the available habitat for the petitioned reef fish species. As such, the assertion made in the petition is unsupported and no information was presented to allow us to infer a possible increased extinction risk for any of the petitioned reef fish species due to the harvest of corals.

Adequacy of Regulatory Mechanisms

Under listing Factor D, the petitioner asserts that the petitioned species are warranted for listing under the ESA due to the inadequacy of regulatory mechanisms, specifically addressing greenhouse gas pollution, coral reef habitat protection, and the marine aquarium trade. The petition states that both international and domestic laws controlling greenhouse gas emissions are inadequate and/or have failed to control emissions: ''As acknowledged by NMFS in its *Status Review Report of 82 Candidate Coral Species* and accompanying *Management Report,* national and international regulatory mechanisms have been ineffective in reducing emissions to levels that do not jeopardize coral reef habitats.'' Information in our files and from scientific literature indeed indicates that greenhouse gas emissions have a negative impact to reef building corals (NMFS, 2012). However, beyond this generalized global threat to coral reefs, we do not find that the petition presents substantial information indicating that the effects of greenhouse gas emissions are negatively affecting the petitioned species or their habitat such that they may be at an increased risk of extinction. In particular, the information in the petition, and in our files, does not indicate that the petitioned species may be at risk of extinction that is cause for concern due to the loss of coral reef habitat or the direct effects of ocean warming and acidification. Therefore, inadequate regulatory mechanisms controlling greenhouse gas emissions is not considered a factor that may be causing extinction risk of concern for the petitioned species.

With respect to coral reef habitat protection from localized impacts, the petition quotes Burke *et al.* (2011) as stating, ''more than sixty per cent of the world's coral reefs are under immediate and direct threat from one or more local sources,'' despite international and domestic efforts to reduce threats to reefs. The petition states ''this high level of threat clearly indicates that existing regulatory mechanisms are inadequate to protect the coral reefs on which the petitioned Pomacentrids depend.'' The petition did not provide an explanation of how petitioned species may be threatened by local sources of impacts to coral reefs. We therefore conclude that the petition does not provide a relevant explanation on how existing regulatory mechanisms for coral reef protection are inadequate and therefore may be increasing the extinction risk of the petitioned Indo-Pacific species.

The petition states that ''United States and international regulations are inadequate to protect the petitioned pomacentrids from threats from the global marine aquarium trade.'' The petition cites Tissot *et al.* (2010) for evidence of ''weak governance capacity in major source countries such as Indonesia and the Philippines; high international demand, particularly from the United States . . . and inadequate enforcement of the few existing laws, allowing collectors to use illegal and harmful collection methods such as sodium cyanide.'' Information presented in the petition and in our files does not indicate that *C. atripectoralis, C. viridis,* or *D. albisella* may be harvested at unsustainable levels for the marine aquarium fish trade (see species specific sections below); accordingly, we conclude the characterization of the risk of harvest to these three petitioned species presented in the petition is unsubstantiated. No information was presented in the petition related to the harvest of *D. reticulatus, P. dickii,* or *P. johnstonianus.* Because overharvest for trade has not been established as an operative threat that may be impacting extinction risk for these six petitioned species, regulatory mechanisms addressing this threat are not considered to be a factor influencing their extinction risk. However, we are unable to estimate the magnitude of impact that the marine aquarium trade may be having on *A. percula's* population, because we have inadequate information to estimate population size for this species.

In summary, we find the petition does not provide substantial information to suggest existing regulatory mechanisms are inadequate and may be causing an extinction risk for six of the petitioned species Indo-Pacific species. This listing factor will be addressed more specifically for *A. percula below.*

Other Natural or Manmade Factors

Under Listing Factor E, the petition states generally that ocean acidification and ocean warming, in addition to causing habitat loss, ''directly threaten the survival of the petitioned species through a wide array of adverse impacts that are predicted to lead to negative fitness consequences and population declines.'' We acknowledge that the potential for physiological impacts as a result of changing temperatures and changing CO_2 levels is not unique to corals; marine species associated with coral reef ecosystems also have the potential to be impacted physiologically by rising ocean temperatures and increased acidification. Similar to our previous discussion on habitat (coral) impacts, considering the likelihood and extent of this threat requires an understanding of the petitioned species' susceptibility and exposure to the threat considered at the appropriate spatial and temporal scales. The petitioner has provided no information to indicate that this threat is currently creating an extinction risk for the petitioned species in the wild, either through impacts to fitness of a significant magnitude or declines in their populations. Thus, we have assessed the information provided by the petitioner and in our files as it pertains to the potential for future impacts to the statuses of the petitioned species. For reasons explained below, we are unable to infer that any of these petitioned species may face an increased extinction risk due to potential future physiological impacts associated with projections of ocean warming and ocean acidification.

The petition states that elevated sea surface temperatures ''can influence the physiological condition, developmental rate, growth rate, early life history traits, and reproductive performance of coral reef fishes, all of which can affect their population dynamics, community structure, and geographical distributions.'' The section of the petition asserting that ocean warming impacts reproductive success and development for the petitioned species relies on references that are general in nature and lack species specific information. (i.e., Munday, 2008; Lo-Yat *et al.,* 2010; Pankhurst and Munday, 2011). Lo-yat *et al.* (2010) examined larval supply of coral reef fishes (including some pomacentrid species) and found that, at their study site in French Polynesia, warmer El Niño conditions reduced larval supply overall by 51 percent, while cooler La Niña conditions increased larval supply by 249 percent. The authors note, however, that outcomes of future climate projections are contradictory when it comes to whether or not El Niño events will become more frequent. In addition, they highlight no less than four other studies that also examined the effects of El Niño and La Niña events on reef fish larval supply and present results which contrast with their results in French Polynesia, leading the authors to conclude that ''our work and the outcomes of these earlier studies suggest that the effect of climatic phenomena such as ENSO [El Niño Southern Oscillation] cycles on reef fish assemblages may be species, context, and location-specific and therefore extremely difficult to predict.'' Munday (2008) and Pankhurst and Munday (2011) provide general summaries of reef fish physiology and the potential future impacts of climate change. Pankhurst and Munday (2011) summarize their conclusion as follows: ''Climate change will, or is already, affecting reproductive and early life history events of most fishes. This is occurring at a variety of levels and through a range of mechanisms which as our understanding develops are emerging as increasingly complex. There is also the very strong suspicion that we are substantially under-informed to make useful predictions about likely effects beyond general assumptions, except for the relatively few species that have received the bulk of research attention.'' As stated previously, vulnerability to a threat is a combination of susceptibility and exposure. We are unable to draw reasonable inferences from this generalized information because it identifies the susceptibility of the petitioned species to a potential future threat but provides no information on the likely level of exposure in the future.

Other references in the petition do offer species-specific results (although not for any petitioned species) showing reduced breeding success of *Acanthochromis polyacanthus* (Donelson *et al.,* 2010) and increased mortality rates among juvenile *Dascyllus aruanus* (Pini *et al.,* 2011) in response to increased ocean temperatures that may be experienced later this century. Multiple references provided state that the effects of temperature changes appear to be species specific (Nilsson *et al.,* 2009; Lo-Yat *et al.,* 2010; Johansen and Jones, 2011); therefore these results are not easily applied to the petitioned species and, due to unknown variation in predicted exposure, are not applicable across an expansive range. Therefore, we are unable to draw reasonable inferences from these reports that the petitioned action may be warranted.

With regard to ocean warming impacts to respiratory and metabolic processes, Nilsson *et al.* (2009) and Johansen and Jones (2011) compared results of exposure to increased temperatures across multiple families or genera and species of reef fish. Nilsson *et al.* (2009) found that elevated temperatures (31, 32, or 33 degrees C) reduced aerobic capacity 41 to 93 percent for two cardinalfish and three damselfish species tested, indicating variation both between families tested and among species. Cardinalfish response to increasing temperatures was stronger and where cardinalfish lost virtually all capacity for oxygen uptake by 33 degrees C, damselfish species retained over half of their aerobic scope at this maximum temperature. With temperature increases in the future, Nilsson *et al.* (2009) predicted that thermally sensitive species, such as the cardinalfish studied, could decline on low-latitude reefs but also expand at higher latitudes where water temperatures are more favorable, resulting in pronounced range shifts towards higher latitudes. Further, Nilsson *et al.* (2009) described damselfish species, such as *C. atripectoralis,* as more thermally tolerant and predicted that range shifts towards higher latitudes may happen more gradually for these species.

Johansen and Jones (2011) tested wild-captured adult fish in a laboratory setting, exposing them to two temperature treatments representing current average summer temperatures around their habitat (29 degrees C) and the predicted average summer temperature after three degrees C increase in sea temperature following current climate change predictions for the end of this century. They found that increased temperature (32 degrees C) had a significant negative effect across all performance measures examined (for all species except *C. atripectoralis,* where no significant difference was found in swimming ability or metabolic performance), with the magnitude of the effect varying greatly among closely related species and genera. The results indicate increasing temperatures may impair certain species' ability to perform within current habitats (i.e., swimming capacity is reduced below prevailing water flow speeds for some species). Similar to Nilsson *et al.* (2009), Johansen and Jones (2011) suggest that the ecological impacts could include a reduction in species abundance and a shift in distribution ranges, such that some species are forced into different habitats where water flow is weaker to accommodate their reduced swimming capacity or into higher latitudes where performance is retained.

The information provided indicates both the potential for declines of some species in low-latitude reefs, as well as the potential for expansion for these species in higher latitudes or more thermally favorable areas. Both studies suggest species that are specialized to a narrow thermal environment, especially those optimized for colder temperatures, are likely to be the most sensitive to projected changes in temperature. We have no information that suggests the petitioned species are specialized to narrow thermal environments or optimized to colder temperatures. To the contrary, the petitioned species are widely distributed in geographic range and/or depth, which suggests they are less likely to be among the most sensitive to projected changes in temperature.

Many of the authors of the physiology studies discussed above acknowledge that acclimation, developmental plasticity, and genetic adaptation may or may not alleviate some physical and physiological limitations, although capacity for acclimation or adaptation is unknown and was not factored into the experiments. Donelson *et al.* (2011), however, did examine trans-generational plasticity and found rapid acclimation for the damselfish *Acanthochromis polyacanthus* when both parents and offspring were reared throughout their lives at elevated temperature. As noted earlier in this finding, adaptation and acclimatization has been demonstrated in some species of coral (Brainard *et al.* 2011) and the results from Donelson et al.'s (2011), while not specific to the petitioned species, indicates that some tropical marine fish species are likely to have the capacity for acclimation and adaptation to temperature increases at timescales exceeding the rate of climate change.

The petition also states ''ocean acidification impairs the sensory capacity and behavior of larval clownfish and damselfish'' but only provides species-specific information for *A. percula* which is discussed below. Importantly, studies cited in the petition (e.g., Ferrari *et al.,* 2011) demonstrate that there is significant variation in response to increased CO_2, leading to acidification, among species, even among four congeneric pomacentrid species sharing the same habitat and ecology in Australia. Additionally, the studies cited by the petition and in our files emphasize that there is significant individual variation in the response to artificially elevated CO_2. Results from a study by Munday *et al.* (2012) on selective mortality associated with variation in CO_2 tolerance show that half of the juvenile *Pomacentrus wardi* in a high CO_2 treatment of 703 µatm (pH 7.98) were unaffected and exhibited the same behaviors as fish in the control treatment of 425 µatm CO_2 (pH 8.16) when presented with the odor of a predator in lab experiments. Fish categorized as both affected and unaffected based on their response to predator odor in the lab, as well as control fish, were then released in the wild and monitored for mortality over 70 hours. The unaffected individuals from the high CO_2 treatment had 49 percent survival, not significantly different from the control fish, which had 44 percent survival. The affected individuals in the high CO_2 treatment had significantly lower survival at 32 percent. As noted by Munday et al. (2012), these results demonstrate that rapid selection of CO_2 tolerant phenotypes can occur in nature.

Miller *et al.* (2012) also report that trans-generational acclimation can mediate the physiological impacts of ocean acidification on reef fish. Their results show ocean temperature and acidity conditions projected for the end of the century cause an increase in metabolic rate and decreases in length, weight, condition, and survival of juvenile anemonefish (*Amphiprion melanopus*), but all of those effects were absent or reversed when parents also experience high CO_2 concentrations.

In summary, we acknowledge the potential for physiological and behavioral impacts to the marine species due to ocean warming and acidification levels that may occur later this century. However, we find the petition did not present substantial information to indicate this may increase extinction risk for the petitioned species. References provided in the petition acknowledge that there are limitations associated with applying results from laboratory studies to the complex natural environment where impacts will be experienced gradually over the next century at various magnitudes in a non-uniform spatial pattern. Lab experiments presented do not reflect the conditions the petitioned species will experience in nature; instead of experiencing changes in levels of ocean warming and acidification predicted for the end of the century within a single generation, species in nature are likely to experience gradual increases over many generations. The few multi-generational studies that have been completed show evidence of rapid trans-generational acclimation and individual variation that could lead to rapid selection for tolerant phenotypes. These are likely to be influential factors in how changing environmental conditions are reflected in future populations. The petitioned species (with the exception of *A. percula* for which no population information was available) have high estimated abundances and most are distributed across the entire Indo-Pacific region. While there is much uncertainty regarding the magnitude and spatial patterns of these environmental conditions that may occur sometime in the future, they will not occur uniformly or as rapidly as they were experienced in laboratory studies. Therefore, we cannot draw reasonable inferences about the extinction risk of the petitioned species from this information. For these reasons, information in the petition and in our files does not constitute substantial information that listing may be warranted based on the potential future physiological impacts of ocean warming and acidification. Species-specific information is addressed below.

Species Specific Threat Information

A. percula

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

Although the petition broadly states that the petitioned species are habitat specialists that depend on live corals, *A. percula* is the exception. It is described as a habitat specialist due to its symbiotic association with three species of anemone: *Heteractis crispa, Heteractis magnifica,* and *Stichodactyla gigantea* (Ollerton *et al.,* 2007). As habitat specialists, the symbiotic relationship between *A. percula* and their hosts makes this species susceptible to threats that are likely to impact their host anemones; accordingly, we must consider the susceptibility and vulnerability of their host species. The petition states that *A. percula* is threatened by ''bleaching and subsequent loss of anemone habitat resulting from ocean warming'' and cites multiple references as evidence that ocean warming has led to anemone bleaching, which can lead to reductions in anemone abundance and size as well as reduce the density, reproduction, and recruitment of anemone fish. We acknowledge that information presented indicates bleaching events may impact host anemone species by causing reductions in abundance of anemones and/or a reduction in size of bleached anemones (Hattori, 2002; Saenz-Agudelo *et al.,* 2011; Hill and Scott, 2012). In particular, the petition presents information indicating that bleaching events have been shown to negatively impact *H. crispa,* one of the three host anemone species for *A. percula* (Hattori, 2002).

In addition, the geographic range of A. percula is more restricted than the other petitioned species and occurs largely in the Coral Triangle area. A hot spot of ocean warming occurs in the equatorial western Pacific where regional warming is higher than overall warming in the Indo-Pacific, exposing coral reef ecosystems, including anemones, in this area to a higher risk of warming-induced bleaching. The hot spot overlaps the Coral Triangle and a large part of A. percula's range (Couce et al. 2013; Lough 2012; Teneva et al. 2012; van Hooidonk et al. 2013b).

Factor B: Overutilization for Commercial, Recreational, Scientific or Educational Purposes

The petitioner claims that *A. percula* is being overharvested for the marine aquarium trade. Rhyne *et al.* (2012) indicate that in 2005 the species complex of *A. ocellaris/percula* was the fifth most commonly imported marine aquarium species into the United States, with more than 400,000 individuals in that year. These numbers are an accumulation of data from 39 countries where the Philippines, Indonesia, and Sri Lanka are listed as the top three exporting countries, but we do not have data on the exact amount of exports of this species complex from each country. We do know that the Philippines and Indonesia alone accounted for 86.6% of all reef fish individuals imported to the U.S. in 2005 (Rhyne *et al.,* 2012). It is of note that the Philippines and Indonesia are outside the reported range of *A. percula,* but inside the range of *A. ocellaris,* so import estimates from these countries are not relevant to the petition's statements regarding harvest or trade of *A. percula.* We also know from Rhyne *et al.* (2012) that within the range of *A. percula,* at least 255 different species of reef fish, totaling just over 200,000 individuals, were exported to the U.S in 2005. Data in Rhyne *et al.* (2012) for the countries within *A. percula's* range do not suggest that total import numbers were skewed heavily toward one or a few species. Given the above information we can only infer that total *A. percula* imports to the U.S. were less than 200,000 individuals. As noted in the species description above, *A. percula* does not occur within U.S. Pacific possessions and we therefore have no information in our files regarding estimated global population size. Additional references in the petition regarding trade of *A. percula* indicate an increased consumer interest in *A. percula* following the release of the ''Finding Nemo,'' computer-animated film in 2003, but provide no additional information about the overharvest threats to this species in the wild (Osterhoudt, 2004; Prosek, 2010). In the absence of information on abundance, we are unable to determine how the harvest of up to 200,000 individuals annually may impact the status of *A. percula.*

Factor D: Inadequacy of Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. However, references provided by the petitioner question the sustainability of management practices associated with the global aquarium trade indicating that in many cases the status of targeted species is largely unknown (Jones et al. 2008; Rhyne et al. 2012). With no additional information regarding the abundance of A. percula, we are unable to determine if current management regimes are sufficient to prevent overharvest. Because we have determined that substantial information has been presented to indicate that listing may be warranted for *A. percula* due to potential impacts from habitat disturbance, we will need to further evaluate whether regulatory mechanisms may be inadequate to address these threats.

In summary, we find that the petition presents substantial information that A. percula may be warranted for listing due to species specific threats identified under listing Factor A. We will be seeking additional information on all threats to *A. percula* and conducting a full status review for this species (see below), at which time we will fully analyze the level of extinction risk posed by all of the identified threats, both individually and combined.

C. atripectoralis

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

In the species section, the petition states that *C. atripectoralis,* ''is closely associated with branching corals, especially *Acropora* and *Pocillopora,* for shelter, reproduction, and recruitment,'' citing Wilson *et al.* (2008a) and Lewis (1998). The petition also states that declines in *C. atripectoralis* have resulted from coral loss due to this close association (Lewis, 1998; Wilson *et al.,* 2006). With regard to these references, we consider whether the species-specific information on declines resulting from changes to coral habitat may indicate the possibility of increased extinction risk for *C. atripectoralis* as a species.

Lewis (1998) examined impacts to the *C. atripectoralis/viridis* species complex after coral bommies (coral heads) were physically destroyed by a hammer. Lewis (1998) found that numbers of the *C. atripectoralis/viridis* species complex varied after disturbance of coral bommies, but overall these species showed a significant decline post disturbance. At the same time, several of the undisturbed (or control) bommies showed large increases of the species complex after the disturbance that could not be explained by recruitment, and Lewis (1998) noted that immigration likely occurred from disturbed locations. Coral loss in the Lewis (1998) study was described by the authors as comparable to small scale anthropogenic disturbances like anchor damage and destructive fishing. Results from this study indicate that *C. atripectoralis* shows a preference for structurally intact coral habitat over damaged habitat. However, we find this conclusion unhelpful for extrapolating the likely impacts to this species due to climate change affecting corals since the cause of disturbance is dissimilar to impacts associated with bleaching events, which generally leave the structural integrity of corals intact for at least a period of time, and do not always result in coral mortality. The results from this study suggest that small habitat disturbance may result in small area declines or shifts to areas where habitat conditions are more favorable. As discussed in the general impacts section above, future climate change impacts to coral reef habitat will be highly variable within the range of *C. atripectoralis* and the available information suggests that bleaching impacts to *Acropora* and *Pocillopora* corals thus far, and in the foreseeable future, will be low to moderate on average, with a subset of species showing higher vulnerability.

Wilson *et al.* (2006) is a meta-analysis of species-specific results from 17 independent studies (including Lewis (1998)) and presents mean values for change in fish abundance for 55 species of reef fish related to change in coral cover due to various types of disturbances calculated from four or more locations. The authors note that *C. atripectoralis* did not show consistency in response, though overall decline averaged about 60 percent of coral loss. This review paper does not provide any further detail regarding which or how many of the 17 studies included *C. atripectoralis* and therefore in how many cases there was decline, the magnitude of decline, the sampling timeframe, or the cause of coral cover loss in relation to this species. As such, we reviewed the studies on which this analysis was based. We found *C. atripectoralis* was included in five studies showing variable results in response to coral loss. These results range from an observed increase over time after the 1998 mass bleaching event in the Seychelles (Spalding and Jarvis, 2002), to showing no impact in response to coral cover loss of 16–59 percent due to a crown of thorns starfish outbreak (Pratchett, 2001) or coral loss due to a tropical cyclone (Cheal *et al.,* 2002). In Lewis (1998), addressed above, the *C. atripectoralis/C. viridis* complex declined 38 percent in response to a 34 percent decline in coral cover due to destruction with a mallet, which means the fish decline was 112 percent of coral cover decline in this case which heavily influences the average overall reported in Wilson *et al.* (2006) (although as noted above, some of the reduced abundance on damaged bommies was immigration to nearby control sites, not mortality). Again, we find the cause of disturbance in this study dissimilar to impacts associated with bleaching events, which generally leave the structural integrity of corals intact for at least a period of time, and do not always result in coral mortality. Given that the majority of studies showed increases or no effect to *C. atripectoralis,* we cannot reasonably infer from this study that this species may be at increased risk of extinction from this threat.

Overall, the petition establishes that this species prefers branching corals as adults and branching and plate corals as juveniles, but can be found with other coral species in its territory (Wilson *et al.,* 2008b). Pratchett (2001) observed *C. atripectoralis* to commonly inhabit dead corals as well. The information also shows positive and neutral responses to habitat disturbance at the local scale. In order to evaluate the significance of the evidence presented, we consider whether the conditions that led to, or may lead to, declines may be experienced throughout all or a significant portion of the species range. Based on the information in the petition and in our files, we cannot reasonably infer that *C. atripectoralis* is likely to be experiencing the type or magnitude of coral loss exhibited in the studies discussed above throughout all or a significant portion of its expansive geographic range. Coral reefs are naturally dynamic environments that experience regular cycles of disturbance and recovery on a local scale from a range of impacts including storms, bleaching events, predator outbreaks, or others. These results for *C. atripectoralis* are representative of this natural cycle on a local scale. While these examples of localized decline due to habitat disturbance show some negative effects on *C. atripectoralis* in at least one location on the Great Barrier Reef, we do not believe these negative effects are large enough to impact the status of the global population of *C. atripectoralis* because best available data indicate it likely numbers in the hundreds of millions and is distributed across the entire Indo-Pacific region. The evidence of mostly neutral or positive responses to habitat disturbance does not allow us to reasonably infer that *C. atripectoralis* may be at increased extinction risk in the future either, even when considering the potential for increased habitat disturbances due to climate change.

We find that substantial information has not been presented to indicate a concern for the extinction risk of this species due to the destruction, modification, or curtailment of its habitat or range.

Factor B: Overutilization for Commercial, Recreational, Scientific or Educational Purposes

The petitioner asserts that analyses of the aquarium fisheries in Hawaii, the Philippines, and Florida indicate that damselfish, including *C. atripectoralis,* may face threats from overharvest. The only reference provided in the petition with information specific to *C. atripectoralis* (Nanola *et al.,* 2010) indicates its density is lower in one region of the Philippines compared to its densities in other regions of the Philippines. The authors note that there are reports of intense fishing and habitat degradation in the area with lower *C. atripectoralis* density; however, no causal relationship was investigated to determine why the density of the species was lower in one region versus others. No additional information was provided in this reference with regard to the harvest of *C. atripectoralis.*

The petitioner also cited Rhyne *et al.* (2012) which state *C. viridis* is the most commonly imported marine aquarium species into the U.S., accounting for nine percent of imports and more than 900,000 individuals each year. Figures reported for *C. viridis* actually represent a complex of three species, including *C. atripectoralis.* No further explanation of what proportions those three species make up of the total, the magnitude of harvest in relation to global population size, or how harvest for the marine aquarium trade affects extinction risk for any of the three species in the species complex was provided. As noted in the species description above, we estimate the current global abundance of the *C. atripectoralis/C. viridis* species complex to be in the hundreds of millions. The import of 900,000 individuals per year represents a very small percentage of that overall global population estimate. Notably, a third species of *Chromis* is also represented in the import numbers so the proportion of *C. atripectoralis* harvested in relation to its overall abundance may be even smaller.

The petitioners do not provide information that the level of harvest of this species may be unsustainable. They have simply identified a potential threat and provided no other demographic information, leaving no basis upon which to reasonably infer that harvest may be increasing the extinction risk of this species. Accordingly, we cannot reasonably infer from these reports that this species may be facing an extinction risk across all or a significant portion of its range due to overharvest.

Factor D: Inadequacy of Existing Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. The evaluation of the general information provided in the petition regarding inadequacy of regulatory mechanisms above applies here. As such, substantial information has not been provided to indicate that inadequacy of regulatory mechanisms may be contributing to increased extinction risk for *C. atripectoralis.*

Factor E: Other Natural or Manmade Factors Affecting Its Continued Existence

For *C. atripectoralis,* the petitioner discusses two studies to suggest that increased ocean temperatures will reduce aerobic capacity for this species. One of the references provided with species-specific information reports *C. atripectoralis* showed no significant changes in consumption of oxygen at a resting rate or maximum oxygen uptake during swimming, but displayed a significant fall in aerobic scope from 300 (with a standard deviation of 28 percent) at 29 degrees C to 178 (with a standard deviation of 55 percent) at 33 degrees C; the authors also describe *C. atripectoralis* as a thermally tolerant species (Nilsson *et al.,* 2009). These authors suggest that thermally tolerant species such as *C. atripectoralis* may experience gradual range shifts overtime. Johansen and Jones (2011) showed no significant difference for *C. atripectoralis* in swimming or metabolic performance in response to a three degrees C increase in water temperature (29 to 32 degrees). We acknowledge the potential for increased ocean temperatures that may occur later this century to have physiological impacts on the petitioned species, however the information presented in the petition for *C. atripectoralis* shows that the potential negative effect by itself, combined with the thermal tolerance demonstrated, does not allow us to infer an extinction risk due to the potential future physiological impacts of climate change that is cause for concern.

C. viridis

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

The petition argues that *C. viridis* is threatened by habitat loss and degradation of coral reef habitat due to temperature-induced mass bleaching events and ocean acidification. The petitioner describes *C. viridis* as a coral habitat specialist and states that, ''many studies have reported *C. viridis'* close association with a narrow set of branching coral species as juveniles and adults,'' citing multiple references (Allen, 1991; Booth, 2002; Lecchini *et al.,* 2005; Ben-Tzvi *et al.,* 2008; Froukh and Kochzius, 2008). Although it is not apparent from the references provided that this species relies on a ''narrow set of branching coral species,'' we do acknowledge that this species is commonly observed associated with branching corals.

The petition cites several references to demonstrate that *C. viridis* is negatively impacted by coral habitat loss or degradation, which are discussed below. The petitioner asserts that *C. viridis* has ''been shown to decline sharply following the loss of live coral habitat from bleaching and other disturbances,'' citing Nilsson *et al.* (2009). However, the Nilsson *et al.* (2009) study examined how elevated temperature impacts respiratory scope for several species of pomacentrids (not including *C. viridis*) and does not examine impacts of habitat loss on any species. Rather the study cites two other papers referenced in the petition for habitat loss (Wilson *et al.,* 2006 and Pratchett *et al.,* 2008), neither of which include any information on *C. viridis.* As discussed in the previous section, *C. viridis* was reported as part of a species complex with *C. atripectoralis* in Lewis (1998) and this study provides no additional information to suggest that extinction risk is heightened for either of these species.

