that are located in any gate area, ticketing area, first-class or other passenger lounge provided by a U.S. or foreign carrier, or any common area of the terminal, excluding shops and/or restaurants, to which any passengers have access.

(2) With respect to any televisions or other audio-visual displays located in any gate area, ticketing area, first-class or other passenger lounge provided by a U.S. or foreign carrier, or any common area of the terminal, excluding shops and/or restaurants, to which any passengers have access, that provide passengers with safety briefings, information, or entertainment that do not have high-contrast captioning capability, an airport operator must replace these devices with equipment that does have such capability whenever such equipment is replaced in the normal course of operations and/or whenever areas of the terminal in which such equipment is located undergo substantial renovation or expansion.

(3) If an airport acquires new televisions or other audio-visual displays for passenger safety briefings, information, or entertainment on or after [insert effective date of the final rule], such equipment must have high-contrast captioning capability.

4. Amend § 27.72 to read as follows:

§ 27.72 Boarding assistance for aircraft.

(a) This section applies to airports with 10,000 or more annual enplanements.

(b) Airports shall, in cooperation with carriers serving the airports, provide boarding assistance to individuals with disabilities using mechanical lifts, ramps, or other devices that do not require employees to lift or carry passengers up stairs. This section applies to all aircraft with a passenger capacity of 19 or more passenger seats, except as provided in paragraph (e) of this section. Paragraph (c) of this section applies to U.S. carriers and paragraph (d) of this section applies to foreign carriers.

(c) Each airport operator shall negotiate in good faith with each U.S. carrier serving the airport concerning the acquisition and use of boarding assistance devices to ensure the provision of mechanical lifts, ramps, or other devices for boarding and deplaning where level-entry loading bridges are not available. The airport operator must have a written, signed agreement with each U.S. carrier allocating responsibility for meeting the boarding and deplaning assistance requirements of this subpart between or among the parties. The agreement shall be made available, on request, to representatives of the Department of Transportation.

(1) All airport operators and U.S. carriers involved are jointly and severally responsible for the timely and complete implementation of the agreement.

(2) The agreement shall ensure that all lifts and other accessibility equipment are maintained in proper working condition.

(d) Each airport operator shall negotiate in good faith with each foreign carrier serving the airport concerning the acquisition and use of boarding assistance devices to ensure the provision of mechanical lifts, ramps, or other devices for boarding and deplaning where level-entry loading bridges are not available. The airport operator shall, by no later than December 28, 2011, sign a written agreement with the foreign carrier allocating responsibility for meeting the boarding and deplaning assistance requirements of this subpart between or among the parties. The agreement shall be made available, on request, to representatives of the Department of Transportation.

(1) The agreement shall provide that all actions necessary to ensure accessible boarding and deplaning for passengers with disabilities are completed as soon as practicable, but no later than [insert 120 days after date of publication in **Federal Register** of the final rule].

(2) All airport operators and foreign carriers involved are jointly and severally responsible for the timely and complete implementation of the agreement.

(3) The agreement shall ensure that all lifts and other accessibility equipment are maintained in proper working condition.

(e) Boarding assistance agreements required in paragraphs (c) and (d) are not required to apply to the following situations:

(1) Access to float planes;

(2) Access to the following 19-seat capacity aircraft models: The Fairchild Metro, the Jetstream 31 and 32, the Beech 1900 (C and D models), and the Embraer EMB–120;

(3) Access to any other aircraft model determined by the Department of Transportation to be unsuitable for boarding and deplaning assistance by lift, ramp, or other suitable device. The Department will make such a determination if it concludes that—

(i) No existing boarding and deplaning assistance device on the market will accommodate the aircraft without significant risk of serious damage to the aircraft or injury to passengers or employees, or

(ii) Internal barriers are present in the aircraft that would preclude passengers who use a boarding or aisle chair from reaching a non-exit row seat.

(f) When level-entry boarding and deplaning assistance is not required to be provided under paragraph (e) of this section, or cannot be provided as required by paragraphs (b), (c), and (d) of this section (*e.g.,* because of mechanical problems with a lift), boarding assistance shall be provided by any available means to which the passenger consents. However, hand-carrying (*i.e.,* directly picking up the passenger's body in the arms of one or more carrier personnel to effect a level change the passenger needs to enter or leave the aircraft) must never be used, even if the passenger consents, unless this is the only way of evacuating the individual in the event of an emergency.

(g) In the event that airport personnel are involved in providing boarding assistance, the airport shall ensure that they are trained to proficiency in the use of the boarding assistance equipment used at the airport and appropriate boarding assistance procedures that safeguard the safety and dignity of passengers.

5. In 49 CFR part 27 the word ''nonhandicapped'' is revised to read ''nondisabled'' wherever it occurs. The term ''handicapped person''' is revised to read ''individual with a disability''' wherever it occurs. The term ''handicapped persons'' is revised to read ''individuals with a disability'' wherever it occurs. The term ''qualified handicapped person'' is revised to read ''qualified individual with a disability'' wherever it occurs. The term ''qualified handicapped persons'' is revised to read ''qualified individuals with a disability.'' Wherever the word ''handicapped'' is used without being followed by the words ''person'' or ''persons,'' it is revised to read ''disabled'' wherever it occurs.

[FR Doc. 2011–24849 Filed 9–28–11; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R5–ES–2011–0067; 92210–0–0008–B2]

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List the American Eel as Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the American eel (*Anguilla rostrata*) as threatened under the Endangered

Species Act of 1973, as amended (Act). Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing this species may be warranted. Therefore, with the publication of this notice, we are initiating a review of the status of the species to determine if listing the American eel is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding this species. Based on the status review, we will issue a 12-month finding on the petition, which will address whether the petitioned action is warranted, as provided in section 4(b)(3)(B) of the Act.

DATES: To allow us adequate time to conduct this review, we request that we receive information on or before November 28, 2011. The deadline for submitting an electronic comment using the Federal eRulemaking Portal (see **ADDRESSES**, below) is 11:59 p.m. Eastern Time on this date. After November 28, 2011, you must submit information directly to the Regional Office (see **FOR FURTHER INFORMATION CONTACT** below). Please note that we may not be able to address or incorporate information that we receive after the above requested date.

ADDRESSES: You may submit information by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Enter Keyword or ID box, enter FWS–R5–ES–2011–0067, which is the docket number for this action. Then, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rules link to locate this document. You may submit a comment by clicking on ''Submit a Comment''.

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R5–ES–2011–0067; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all information we receive on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see the Request for Information section below for more details).

FOR FURTHER INFORMATION CONTACT: Martin Miller, Chief, Division of Endangered Species, U.S. Fish and Wildlife Service, Northeast Regional Office, 300 Westgate Center Drive, Hadley, MA 01035; by telephone at (413–253–8615); or by facsimile (413–253–8482). If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Request for Information

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the American eel from governmental agencies, Native American Tribes, the scientific community, industry, and any other interested parties. We seek new information not previously available or not considered at the time of the 2007 status review on:

(1) The species' biology, range, and population trends, including:

(a) Habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act (16 U.S.C. 1531 *et seq.*), which are:

(a) The present or threatened destruction, modification, or curtailment of its habitat or range;

(b) Overutilization for commercial, recreational, scientific, or educational purposes;

(c) Disease or predation, specifically:

(i) Rangewide analysis of the prevalence of the parasite, *Anguillicola crassus,* in American eel;

(ii) Data collection and analysis designed to differentiate between American eel rangewide population fluctuations responding to other natural phenomena, such as ocean conditions, and infections from *Anguillicola crassus;*

(d) The inadequacy of existing regulatory mechanisms; or

(e) Other natural or manmade factors affecting its continued existence.

(3) Data that supports or refutes:

(a) