ii. Follow directions. The Agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.

iii. Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.

iv. Describe any assumptions and provide any technical information and/or data that you used.

v. If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.

vi. Provide specific examples to illustrate your concerns and suggest alternatives.

vii. Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

viii. Make sure to submit your comments by the comment period deadline identified.

3. *Environmental justice.* EPA seeks to achieve environmental justice, the fair treatment and meaningful involvement of any group, including minority and/or low-income populations, in the development, implementation, and enforcement of environmental laws, regulations, and policies. To help address potential environmental justice issues, the Agency seeks information on any groups or segments of the population who, as a result of their location, cultural practices, or other factors, may have atypical or disproportionately high and adverse human health impacts or environmental effects from exposure to the pesticides discussed in this document, compared to the general population.

II. What action is the agency taking?

EPA is announcing receipt of a pesticide petition filed under section 408 of the Federal Food, Drug, and Cosmetic Act (FFDCA), 21 U.S.C. 346a, requesting the establishment or modification of regulations in 40 CFR part 174 or part 180 for residues of pesticide chemicals in or on various food commodities. The Agency is taking public comment on the request before responding to the petitioner. EPA is not proposing any particular action at this time. EPA has determined that the pesticide petition described in this document contains data or information prescribed in FFDCA section 408(d)(2); however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting of the pesticide petition. After considering the public comments, EPA intends to evaluate whether and what action may be warranted. Additional data may be needed before EPA can make a final determination on this pesticide petition.

Pursuant to 40 CFR 180.7(f), a summary of the petition that is the subject of this document, prepared by the petitioner, is included in a docket EPA has created for this rulemaking. The docket for this petition is available online at *http://www.regulations.gov*.

As specified in FFDCA section 408(d)(3), (21 U.S.C. 346a(d)(3)), EPA is publishing notice of the petition so that the public has an opportunity to comment on this request for the establishment or modification of regulations for residues of pesticides in or on food commodities. Further information on the petition may be obtained through the petition summary referenced in this unit.

EPA is providing a shortened comment period of 10 days on this notice of filing. EPA is expediting this petition because the time limited tolerances for 2,6-DIPN and its metabolites and degradates is set expire on May 18, 2012.

PP 9F7626. Loveland Products, Inc., 7251 W. 4th St., Greeley, CO 80634, requests that 40 CFR 180.590 be amended by extending the effective dates of existing time-limited tolerances for residues of the biochemical pesticide, 2,6-diisopropylnaphthalene (2,6-DIPN) and its metabolites and degradates resulting from post harvest applications, in or on the following food and edible livestock commodities for three years: Potato, whole at 2.0 parts per million (ppm); potato peel at 6.0 ppm; potato, granules/flakes at 5.5 ppm; cattle, goat, hog, horse, sheep, fat at 1.0 ppm; cattle, goat, hog, horse, sheep, liver at 0.5 ppm; cattle, goat, hog, horse, sheep, meat at 0.2 ppm; cattle, goat, hog, horse, sheep, meat byproducts at 0.4 ppm; and milk, fat at 0.5 ppm. The High-performance Liquid Chromatograph (HPLC) is used to measure and evaluate the chemical 2,6-diisopropylnaphthalene (2,6-DIPN).

List of Subjects

Environmental protection, Agricultural commodities, Feed additives, Food additives, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: April 26, 2012.

Keith A. Matthews,

Acting Director, Biopesticides and Pollution Prevention Division, Office of Pesticide Programs.

[FR Doc. 2012–10721 Filed 5–3–12; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 224

[Docket No. 120417006–1018–01]

RIN 0648–XA496

Endangered and Threatened Wildlife; 90-Day Finding on a Petition To List the Dwarf Seahorse 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: Ninety-day petition finding, request for information, and initiation of status review.

SUMMARY: We, NMFS, announce a 90-day finding on a petition to list the dwarf seahorse (*Hippocampus zosterae*) as threatened or endangered and designate critical habitat under the Endangered Species Act (ESA). We find that the petition and information in our files present substantial scientific or commercial information indicating that the petitioned actions may be warranted. We will conduct a status review of the species to determine if the petitioned action is warranted. To ensure that the status review is comprehensive, we are soliciting scientific and commercial information regarding this species (see below).

DATES: Information and comments on the subject action must be received by July 3, 2012.

ADDRESSES: You may submit comments, identified by the code NOAA–NMFS–2012–0101, addressed to: Calusa Horn, Natural Resource Specialist, by any of the following methods:

- *Electronic Submissions:* Submit all electronic comments via the Federal eRulemaking Portal *http://www.regulations.gov*
- *Facsimile (fax):* 727–824–5309.
- *Mail:* NMFS, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701.
- *Hand delivery:* You may hand deliver written comments to our office during normal business hours at the street address given above.

Instructions: All comments received are a part of the public record and may be posted to *http://www.regulations.gov* without change. All personally identifiable information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit

confidential business information or otherwise sensitive or protected information. We will accept anonymous comments. Attachments to electronic comments will be accepted in Microsoft Word, Excel, Corel WordPerfect, or Adobe PDF file formats only.

FOR FURTHER INFORMATION CONTACT: Calusa Horn, NMFS, Southeast Region, (727) 824–5312; or Dwayne Meadows, NMFS, Office of Protected Resources, (301) 427–8403.

SUPPLEMENTARY INFORMATION:

Background

On April 7, 2010, we received a petition from the Center for Biological Diversity to list the dwarf seahorse (*Hippocampus zosterae*) as threatened or endangered under the ESA. The petitioner also requested that critical habitat be designated. The petition states that the species is declining and threatened with extinction due to loss or curtailment of seagrass habitat and range, overutilization resulting from commercial seahorse collection, inadequacy of existing regulatory mechanisms, vulnerable life-history parameters, noise, bycatch mortality, illegal fishing, invasive species, and tropical storms and hurricanes. Copies of this petition are available from us (see **ADDRESSES,** above) or at *http://sero.nmfs.noaa.gov/pr/ListingPetitions.htm*.

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 to promptly publish such finding in the **Federal Register** (16 U.S.C. 1533(b)(3)(A)). When substantial scientific or commercial information in a petition indicates the petitioned action may be warranted (a ''positive 90-day finding''), we are required to promptly commence a review of the status of the species concerned during which we will conduct a comprehensive review of the best available scientific and commercial information. In such cases, within 12 months of receipt of the petition, we shall conclude the review with a finding as to whether, in fact, the petitioned action is warranted. Because the finding at the 12-month stage is based on a more thorough review of the available information, as compared to the narrow scope of review at the 90-day stage, a ''may be warranted'' finding does not prejudge the outcome of the status review.

Under the ESA, a listing determination may address a ''species,'' which is defined to also include subspecies and, for any vertebrate species, any distinct population segment (DPS) that interbreeds when mature (16 U.S.C. 1532(16)). A joint NMFS–U.S. Fish and Wildlife Service (USFWS) policy clarifies the agencies' interpretation of the phrase ''distinct population segment'' for the purposes of listing, delisting, and reclassifying a species under the ESA (61 FR 4722; February 7, 1996). A species, subspecies, or DPS is ''endangered'' if it is in danger of extinction throughout all or a significant portion of its range, and ''threatened'' if it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (ESA sections 3(6) and 3(20), respectively, 16 U.S.C. 1532(6) and (20)). Pursuant to the ESA and our implementing regulations, we determine whether species are threatened or endangered because of any one or a combination of the following five section 4(a)(1) factors: (1) The present or threatened destruction, modification, or curtailment of habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) any other natural or manmade factors affecting the species' existence (16 U.S.C. 1533(a)(1), 50 CFR 424.11(c)).

ESA-implementing regulations issued jointly by us and the 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, the Secretary must consider whether the petition: (1) Clearly indicates the administrative measure recommended and gives the scientific and any common name of the species involved; (2) contains detailed narrative justification for the recommended measure, describing, based on available information, past and present numbers and distribution of the species involved and any threats faced by the species; (3) provides information regarding the status of the species over all or a significant portion of its range; and (4) is accompanied by the appropriate supporting documentation in the form of bibliographic references, reprints of pertinent publications, copies of reports or letters from authorities, and maps (50 CFR 424.14(b)(2)).

Court decisions have clarified the appropriate scope and limitations of the Services' review of petitions at the 90-day finding stage, in making a determination that a 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.

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 it supports the petitioner's assertions. In other words, conclusive information indicating the species may meet the ESA's requirements for listing is not required to make a positive 90-day finding. We will not conclude that a lack of specific information alone 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 risks that are 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 other organizations or agencies, as evidence of extinction risk for a species. Risk classifications of the petitioned species 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 information that the classification is based upon, in light of the standards on extinction risk and impacts or threats discussed above.

Species Description

Hippocampus zosterae is commonly known as the dwarf or pygmy seahorse (hereafter dwarf seahorse). The dwarf seahorse is one of the smallest species of seahorses, with adult height ranging from 2 to 2.5 centimeters (Lourie *et al.,* 2004). In general, seahorses have heads positioned at right angles to their bodies, curved trunks, and a prehensile, finless tail. The dwarf seahorse varies in coloration; individuals can be beige, yellow, green, or black, and some individuals have white marking or dark spots. Seahorses can change coloring and grow skin filaments over time to blend in with their surroundings. Short-term color changes may also occur during courtship and other intra-species interactions. Seahorse skin is stretched over a series of bony plates that form rings around the trunk and tail. The dwarf seahorse has 9 to 10 trunk rings, 31 to 32 tail rings, and 12 pectoral fin rays (Lourie *et al.,* 2004). Seahorses in general are ambush predators, consuming primarily live, mobile prey, such as small amphipods and other invertebrates (Bruckner *et al.,* 2005).

Dwarf seahorse males and females are sexually dimorphic; males have a relatively longer tail and a shorter snout (Foster and Vincent, 2004). Male and female dwarf seahorses form monogamous pair bonds and remain together and mate repeatedly over the course of a single breeding cycle (Masonjones and Lewis, 1996; 2000). The breeding season for the dwarf seahorse occurs February through November and appears to be influenced by environmental parameters such as day length and water temperature (Foster and Vincent, 2004). During copulation the female deposits her egg clutch into the male's brood pouch where it is fertilized (Foster and Vincent, 2004). The gestation period within the male's brood pouch is approximately 10 to 13 days, and males can carry two broods a month. Most male seahorse species can produce 100 to 300 young per pregnancy cycle. However, smaller seahorse species, such as the dwarf seahorse, release 3 to 16 offspring per cycle (Masonjones and Lewis, 1996). Juvenile dwarf seahorses are independent at birth, receiving no further parental care. Juveniles reach maturity in 3 months (Foster and Vincent, 2004). The dwarf seahorse generally lives 1 to 2 years, though living longer than a year is considered rare (Alford and Grist, 2005).

The dwarf seahorse's distribution ranges across the sub-tropical northwest Atlantic and has well-defined habitat preferences. Bruckner *et al.* (2005) describe the species' distribution as patchy and its abundance as generally low. This species occurs in insular locations, including Bermuda, the Bahamas, and Cuba; along Atlantic continental shorelines from northeast Florida through the Florida Keys; and, in the Gulf of Mexico south to the Gulf of Campeche (Bruckner *et al.,* 2005). The dwarf seahorse's habitat is restricted almost completely to seagrass canopies (Bruckner *et al.,* 2005). Seahorses are characterized as feeble swimmers with low mobility that may disperse by clinging to drift macroalgae or debris (Foster and Vincent, 2004; Masonjones *et al.,* 2010). The dwarf seahorse exhibits preferences for areas with dense and high seagrass canopies, in shallow waters less than two meters, and higher salinities (~30 ppm) (Alford and Grist, 2005; Bruckner *et al.,* 2005; Vincent, 2004). Sogard *et al.* (1987) found total seagrass shoot density is positively correlated with density of *H. zosterae.* Seahorse populations were significantly correlated with water flow, with individuals being more likely to be located in low-flow areas, such as protected bays and lagoons, rather than high-flow areas, such as bridge cuts (Bruckner *et al.,* 2005). The species is described as occurring predominantly in Florida's estuaries, but is said to be ''more abundant'' in south Florida and the Florida Keys. According to Bruckner *et al.* (2005), the dwarf seahorse does not appear to be common in many areas in the Gulf of Mexico, west of Florida.

Analysis of the Petition

We evaluated whether the petition presented the information indicated in 50 CFR 424.14(b)(2). The petition states the administrative measures recommended, and provides the scientific and common name of the species. The dwarf seahorse is taxonomically classified as a species and thus is an eligible entity for listing under the ESA. The petition includes a detailed narrative justification for the recommended measure, including some information on numbers of the species, historical geographic occurrences of the species, and threats faced by the species (see summary below). The petition provides some information relevant to the status of the species. The petition includes supporting references and documentation. Therefore, we conclude the petition meets the requirements of 50 CFR 424.14(b)(2). A detailed description of their narrative justification follows.

According to the petitioner, at least four of the five causal factors in section 4(a)(1) of the ESA are adversely affecting the continued existence of the dwarf seahorse, specifically: (A) 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 the following sections, we use the information presented in the petition and in our files to determine whether the petitioned action may be warranted.

Information on Extinction Risk and Species Status

Information on extinction risk and species status in the petition includes references cited in support of the conclusion that the dwarf seahorse has declined or is declining, several risk classifications by governmental and non-governmental organizations, and discussion of life history and demographic characteristics that make the species intrinsically vulnerable to decline, particularly in conjunction with threats and impacts such as habitat loss.

The petitioner characterizes *H. zosterae* as numerically low in abundance where it occurs, and describes numerous studies as indicating the species' population trend is declining. In addition, the petitioner states that a declining population trend can be inferred from loss of seagrass habitats, because the species is a habitat generalist. The petitioner cites various surveys and studies that indicate that dwarf seahorse populations have declined in many estuarine and bay systems throughout the species range. Several citations characterize the dwarf seahorse as common, abundant, or a dominant species. However, the petitioner believes that these characterizations are not supported, because the number of dwarf seahorses collected was a numerically low component of the studies and surveys. The information provided in some of the studies is limited and it is difficult to determine whether the sampling methodology was appropriate for dwarf seahorse collection. For example, studies that sampled a variety of habitat types (i.e., seagrass, mud or sand banks, and deeper bays or channels, etc.) using a methodology that may not be conducive for seahorse collection (e.g., larger mesh sizes), would likely collect few dwarf seahorses. Therefore, the study results may not necessarily represent low abundance or a declining population trend, but could be due to use of a sampling method that is not conducive for surveying the species. However, the petitioner also cites several studies that indicate that the species is not very common or abundant throughout most of its range (i.e., Gulf of Mexico, west of Florida). Several citations have also documented dwarf seahorse declines in many surveyed seagrass systems in Florida. Declining populations of the dwarf seahorse have been observed to occur in conjunction with seagrass loss.

The petitioner cites various status classifications made by the American Fisheries Society (AFS), International Union for Conservation of Nature (IUCN), Florida Fish and Wildlife Conservation Commission (FFWCC), the Nature Conservancy (TNC), the Commonwealth of Puerto Rico, and the Commission for Environmental Cooperation to support its claim that the dwarf seahorse should be listed as threatened or endangered under the ESA. As discussed above, we do not give any particular weight to classifications established by other scientific and conservation organizations, which may or may not be based on criteria that directly correspond to the listing standards of the ESA. However, we have reviewed and evaluated the underlying information used to develop the various classifications given to the dwarf seahorse by entities listed in the petition.

The AFS designated the dwarf seahorse as ''vulnerable'' in 2000. According to AFS, this classification is given to species that are ''(special concern) not endangered or threatened severely but at possible risk of falling into one of these categories in the near future.'' AFS gave the dwarf seahorse this categorization based on (1) rarity, (2) habitat degradation, and (3) restricted habitat. AFS provided several citations to supporting these characterizations, but only one of them was available to us or provided by the petitioner. The available citation, Fourqurean and Robblee (1999), analyzed ecological changes (i.e., seagrass die-off, algal blooms, and increased turbidity) in the Florida Bay estuary. The study examined the ecological changes that transpired as a result of a large seagrass die-off that occurred in Florida Bay during the late 1980s. The study noted that fish and invertebrates inextricably associated with seagrass habitat dramatically declined following the referenced seagrass die-off, lending support to the AFS classification.

The petition cites the IUCN's classification of the dwarf seahorse as ''Data Deficient,'' which the IUCN assigns to a species ''when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status.'' The IUCN database entry for dwarf seahorse does not contain any information directly assessing the species' population trends or its extinction risk. However, the entry does include referenced conclusions in support of the petition's conclusion that the species' status may be inferable from losses of and threats to its seagrass habitats, at least in the United States (''This species may be particularly susceptible to decline. The information on habitat suggests they inhabit shallow seagrass beds (Lourie *et al.,* 1999) that are susceptible to human degradation, as well as making them susceptible to being caught as bycatch * * * The American Fisheries Society (AFS) lists the United States populations of *H. zosterae* as Threatened due to habitat degradation (Musick *et al.,* 2000). While this status may apply on a national level, we did not find information that would justify such a listing for the species as a whole.'').

The FFWCC lists the dwarf seahorse as a Species of Greatest Conservation Need (SGCN) in the state of Florida's Wildlife Action Plan (FFWCC, 2005). SGCN's are defined as ''animals that are at risk or are declining.'' The Action Plan categorizes the dwarf seahorse's population status as low and population trend as stable. We cannot evaluate any underlying information used to categorize the dwarf seahorse as a SGCN because the information provided in Florida's Wildlife Action Plan does not include species-specific information, although the plan does also describe the status of submerged aquatic vegetation in Florida, particularly seagrasses, as ''poor and declining,'' ranking numerous threats to these habitats as ''very high'' or ''high.''

TNC listed the dwarf seahorse as imperiled in their ''Identification of Priority Sites for Conservation in the Northern Gulf of Mexico: An Ecoregional Plan'' (Beck *et al.,* 2000). The objective of the Ecoregional Plan was to identify biologically diverse habitats within the northern Gulf of Mexico, defined as extending from Anclote Key, FL to the Laguna Madre de Tamaulipas, Mexico, and to establish high priority sites for conservation. The plan also identified individual species as ''conservation targets'' in addition to identification of priority habitat sites for conservation. ''Conservation target'' species were included if: ''(i) They were imperiled and conservation of their habitats would be insufficient for their conservation or (ii) they were declining faster than their habitats.'' The plan identified the following species as conservation target species, notably including several species listed under the ESA as threatened or endangered: the dwarf seahorse, fringed pipefish, opossum pipefish, Texas pipefish, diamondback terrapin, Gulf sturgeon, Florida manatee, and the Kemp's ridley sea turtle. The plan was based in part on a Geographic Information Systems database developed from ''all the readily available information on the distribution of these [conservation] targets.''

In their 2009 report on Marine Ecoregions of North America, the Commission for Environmental Cooperation categorized the dwarf seahorse as a ''species at risk'' within the northern Gulf of Mexico (Wilkinson *et al.,* 2009). However, because there is no description of how the ''at risk'' categorization was determined, we cannot further assess the Commission for Environmental Cooperation's ''species at risk'' categorization. The petitioner also states that the dwarf seahorse is recognized as a Species of Concern by the Commonwealth of Puerto Rico, but provides no citation or information on this designation; we were unable to evaluate the referenced categorization made by the petitioner.

The petitioner describes life history characteristics generally applicable to the genus *Hippocampus* that could be indicative of its extinction risk, for which the petition provides supporting information (Baum *et al.,* 2003; Foster and Vincent, 2004; Lourie *et al.,* 2004; Masonjones *et al.,* 2010). We believe that the dwarf seahorse's life history characteristics in and of themselves are likely well-adapted for the species' ecological niche. However, the petition presents information on other threats (i.e., habitat loss and overutilization) that may interact with these life history characteristics to increase extinction risk. The dwarf seahorse's narrow habitat preference and low mobility could increase the species' ecological vulnerability. Similarly, patchy spatial distributions in combination with low population density make a species susceptible to habitat loss or change. The petition and references also suggest that other life history characteristics, such as low fecundity, complex reproductive behavior, and monogamous mating systems may also increase the species' vulnerability. Seahorse species have complex reproductive behavior and appear to be monogamous at least within a single breeding cycle; if courting or pair bonds are disrupted due to removal or disturbance during courtship or mating it may diminish the productivity within a single breeding cycle. Low fecundity could reduce the ability for population recovery from overexploitation of particular areas. The low mobility and patchy distribution of dwarf seahorse suggest that the species may be slow to recolonize depleted areas. This is particularly true given that the dwarf seahorse is restricted to seagrasses (Alford and Grist 2005; Lourie *et al.,* 2004), which in some areas have declined substantially over the course of several decades (Waycott *et al.,* 2009). The importance of life history characteristics in determining responses to exploitation has been demonstrated for a number of species (Jennings *et al.,* 1998).

In summary, the information presented indicates that the dwarf seahorse has a patchy distribution and is not very abundant or common in many areas throughout its range. Declines in the dwarf seahorse population have been documented in a number of Florida's estuaries and bays. It is evident that the dwarf seahorse is inextricably associated with seagrass and the inferences made about the species' declining status due to habitat loss are supported.

The petition also includes risk classifications for the dwarf seahorse made by other organizations; however these do not include a specific analysis of extinction risk for the dwarf seahorse. While the species is present on these lists, they provide no analysis of population size and trends or other information directly addressing whether the species faces extinction risk that is cause for concern. However, in some of these classifications the dwarf seahorse's status is linked to the degraded or threatened status of seagrass habitats, which supports a similar contention made by the petition. The petitioner presents substantial scientific or commercial information indicating that the species' life history and demographic characteristics make it vulnerable to decline and potential extinction risk, particularly in conjunction with threats to the species including loss of its habitat.

Information on Impacts and Threats to the Species

The petitioner states that impacts and threats corresponding with four factors in section 4(a)(1) of the ESA are impacting the dwarf seahorse. Specifically, the petitioner states that the following factors are affecting the dwarf seahorses continued existence: (A) 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.

The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Information from the petition and in our files suggests that the primary threat to the dwarf seahorse is from habitat decline. The petitioner states that the dwarf seahorse is threatened by the loss and degradation of seagrass habitat, which increases the species' vulnerability. The petitioner references considerable seagrass loss throughout the species range and especially in the northern Gulf of Mexico which has occurred over the course of several decades, and provides summaries of indirect and direct anthropogenic factors that continue to impact seagrasses (oil and gas development, loss and degradation of mangrove habitat, declining water quality, development and human population growth, damage from vessels, trawling and global climate change). Seagrass declines cited within the petition range from 6–90 percent (Waycott *et al.,* 2009), depending on the timeframe, geographic area, and system (i.e., estuary, coastal water, or bay).

In Texas, the petition cites a 90 percent decline in ''vascular vegetation'' which occurred within the Galveston Bay system on the upper Texas coast from 1956 to 1990 (Pulich and White, 1990). Waycott *et al.* (2009) also documented a 90 percent decline in seagrass acreage within the Galveston Bay system from 1956 to 1998. Hadley *et al.* (2007) reported that nearly all seagrass beds ''disappeared from the main parts of Galveston Bay in the 1970's'' and attributed the decline to a variety of anthropogenic impacts, as well as natural events. The petitioner notes that eutrophication and harmful algal blooms have caused seagrass declines in Corpus Christi, Laguna Madre, and Baffin Bay (An and Gardner, 2000; Breier *et al.,* 2004). Several factors, both natural (i.e., droughts, hurricanes, fresh water flows, etc.) and human-induced (i.e., nutrient loading or water quality, sedimentation caused by dredging, prop scarring caused by vessel traffic, and direct physical disturbance), are believed to be affecting the health, abundance, distribution, and density of seagrasses in Texas (Handley *et al.,* 2007; Pulich and White, 1997).

The petition provides evidence that Alabama and Mississippi have also experienced extensive seagrass loss. Alabama documented an 82 percent decline in seagrass coverage within Mobile Bay between 1981 and 2003. Perdido Bay lost approximately 75 percent of its seagrass coverage from 1940 to 2003. Similarly, Mississippi Sound experienced a 50 percent decline in seagrass coverage from 1992 to 2003 (Waycott *et al.,* 2009).

For Florida, the petitioner references a USFWS Conservation Plan and Environmental Assessment for Pine Island, Matlacha Pass, Island Bay, and Caloosahatchee National Wildlife Refuges, which states that Florida has lost more than 50 percent of its seagrass

habitat since the 1950s (USFWS, 2010). The petition also cites the Florida State Wildlife Action Plan's status rank for Florida's submerged aquatic vegetation of ''poor and declining,'' and the Plan's identification of numerous stresses to seagrass ranked as ''very high'' or ''high'' (e.g., altered water quality, habitat destruction, altered species composition, and sedimentation) (FFWCC, 2005). The petition references seagrass loss in northwestern Florida (e.g., Pensacola Bay, Choctawhatchee Bay, St. Andrew Bay, and the Big Bend region) (USGS, 2004; Waycott *et al.,* 2009). Florida's Big Bend region lost approximately 667,184 acres of seagrass between 1984 and 1992 (USGS, 2004). The petition references several studies that report seagrass loss in southwestern Florida's estuary and bay systems, including Tampa Bay, Sarasota Bay, Greater Charlotte Harbor, Naples Bay, Faka Union Bay, Fakahatchee Bay, and Florida Bay. The petition states that Tampa Bay lost approximately 60 percent of seagrass coverage between 1879 and 2006 (Waycott *et al.,* 2009), that seagrass in Sarasota Bay decreased from 12,073 acres in 1950 to approximately 9,063 acres in 2001 (Waycott *et al.,* 2009), and that seagrass in Naples Bay decreased by 90 percent since the 1950s (FDEP, 2010). The 2010 Florida Department of Environmental Protection (FDEP) Environmental Assessment for Southwest Coastal Estuaries refers to an ''ecosystem analysis'' conducted by Carter *et al.* (1973) which documented that Fakahatchee Bay contained 57 percent seagrass coverage and Union Bay contained 23.1 percent seagrass coverage in the early 1970s. Carter *et al.* (1973) also documented three species of seagrasses in these areas (*Halophila decipiens, H. wrightii,* and *Thalassia testudinum*), however the FDEP assessment cites an unpublished 2005 study by Locker that suggests that since the 1970s seagrass species composition in Fakahatchee Bay has been reduced to a single species (*H. decipiens)* and that Faka Union Bay has lost all seagrass cover.

The petitioner identifies oil and gas refining and the byproducts from such activities as a specific source of ongoing impacts to seagrass habitats. The petition references the DWH oil spill, stating that ''a significant portion of *H. zosterae's* range is threatened by pollution from the spill, which covered vast areas in the Gulf.'' The petitioner states that oil pollution and the use of dispersants has resulted in the direct mortality of the dwarf seahorse, the destruction and degradation of their seagrass habitat, and contamination and reduction of their invertebrate prey. The petition references a Project Seahorse news release (2010) where scientists at the organization caution that the dwarf seahorse could face extinction as a result of the DWH oil spill, citing impacts such as direct mortality due to high toxin levels, contamination of habitat, as well as contamination of the species food sources. The petition cites peer-reviewed scientific literature which supports the claim that oil pollution and the use of dispersants can adversely affect seagrasses and fishes at all life stages. Information was provided on the quantities of oil and methane released into the Gulf of Mexico, as well as the amount of coastal shoreline damaged by the DWH oil spill. The petitioner also discusses the long-term pollution that the oil industry causes to coastal environments in general.

The petitioner also presents arguments that the destruction of Florida's mangrove habitats may be adversely affecting the dwarf seahorse ''to the extent that seagrass beds are negatively affected by the loss of mangroves, or that mangroves provide direct habitat value for the seagrasses,'' because ''in some areas seagrass beds occur in close association with mangroves, with mangroves protecting seagrass beds by trapping sediments and stabilizing shorelines (Hoff *et al.,* 2010; Pauly and Ingles, 1999).'' However, the petition does not provide information to characterize the extent of the association between mangroves and seagrasses, and the petition is limited to generalized statements of potential sources of threats to seagrasses from impacts to mangroves. We acknowledge that mangroves in Florida have been destroyed or degraded in large amounts over the course of decades, and face many of the same ongoing threats of loss and degradation as do seagrasses, discussed elsewhere in this finding.

The petition lists several other factors it identifies as contributing to seagrass loss including declining water quality, development and human population growth, damage from vessels, trawling, and global climate change. As discussed above, extensive seagrass loss has occurred throughout the Northern Gulf of Mexico over the last several decades. The causes for these losses are many, but include climate and water-level variations, physical removal, smothering with sedimentation, light reduction resulting from turbidity or phytoplankton, and increased nutrient loading (Handley *et al.,* 2011). Seagrasses are highly dependent on water quality and clarity for their survival, and reduced water quality due to nutrient loading, algal blooms, and contamination resulting from non-point source pollution, such as storm water run-off, has been identified as a threat/stressor to seagrass. The petition cites development and human population growth as a factor which increases the dwarf seahorse's risk of extinction. The petition cites Lellis-Dibble *et al.* (2008) as support for its statement that human population growth affects coastal resources, stating that ''53 percent of the current U.S. population lives in coastal counties, creating tremendous stress on coastal resources.'' The petition references various activities that are often associated with coastal development (i.e., dredging and channelization, vessel prop scarring, increased water pollution, altered hydrologic and salinity regimes), which are all also recognized to cause stress and/or degradation to seagrass habitat. The potential consequences of threats to the dwarf seahorse habitat are discussed above.

In summary, the petition and its references present substantial information that indicates the present or threatened destruction, modification, or curtailment of habitat or range may be causing or contributing to extinction risk that is cause for concern for the dwarf seahorse.

Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The petitioner cites information that dwarf seahorse populations are declining and that their life history characteristics (sparse distribution, low population densities, low mobility, small home ranges, slow re-colonization potential, low rates of population increase, highly structured social and reproductive behavior) increase their vulnerability to overexploitation, and that the demand for seahorses in the aquarium, curio, and traditional Chinese medicine trades is increasing, further exasperating the species' exploited status.

Dwarf seahorses are harvested commercially to be sold and traded live as aquarium fishes, and are also dried and sold at curio shops as souvenirs, or processed into key chains, jewelry, ornaments, paperweights, etc. There is also a high demand for seahorses in the traditional Chinese medicine trade where they are believed to cure several health disorders (Vincent, 1995). Smaller sized, bony seahorses, such as the dwarf seahorse, are less desirable for the purpose of traditional Chinese medicine (Lourie *et al.,* 2004). However, Vincent (1995) stated that ''poor quality'' seahorses are increasingly

susceptible to overexploitation by the traditional Chinese medicine trade because the supplies of larger ''good quality'' seahorses are in decline. In 2004, concerns over the international trade of seahorses resulted in all seahorse species being protected under Appendix II of the Convention for the International Trade in Endangered and Threatened Species (CITES; for further discussion, see next section). A CITES technical memorandum on the international conservation and trade of seahorses (Bruckner *et al.,* 2005) noted that the dwarf seahorse is one of 17 seahorse species observed or reported to be traded. Several publications have noted the popularity of the dwarf seahorse in the aquarium trade (Vincent, 1996; Woods, 2001). Woods (2001) found that the dwarf seahorse is the second most exported ornamental fish in Florida. Koldewey *et al.* (2010) conducted an international review of the seahorse aquaculture trade from 1997 to 2008 and found that 100 percent of dwarf seahorse exports were wild-caught individuals, not captive-bred. Alford and Grist (2005) suggest that wild dwarf seahorse populations have decreased in Florida and that the species is difficult to locate and harvest in areas where it was once considered common.

The only seahorse commercial fishery in the United States is located in the state of Florida. Bruckner *et al.* (2005) state that most of the seahorse harvest in Florida is for the dried curio market. Dwarf seahorses are primarily harvested in state waters as targeted catch by divers using nets or as bycatch by fishers using trawls (e.g., in the live-bait shrimp fishery) with some seahorse harvest conducted by seine or dredge (Bruckner *et al.,* 2005). A study conducted on the Marine Life Fishery in Florida from 1990 to 1998 (Adams *et al.,* 2001) documented a five-fold increase in seahorse landings between 1991 and 1992 (from 14,000 harvested in 1991 to 83,700 harvested in 1992). The increased landings primarily consisted of the dwarf seahorse. Bruckner *et al.* (2005), state that 90 percent of the dwarf seahorse harvest is in southeast Florida and the Florida Keys region and that more than 50 percent of the harvest in southwest Florida was collected by divers from 1990 to 2003. The number of seahorses landed in Florida varied between 1990 and 2003, from 6,000 to 111,000 individuals per year. Approximately 91 percent of those landings were dwarf seahorses, so the number of dwarf seahorses landed (1990–2003) ranged from 2,142 to 98,779 individuals per year (Bruckner *et al.,* 2005). The petition provides data on the quantities of seahorses being exported, allotted bag limits permitted by the State of Florida, and the ways in which the species is commercially utilized (e.g., aquarium market, curio market, and Chinese traditional medicine trade).

Commercial harvest may be negatively affecting dwarf seahorse populations. The petition and its supporting citations also indicate that commercial demand for the dwarf seahorse is extensive, and that populations in some geographic areas where they are harvested may have declined. Therefore, based on the standards for making 90-day findings, we accept the petition's characterizations of the information presented and conclude that substantial information in the petition and in our files suggest overutilization may be a factor contributing to extinction risk for the dwarf seahorse.

Inadequacy of Existing Regulatory Mechanisms

The petitioner states that regulatory mechanisms at the international, federal, and state level are inadequate to protect the dwarf seahorse from commercial overharvest and trade, and inadequate to protect its seagrass habitat from loss and degradation. As such, the petitioner argues that inadequacy of existing regulatory mechanisms is one of the factors causing the species to be threatened or endangered.

The petition notes that in 2004, the entire genus *Hippocampus,* including the dwarf seahorse, was listed under Appendix II of CITES. Species listed under Appendix II are those in which trade must be controlled in order to avoid utilization incompatible with their survival, but are not necessarily at risk of extinction. International trade of CITES Appendix II species can take place if an export permit is issued. Export permits are only issued if the Management Authority of the exporting country is satisfied that the specimens were ''legally obtained'' and the Scientific Authority of the exporting country advises that the ''export will not be detrimental to the survival of the species in the wild.'' The petition lists several reasons it believes that CITES Appendix II does not effectively protect the dwarf seahorse from overexploitation: it does not apply to seahorses that are traded entirely within the U.S. domestic markets, not all exports are inspected, and certification that trade is not detrimental to the persistence of the dwarf seahorse is not possible because no comprehensive population data is available. The petition and citations indicate that no stock assessment has been conducted for the dwarf seahorse.

The petitioner also states that the CITES listing is not sufficient to protect the dwarf seahorse from illegal trade occurring in Mexico, and cites references finding that most seahorse trade in Mexico occurs on the black market. Mexican populations of dwarf seahorse are listed in the NOM–059–SEMARNAT–2001 as species subject to special protection; Mexico prohibits the intentional capture and trade of wild seahorses, permitting only the commercialization of cultured and incidentally caught seahorses (Lourie *et al.,* 2004). The petitioner acknowledges that Mexico prohibits the deliberate capture and trade of wild seahorses and only authorizes the trade of seahorses if they are ''incidentally caught in non-selective fishing gear.'' However, the petitioner asserts that Mexico's regulations and enforcement of those regulations are inadequate to protect the dwarf seahorse from decline or illegal harvest.

The petitioner also argues that other existing regulatory mechanisms at the Federal (Magnuson-Stevens Fishery Conservation and Management Act, National Marine Sanctuaries Act) and state level relevant to the U.S. seahorse trade (Florida laws and regulations, discussed below) are also inadequate to protect the species. Neither Federal law prohibits collection of the dwarf seahorse. Florida has regulatory mechanisms that require anyone wishing to collect or sell dwarf seahorses to have a Saltwater Product License, a Marine Life Endorsement, and a Restricted Species Endorsement under Florida law (Chapter 370.021.01(2)(a)) and Administrative Code 16R–500). There is a commercial bag limit of 400 dwarf seahorses per person or per vessel per day (whichever is less), and a recreational bag limit of 5 dwarf seahorses per person, per day (FL 68B–42.005), but no apparent cap on total annual take of the species. There are no seasonal restrictions or closures for this fishery. There does not appear to be a limit on the number of seahorses that can be collected as bycatch, but the landings value of all marine life bycatch must be less than $5,000 annually (Florida Marine Fisheries Commission, 2009).

The petitioner also argues that existing regulatory measures do not adequately protect the dwarf seahorse's seagrass habitat. The petition references declining water quality and the physical damage (prop scarring) caused by recreational and commercial vessels as contributing to the decline of seagrass

habitat throughout the dwarf seahorse's range. The petition states that the protections of the Florida Keys National Marine Sanctuary have not prevented ongoing threats to seagrasses since the sanctuary's designation. Similarly, the petition states that loss and degradation of seagrasses is not prevented within other areas protected by the state or federal governments. The petitioner acknowledges that federal regulations such as the Coastal Zone Management Act provide a degree of habitat protection, but say that despite the Act's intentions, seagrass habitat continues to decline throughout the dwarf seahorse's range.

The petitioner also states that protection from oil pollution is inadequate because, while the Oil Pollution Act is intended to protect the species' habitat from spilled oil, accidental spills inevitably occur. Finally, the petition states that regulation of greenhouse gases is inadequate. However, the discussion does not explain how the described potential increases in atmospheric concentrations of CO_2 that may result in the absence of adequate regulations may result in extinction risk for the dwarf seahorse.

In summary, the petition presents substantial information indicating that inadequacy of existing regulatory mechanisms may be contributing to extinction risk that is cause for concern for the dwarf seahorse, particularly in regards to regulations intended to control harvest for domestic markets and international trade, and we will evaluate these regulations' impacts on dwarf seahorse during the status review. We will also evaluate whether existing regulatory mechanisms relevant to preventing damage to seagrasses are inadequate in a manner that contributes to extinction risk for the dwarf seahorse. Similarly, we will evaluate whether existing regulatory mechanisms relevant to preventing oil pollution are inadequate in a manner that contributes to extinction risk for the dwarf seahorse.

Other Natural or Manmade Factors

The petition describes other natural or manmade factors that may be affecting the dwarf seahorse, including life history characteristics, bycatch mortality, noise, and unintentional and illegal fishing, hurricanes or tropical storms, and invasive species. As described previously, the petition provides information describing how ''life history parameters'' in the form of complex reproductive strategies, low population density, and patchy spatial distribution, are affecting the species' ability to recover from habitat loss and overexploitation. The available information indicates that the dwarf seahorse has some life history characteristic that may increase the species' vulnerability, in conjunction with habitat decline and overutilization.

The petitioner also suggests that the dwarf seahorse is vulnerable to increased risk of extinction, because ''low frequency boat motor noise negatively impacts the health, behavior, and reproductive success of dwarf seahorses (Masonjones and Babson 2003).'' The petition cites a single reference, Masonjones and Babson (2003), to support its assertion that vessel noise is a threat to the dwarf seahorse. We attempted to evaluate the referenced citation, which is an abstract from the 17th Annual Meeting of the Society for Conservation Biology—Book of Abstracts (2003). According to the Masonjones and Babson (2003) abstract, dwarf seahorses were exposed to recordings of low frequency boat motor noise (ranging from 70–110 dB and 60–600 H_Z) with ''continuous'' and ''intermittent'' noise treatments, as well as ''quiet'' treatments. The abstract states that adult dwarf seahorses exposed to ''noise conditions showed a significantly higher incidence of gas bladder disease, behavioral differences, and had significantly longer gestation lengths than controls. Fewer offspring were born to parents exposed to continuous noise and the offspring were smaller and had lower growth rates than control offspring.'' The abstract provides minimal information, and we cannot determine whether this study was conducted in a laboratory or in the species' natural environment, though we assume from the limited information the study was conducted in a laboratory. Based on information in the abstract we cannot determine what the study's limitations were for ''continuous'' and ''intermittent'' noise exposures levels, as well as ''quiet'' treatments. Likewise, we cannot determine the intensity levels the seahorses were exposed to or the duration of exposure time. We recognize that dwarf seahorses in the wild are exposed to levels of low frequency noise transmitted from vessels, but exposure levels are likely temporary and infrequent (i.e., only when a vessel is operating within the vicinity of a seahorse). Without additional information (e.g., exposure duration, how noise levels tested in the laboratory environment compare to noise levels in the natural environment, and how noise levels may be attenuated at distances from the noise source given water depths, turbidity, currents, and other natural factors) we cannot conclude how the results of this study on vessel noise correspond to impacts on wild populations. The information presented in the referenced abstract does not constitute substantial information indicating that low frequency vessel noise is an operative threat that has acted or is acting on the species to the point that it is contributing to an extinction risk of concern for the dwarf seahorse.

As described previously, bycatch of the dwarf seahorse in trawl fisheries, specifically the live-bait trawl fishery in Florida, is a source of commercial harvest. According to the petitioner, seahorses are affected by nonselective fishing gear because trawling often covers seahorse habitat and their life history characteristics render them particularly vulnerable to overexploitation. The petitioner states that seahorses likely experience injuries or mortality during towing and sorting, but notes that the post-release mortality of bycaught seahorses is unknown. The petitioner also references a study that suggests discarded seahorses are subject to increased predation upon release and experience deleterious effects as a result of being bycaught (Foster and Vincent, 2004). It is conceivable that incidentally caught seahorses that are not retained for commercial sale could be injured or die post-release and that unintentional collection could disrupt natural behaviors. However, as the petition notes, post-release mortality estimates are not available for seahorses. The available information is insufficient to indicate post-release mortality or bycatch mortality is a threat that is contributing to an extinction risk of concern for the dwarf seahorse. Nonetheless, as described in the overutilization section of this finding, we will evaluate to what extent the dwarf seahorse is affected by indirect (i.e., bycatch) and direct commercial harvest during the status review.

Last, the petitioner asserts that unintentional and illegal fishing, hurricanes and tropical storms, and invasive species are ''potentially threatening'' the dwarf seahorse. Broad statements about generalized threats to the species do not constitute substantial information that listing may be warranted. The petition does not present information indicating that the dwarf seahorse is responding in a negative fashion to unintentional and illegal fishing, hurricanes and tropical storms, or invasive species. Therefore, we find that the petition does not present substantial information to indicate that these generalized threats are operative and have acted or acting on the species to the point that it may

warrant protection under the ESA. Nonetheless, during the status review we will research and consider all information submitted relevant to these potential threats.

Summary of Section 4(a)(1) Factors

We conclude that the petition presents substantial scientific or commercial information indicating that a combination of at least four of the section 4(a)(1) factors may be causing or contributing to extinction risk for the dwarf seahorse: present or threatened destruction, modification, or curtailment of its habitat or range, overutilization for commercial, recreational, scientific, or educational purposes, inadequate existing regulatory mechanisms, and other natural or manmade factors.

Petition Finding

After reviewing the information contained in the petition, as well as information readily available in our files, we conclude the petition presents substantial scientific information indicating the petitioned action of listing the dwarf seahorse as threatened or endangered may be warranted. In accordance with section 4(b)(3)(B) of the ESA and our implementing regulations (50 CFR 424.14(b)(2)), we will commence a review of the status of the dwarf seahorse and make a final determination as to whether the petitioned action is warranted. During our status review, we will determine whether the species is in danger of extinction (endangered) or likely to become so in the foreseeable future (threatened) throughout all or a significant portion of its range, or that the species does not warrant listing under the ESA.

Information Solicited

To ensure that the status review is based on the best available scientific and commercial data, we are soliciting information on whether the dwarf seahorse is endangered or threatened. Specifically, we are soliciting information in the following areas: (1) Historical and current distribution and abundance of this species throughout its range; (2) historical and current population status and trends; (3) life history in marine environments; (4) curio, traditional medicine, and aquarium trade or other trade data; (5) any current or planned activities that may adversely impact the species; (6) historical and current seagrass trends and status; (7) ongoing or planned efforts to protect and restore the species and their seagrass habitats; (8) management, regulatory, and enforcement information; and (9) any biological information on this species. We request that all information be accompanied by: (1) Supporting documentation such as maps, bibliographic references, or reprints of pertinent publications; and (2) the submitter's name, address, and any association, institution, or business that the person represents.

References Cited

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

Authority

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

Dated: April 30, 2012.

Paul Doremus,

Deputy Assistant Administrator for Operations, National Marine Fisheries Service.

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