The petition states, ''[i]n a survey of a portion of the GBR that experienced bleaching during the 1997–98 mass bleaching event, Booth and Beretta (2002) found that numbers of *C. viridis* collapsed after the bleaching event. . . .'' Booth and Beretta (2002) examined changes in recruitment and density of reef fish after a coral bleaching event in One Tree Island lagoon in Australia and found that the density of three different species of pomacentrids dropped at bleached sites. The authors note that the numbers of several species, including *C. viridis,* may have been seriously reduced as a result of the bleaching event; however, they were unable to quantitatively assess density changes for this species because survey methods were unsuitable for assessing species that had a highly patchy distribution at the study site.

Overall, the petition establishes that this species is commonly observed associated with branching corals and the work of Ben-Tzvi *et al.* (2008) shows preference for settlement and recruitment of juveniles to *Acropora* species. The information also provides two examples of negative responses to habitat disturbance at the local scale (Booth and Beretta 2002; Lewis 1998). In order to evaluate the significance of the evidence of a negative response to a threat that has been presented, we consider whether the conditions that led to declines may be experienced throughout all or a significant portion of the species range. Based on the information in the petition and in our files, we do not believe that *C. viridis* is likely to be experiencing the type or magnitude of coral loss exhibited in Lewis (1998) or Booth and Beretta (2002) throughout all or a significant portion of its expansive geographic range, nor is it likely to in the future. Coral reefs are naturally dynamic environments that experience regular cycles of disturbance and recovery on a local scale from a range of impacts including storms, bleaching events, predator outbreaks, or other threats. These results for *C. viridis* are representative of this natural cycle on a local scale. While these examples of localized decline due to habitat disturbance show clear negative effects on *C. viridis* at two locations on the Great Barrier Reef, we have no information to suggest that these localized effects are large enough to impact the status of the entire species because the best available data indicate it likely numbers in the hundreds of millions and is distributed across the entire Indo-Pacific region. As summarized above, information in our files regarding live coral cover confirms that there has been a long-term overall decline in live coral cover in the Indo-

Pacific, and that those declines are likely ongoing and likely to continue in the future due to a multitude of global and local threats at all spatial scales. However, live coral cover trends are complex, dynamic, and highly variable across space and time. Even though all species of *Acropora* and *Pocillopora* are likely to be negatively affected by climate change to some degree, the information in the petition and in our files suggests low to moderate effects for most species that will be variable both spatially and temporally throughout the range of *C. viridis,* providing areas of refuge from the potential effects of habitat disturbance. We find that substantial information has not been presented to indicate a concern for the extinction risk of this species at the population level due to the destruction, modification, or curtailment of its habitat or range.

Factor B: Overutilization for Commercial, Recreational, Scientific or Educational Purposes

The petitioner cited Rhyne *et al.* (2012) which states *C. viridis* is the most commonly imported marine aquarium species into the U.S., accounting for nine percent of imports and more than 900,000 individuals each year. However, this study is based on one year of information collected from import invoices in the U.S. and does not report annual averages as characterized by the petition. Nevertheless, we have no information to indicate the figures cited do not represent a typical year. In addition, figures reported for *C. viridis* represent a complex of three species (which also includes the petitioned species *C. atripectoralis*), not *C. viridis* alone, indicating that the numbers for *C. viridis* are actually lower than those presented in the petition. No further explanation of the magnitude of harvest in relation to global population size of *C. viridis* or how harvest for the marine aquarium trade affects its extinction risk was provided.

As noted in the species description above, we estimate the global abundance of the *C. atripectoralis* and *C. viridis* species complex to be in the hundreds of millions. The annual import of a maximum of 900,000 represents a very small percentage of this global population estimate. Notably, this percent may be lower as a third species of *Chromis* is also represented in the harvest numbers.

The petitioners do not provide information that the level of harvest of this species may be unsustainable. They have simply identified a potential threat and given no other demographic information, leaving no basis upon which to infer that harvest may be increasing the extinction risk of this species. Accordingly, we cannot infer from this information that this species may be facing increased extinction risk across all or a significant portion of its range due to overharvest.

Factor D: Inadequacy of Existing Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. The evaluation of the general information provided in the petition regarding inadequacy of regulatory mechanisms above applies here. As such, substantial information has not been provided to indicate that inadequacy of regulatory mechanisms may be contributing to increased extinction risk for *C. viridis.*

Factor E: Other Natural or Manmade Factors Affecting its Continued Existence

No species-specific information was provided regarding the effects of increased ocean warming or acidification on *C. viridis.* The evaluation of the general information provided in the petition above regarding ocean acidification and warming applies here. While we acknowledge the potential for *C. viridis* to experience physiological impacts due to levels of ocean warming and/or acidification that may occur later this century, we find that the petition does not present substantial information indicating this species may be warranted for listing due to these factors affecting its extinction risk.

D. albisella

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

The petition claims that *D. albisella* is threatened by habitat loss and degradation of coral reef habitat due to temperature-induced mass bleaching events and ocean acidification, specifically arguing that *D. albisella* is dependent on live branching *Pocillopora* species for larval settlement and juvenile habitat. The petition cites Allen (1991), Booth (1992), and Randall (1985) to describe the habitat characteristics for *D. albisella.* Additional information in our files provides more detail with respect to *D. albisella'*s habitat use, as discussed below. The petitioner cites DeMartini *et al.* (2010) to support the claim that *D. albisella* juveniles are obligately associated with branching *Pocillopora* corals. However, DeMartini *et al.* (2010) actually describe *D. albisella'*s habitat requirements as obligately associated with rugose corals, which describes the species' need for structure during the recruitment stage, not a constraint to a particular taxa of corals. The study also showed that rugose corals within the study area ranged from low to high susceptibility to bleaching, similar to the coral response variation discussed above.

The petitioner provides no abundance or density information for this species, however our internal files indicate that *D. albisella* is a commonly observed species at multiple depths throughout its range, associating with multiple habitat types. In shallow waters (less than 15 meters), it was ranked first (out of 113 taxa) in mean numerical density over seven years of surveys and second in mean biomass surveyed over seven years at one site, and second (out of 109 taxa) in density and fifth in biomass at another site (DeMartini *et al.,* 2002). In a depth range of 30 to 40 meters, it was ranked third out of 35 species of fish in terms of how many survey stations at which it was observed and third in terms of mean number observed per station (Parrish and Boland, 2004). The authors note that all available data indicate the 30 to 40 meter habitats of northwestern Hawaiian island banks are substantially different from shallower reef habitats, like those in DeMartini *et al.* (2010), however they still observed *D. albisella* as a common species. In deeper waters (50 to 73 meters), it was ranked first in terms of the number of black coral trees in which it was observed, and ninth for mean fishes per tree out of 40 taxa (Boland and Parrish, 2005). In addition, Chave and Munday (1994) report *D. albisella* as common down to 84 meters depth on or above various substrates.

Additional information readily available in our files includes a study that documented *D. albisella* juvenile recruitment to experimental wire mesh coils in depths of four to eight meters on open sand flats (Schroeder, 1985). Results of this study indicate that recruitment is not dependent upon live branching *Pocillopora* corals, as stated in the petition, as we believe these results show that the species is only dependent on three-dimensional structure, which the wire mesh coils represent. Thus, the information in our files does not support the petitioner's claim that *D. albisella* is dependent on live branching *Pocillopora* for larval settlement and juvenile habitat or other aspects of survival. It does, however, support the fact the *D. albisella* is commonly observed among branching corals or other rugose habitat structures over a broad depth range.

The petition does not provide any specific information indicating coral habitat loss due to temperature-induced mass bleaching events and ocean acidification (or any other cause) has affected the status of the species. As such, we cannot infer that loss or degradation of coral reef habitat is a threat to the species to the extent it may warrant protection under the ESA.

Factor B: Overutilization for Commercial, Recreational, Scientific or Educational Purposes

The petitioner argues that analyses of the aquarium fisheries in Hawaii, the Philippines, and Florida indicate that damselfish, including *D. albisella,* may face threats from overharvest. The only reference provided with information specific to *D. albisella* (Stevenson *et al.,* 2011) reports information from fisher surveys indicating *D. albisella* has a high 'electivity index' which is a measure of fisher's preference for fish caught. No actual catch information was provided for *D. albisella.* No information was presented on the magnitude of harvest in relation to global population size or how harvest for the marine aquarium trade affects extinction risk for these species. As noted above in the species description, the mean global population estimate for *D. albisella* is 11,493,000. We found no additional information in our files indicating that overharvest may be an operative threat acting on this species and affecting its extinction risk.

Factor D: Inadequacy of Existing Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. The evaluation of the general information provided in the petition regarding inadequacy of regulatory mechanisms above applies here. As such, substantial information has not been provided to indicate that inadequacy of regulatory mechanisms may be contributing to increased extinction risk for *D. albisella.*

Factor E: Other Natural or Manmade Factors Affecting Its Continued Existence

No species-specific information was provided regarding the effects of increased ocean warming or acidification on *D. albisella.* The evaluation of the general information provided in the petition above regarding ocean acidification and warming applies here. While we acknowledge the potential for *D. albisella* to experience physiological impacts due to levels of ocean warming and/or acidification that may occur later this century, we find that the petition does not present substantial information indicating this species may be warranted for listing due to these factors affecting its extinction risk.

D. reticulatus

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

As noted above, the petition states that ''the petitioned pomacentrid reef fish are habitat specialists that directly depend on live corals for survival, including shelter, reproduction, recruitment, and food.'' In the species section, the petitioner provides more details on this species and states that *D. reticulatus* is ''closely associated with branching corals as juveniles and adults,'' citing Allen (1991), Lewis (1998), Randall (2005), and Wilson *et al.* (2008a). We acknowledge that this species is commonly associated with branching corals based on the information provided in the petition. Wilson *et al.* (2008) established that adults show a preference for branching and plate corals while avoiding soft corals.

The petition also states that declines in *D. reticulatus* have been documented as a result of coral loss and cites Lewis (1998). Lewis found that numbers of *D. reticulatus* declined after disturbance of coral bommies (coral heads). Again, we find the cause of disturbance in this study (e.g., by mallet) dissimilar to impacts associated with bleaching events, which generally leave the structural integrity of corals intact for at least a period of time, and do not always result in coral mortality. *Dascyllus reticulatus* is also included in the results reported in Wilson *et al.* (2006). As discussed above, Wilson *et al.* (2006) is a meta-analysis of 17 independent studies (including Lewis, 1998) and present mean values for changes in fish abundance for 55 species of reef fish related to changes in coral cover due to various types of disturbance calculated from four or more locations. *Dascyllus reticulatus* showed average declines larger than the declines in coral but was included in the group of species that did not show consistent responses to coral loss in all cases. This review paper does not provide any further detail regarding which of the 17 studies included *D. reticulatus* and therefore in how many cases there was decline, the magnitude of decline, the sampling timeframe, or the cause of coral cover loss in relation to this species. We found *D. reticulatus* was included in four studies conducted at three sites on the Great Barrier Reef. The results for *D. reticulatus* show variable responses to coral loss ranging from a slight increase at one site and slight decrease at another one year after a tropical cyclone (Cheal *et al.,* 2002), to a 70 percent decline one year after a crown of thorns starfish outbreak that resulted in 16–59 percent coral cover loss (Pratchett, 2001), to exhibiting dramatic declines of near 100 percent after experimental habitat disturbance consisting of breaking up all hard corals on the patch reef, resulting in essentially 100 percent coral loss (Syms and Jones, 2000).

In order to evaluate the significance of the evidence presented, we consider whether the conditions that led to declines may be experienced throughout all or a significant portion of the species range. Based on the information in the petition and in our files, we do not believe that *D. reticulatus* is likely to be experiencing the type or magnitude of coral loss exhibited in the studies discussed above throughout all or a significant portion of its range, nor is it likely to in the future. Coral reefs are naturally dynamic environments that experience regular cycles of disturbance and recovery on a local scale from a range of impacts including storms, bleaching events, predator outbreaks, or others. These results for *D. reticulatus* are representative of this natural cycle on a local scale. While these examples of localized decline due to habitat disturbance show some negative effects on *D. reticulatus* at three locations on the Great Barrier Reef, we have no information to suggest that these localized effects are large enough to impact the status of the entire species because best available data indicate it likely numbers in the billions and is distributed across the entire Indo-Pacific region. As summarized above, information in our files regarding live coral cover confirms that there has been a long-term overall decline in live coral cover in the Indo-Pacific, and that those declines are likely ongoing and likely to continue in the future due to a multitude of global and local threats at all spatial scales. However, live coral cover trends are complex, dynamic, and highly variable across space and time. Even though all species of *Acropora* and *Pocillopora* are likely to be negatively affected by climate change to some degree, the information in the petition and in our files suggests low to moderate effects for most species that will be variable both spatially and temporally throughout the range of *D. reticulatus,* providing areas of refuge from potential future threats that are not spatially uniform. We find that substantial information has not been presented to indicate a concern for the extinction risk of this species at the population level due to the destruction, modification, or curtailment of its habitat or range.

Factor D: Inadequacy of Existing Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. The evaluation of the general information provided in the petition regarding inadequacy of regulatory mechanisms above applies here. As such, substantial information has not been provided to indicate that inadequacy of regulatory mechanisms may be contributing to increased extinction risk for *D. reticulatus.*

Factor E: Other Natural or Manmade Factors Affecting Its Continued Existence

For *D. reticulatus,* the petitioner states increased temperature will negatively affect aerobic performance and swimming ability, citing Johansen and Jones (2011). In this study, *D. reticulatus* adults exposed to a high temperature (32 degrees C) environment in a laboratory setting displayed significantly reduced swimming and metabolic performance (Johansen and Jones, 2011). In addition, there is some evidence of adaptation/acclimation to future environmental conditions in pomacentrid species. *Dascyllus reticulatus* has high estimated abundance and is distributed across the entire Indo-Pacific region; though there is much uncertainty regarding the magnitude and spatial patterns of these environmental conditions that may occur sometime in the future, they will not occur uniformly or as rapidly as they were experienced in laboratory studies. Therefore, we cannot draw reasonable inferences about the extinction risk of *D. reticulatus* from this information.

P. dickii

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

As noted above, the petition states that ‘‘the petitioned pomacentrid reef fish are habitat specialists that directly depend on live corals for survival, including shelter, reproduction, recruitment, and food.’’ More specifically in the species section, the petitioner claims that many sources report a ‘‘strong association’’ of *P. dickii* adults with live branching *Acropora* and *Pocillopora* corals, citing Jones *et al.* (2006) and Emslie *et al.* (2012). We acknowledge that this species is commonly observed associated with branching corals, based on the information provided in the petition, and relies on coral branches for algal farming and nest sites. As such, the species may therefore be impacted by changes to this habitat type.

The petition references studies by Wilson *et al.* (2008b) and the Australian Institute of Marine Science (AIMS, 2012) to describe impacts of habitat loss, reporting that both studies found *P. dickii* declined significantly following the loss of *Acropora* coral cover in Fiji and loss of hard coral cover due to storm damage at Hoskyn's Reef on the Great Barrier Reef, respectively. *Plectroglyphidodon dickii* is also included in just one of the studies considered in the Wilson *et al.* (2006) meta-analysis. Lindahl *et al.* (2001) found a significant decline of approximately 68 percent in *P. dickii* after the 1998 mass bleaching event in Tanzania in response to an 88 percent coral loss. In order to evaluate the significance of the evidence presented, we consider whether the conditions that led to declines may be experienced throughout all or a significant portion of the species range. Based on the information in the petition and in our files, we do not believe that *P. dickii* is likely to be experiencing the type or magnitude of coral loss exhibited in the studies discussed above throughout all or a significant portion of its expansive geographic range, nor is it likely to in the future. Coral reefs are naturally dynamic environments that experience regular cycles of disturbance and recovery on a local scale from a range of impacts including storms, bleaching events, predator outbreaks, or others. These results for *P. dickii* are representative of this natural cycle on a local scale. While these examples of localized decline due to habitat disturbance show clear negative effects on assemblages of *P. dickii* at one location on the Great Barrier Reef and one in Fiji, we do not believe these negative effects are large enough to impact the status of *P. dickii* because the best available data indicate it likely numbers in the billions and is distributed across the entire Indo-Pacific region. As summarized above, information in our files regarding live coral cover does not dispute that there has been a long-term overall decline in live coral cover in the Indo-Pacific, and that those declines are likely ongoing and likely to continue in the future due to a multitude of global and local threats at all spatial scales. However, live coral cover trends are complex, dynamic, and highly variable across space and time. Even though all species of *Acropora* and *Pocillopora* are likely to be negatively affected by climate change to some degree, the information in the petition and in our files only suggests effects are likely be low to moderate for most species and will be variable both spatially and temporally throughout the range of *P. dickii,* providing areas of refuge from habitat disturbances that are not spatially uniform. We find that substantial information has not been presented to indicate a concern for the extinction risk of this species at the population level due to the destruction, modification, or curtailment of its habitat or range.

Factor D: Inadequacy of Existing Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. The evaluation of the general information provided in the petition regarding inadequacy of regulatory mechanisms above applies here. As such, substantial information has not been provided to indicate that inadequacy of regulatory mechanisms may be contributing to increased extinction risk for *P. dickii.*

Factor E: Other Natural or Manmade Factors Affecting its Continued Existence

No species-specific information was provided regarding the effects of increased ocean warming or acidification on *P. dickii.* The evaluation of the general information provided in the petition above regarding ocean acidification and warming applies here. While we acknowledge the potential for *P. dickii* to experience physiological impacts due to levels of ocean warming and/or acidification that may occur later this century, we find that the petition does not present substantial information indicating this species may be warranted for listing due to these factors affecting its extinction risk.

P. johnstonianus

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

The petitioner argues that *P. johnstonianus* is threatened by coral habitat loss or degradation due to the species' dependence on live coral for shelter, food, and reproduction. Specifically, the petition states this species is ‘‘considered highly dependent on live coral for shelter, food, and reproduction,’’ citing Cole *et al.* (2008) and Emslie *et al.* (2012). They also cite Allen (1991) and Randall (2005) generally with regard to use of *Acropora* and *Pocillopora* corals as habitat. We acknowledge that this species is commonly observed associated with branching corals and is likely a corallivore based on the information provided in the petition. As such, the species may therefore be impacted by changes to this habitat type.

The petitioner reports *P. johnstonianus* to be an obligate corallivore, listing *Acropora* and *Montipora* species as ''major'' dietary items and *Pocillopora* and *Porites* species as ''moderate'' dietary items based on Cole *et al.* (2008). In Cole *et al.* (2008), corallivores are defined as obligate when more than 80 percent of their diet is centered on coral. Cole *et al.* (2008) base their assessment of obligate corallivory on two studies they cite. The petition also cites Randall (2005) that the species feeds mainly on coral polyps.

The four coral genera that are reported to be included in *P. johnstonianus'* diet are comprised of more than 300 individual species. As discussed throughout this finding, thermal tolerance varies widely between even closely related coral species and depends on a multitude of factors including taxa, geographic location, biomass, previous exposure, frequency, intensity, and duration of thermal stress events, gene expression, and symbiotic relationships. The petition did not provide further detail on, or any climate change susceptibility information for preferred dietary items. According to Foden *et al.* (2013), 85 percent of the 308 species they assessed within those four genera have low vulnerability to climate change threats. In the absence of more detailed information regarding the diet requirements of *P. johnstonianus,* we defer back to our assessment of information in our files which indicates that even though all species of branching coral are likely to be negatively affected by coral bleaching to some degree, the information in the petition and in our files suggests the effects are likely be low or moderate for most branching coral species. As such, we cannot infer that climate change impacts to *P. johnstonianus'* preferred food items may be cause for concern for increased extinction risk of this species.

The petition references studies by Wilson *et al.* (2008b) and the Australian Institute of Marine Science (AIMS, 2012) to describe impacts of habitat loss, reporting that both studies found *P. johnstonianus* declined significantly following the loss of *Acropora* coral cover in Fiji and loss of hard coral cover due to storm damage at Hoskyn's Reef on the Great Barrier Reef, respectively. Two additional references (Wilson *et al.,* 2006; Pratchett *et al.,* 2008) are meta-analyses of multiple studies showing changes in coral reef fish abundance concurrent with coral loss over variable periods of time due to various types of disturbance (Wilson *et al.,* 2006) or specifically a mass bleaching event (Pratchett *et al.,* 2008). Pratchett *et al.* (2008) combine species specific results from six independent studies that collectively report on 116 species of reef fish, while Wilson *et al.* (2006) combine species specific results from 17 independent studies that collectively report on 55 species of reef fish. We found only one study (cited in both meta-analyses) that includes information for *P. johnstonianus.* Spalding and Jarvis (2002) found *P. johnstonianus* declined significantly at all three Seychelles survey sites one year after the 1998 mass bleaching event. Declines ranged from 74 percent with 84 percent coral loss, to 75 percent with 95 percent coral loss, to 38 percent with 65 percent coral loss at the three study sites.

As noted with the other species, localized decline in response to habitat disturbance is not unexpected for any species. In order to evaluate the significance of the evidence presented, we consider whether the conditions that led to declines may impact the species throughout all or a significant portion of the species range. Based on the information in the petition and in our files, we have no basis to infer that *P. johnstonianus,* an apparently abundant and widely distributed species, is experiencing the type or magnitude of coral loss exhibited in the studies discussed such that it is threatened with extinction throughout all or a significant portion of its range. Coral reefs are naturally dynamic environments that experience regular cycles of disturbance and recovery on the local scale from a range of impacts including storms, bleaching events, predator outbreaks, or others. These results for *P. johnstonianus* are representative of this natural cycle on a local scale. While these examples of localized decline due to habitat disturbance show clear negative effects on assemblages of *P. johnstonianus* at three locations (one site on the Great Barrier Reef, Fiji and the Seychelles), there is no basis to infer that these negative effects are large enough to impact the status of *P. johnstonianus.* The best available data indicate that the species likely numbers in the billions and is distributed across the entire Indo-Pacific region.

As summarized above, information in our files regarding live coral cover does not dispute that there has been a long-term overall decline in live coral cover in the Indo-Pacific, and that those declines are likely ongoing and likely to continue in the future due to a multitude of global and local threats at all spatial scales. However, live coral cover trends are complex, dynamic, and highly variable across space and time. Even though all species of *Acropora* and *Pocillopora* are likely to be negatively affected by climate change to some degree, the information in the petition and in our files suggests the effects are likely be low to moderate for most species and will be variable both spatially and temporally throughout the range of *P. johnstonianus,* providing areas of refuge from the potential effects of habitat disturbance that is not spatially uniform. We find that substantial information has not been presented to indicate a concern for the extinction risk of this species at the population level due to the destruction, modification, or curtailment of its habitat or range.

Factor D: Inadequacy of Existing Regulatory Mechanisms

There was no discussion in the petition of regulatory mechanisms specific to this species. The evaluation of the general information provided in the petition regarding inadequacy of regulatory mechanisms above applies here. As such, substantial information has not been provided to indicate that inadequacy of regulatory mechanisms may be contributing to increased extinction risk for *P. johnstonianus.*

Factor E: Other Natural or Manmade Factors Affecting Its Continued Existence

No species-specific information was provided regarding the effects of increased ocean warming or acidification on *P. johnstonianus.* The evaluation of the general information provided in the petition above regarding ocean acidification and warming applies here. While we acknowledge the potential for *P. johnstonianus* to experience physiological impacts due to levels of ocean warming and/or acidification that may occur later this century, we find that the petition does not present substantial information indicating this species may be warranted for listing due to these factors affecting its extinction risk.

Interaction and Summation of Section 4(a)(1) Factors

Finally, we have considered whether there are cumulative or synergistic effects to any of the petitioned reef fish species from the combined impacts of threats identified in the petition, such that even if each threat individually does not result in population-level effects that may warrant protection for these fishes under the ESA, those cumulative or synergistic effects may be significant and meet our 90-day finding standard.

For *A. percula,* we find the petition presents substantial information to indicate this species may be warranted for listing. As such, we will conduct a status review and include a detailed assessment of the potential for synergistic effects of the Section 4(a)(1) factors on this species. We request information on any potential interactions through the public comment process (see below).

For the other six petitioned species, we have specifically considered whether two or more of the threats assessed above (loss of coral reef habitat due to climate change, harm to essential functions from ocean acidification and ocean warming, overharvest for the aquarium trade, and inadequacy of regulatory mechanisms) are cumulatively or synergistically likely to interact and result in significant impacts to the species, either now or in the foreseeable future. We have no information to suggest that the identified threats to the species will work synergistically, thereby enhancing impacts to the six petitioned species populations. With regard to cumulative impacts, we must consider whether the information provided would suggest that the additive impacts from the various threats indicate that the species may warrant protection under the ESA. Because of the expansive ranges of the petitioned species and the non-uniform nature of the potential future threats we do not expect the petitioned species to be exposed to all threats simultaneously throughout all or a significant portion of their ranges. Additionally, in places where they experience multiple threats simultaneously, e.g., coral bleaching impacts combined with harvest, impacts are likely to be localized. The lack of any evidence of declining populations is true for all six species.

In summary, we cannot reasonably infer that studies referenced in the petition showing localized declines or generalized threats may describe an extinction risk of these widely-distributed and abundant species. Overall, the petitioner presented insufficient information to suggest the global population of any of these six petitioned species is so depressed or declining due to any of the threats identified in the petition such that it may require ESA listing. Based on the lack of population-level impacts identified in the petition and the information in our files, we cannot reasonably infer that the combined effects of these threats will occur with such frequency, intensity, or geographic scope as to present an extinction risk to these six petitioned species.

Accordingly, we find that for the Hawaiian dascyllus (*Dascyllus albisella*), blue-eyed damselfish (*Plectroglyphidodon johnstonianus*), black-axil chromis (*Chromis atripectoralis*), blue-green damselfish (*Chromis viridis*), reticulated damselfish (*Dascyllus reticulatus*), and blackbar devil or Dick's damselfish (*Plectroglyphidodon dickii*), the petition does not present substantial scientific or commercial information indicating that ESA-listing may be warranted under any of the five section 4(a)(1) factors, alone or in combination.

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 find that the petition presents substantial information indicating that the petitioned action may be warranted for the orange clownfish (*Amphiprion percula*). We will conduct a status review for this species to determine if the petitioned action is warranted. We find that the petition fails to present substantial scientific or commercial information indicating that the petitioned action may be warranted for the remaining six petitioned Indo-Pacific species: the Hawaiian dascyllus (*Dascyllus albisella*), reticulated damselfish (*Dascyllus reticulatus*), blue-eyed damselfish (*Plectroglyphidodon johnstonianus*), black-axil chromis (*Chromis atripectoralis*), blue-green damselfish (*Chromis viridis*), and blackbar devil or Dick's damselfish (*Plectroglyphidodon dickii*).

Information Solicited

To ensure that the status review is comprehensive, we are soliciting scientific and commercial information pertaining to *A. percula* from any interested party. Specifically, we are soliciting information, including unpublished information, in the following areas: (1) Historical and current distribution and abundance of *A. percula* throughout its range; (2) historical and current population trends for *A. percula;* (3) life history and habitat requirements of *A. percula;* (4) genetics and population structure information (including morphology, ecology, behavior, etc) for populations of *A. percula;* (5) past, current, and future threats to *A. percula,* including any current or planned activities that may adversely impact the species; (6) ongoing or planned efforts to protect and restore *A. percula* and its habitat; and (7) management, regulatory, and enforcement information pertaining to *A. percula.* 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 (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: August 28, 2014.

Eileen Sobeck,

Assistant Administrator for Fisheries, National Marine Fisheries Service.

[FR Doc. 2014–20955 Filed 9–2–14; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 140822715–4715–01]

RIN 0648–BE37

Magnuson-Stevens Fishery Conservation and Management Act Provisions; Fisheries of the Northeastern United States; Tilefish Fishery; 2015–2017 Specifications

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

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes specifications for the commercial tilefish fishery for the 2015, 2016, and 2017 fishing years. This action would set the acceptable biological catch, annual catch limit, total allowable landings, and harvest allocations for the individual fishing quota and incidental fishery components of the commercial tilefish fishery. The intent of this action is to establish allowable harvest levels and other management measures to prevent overfishing while allowing optimum yield, consistent with the Magnuson-Stevens Fishery Conservation and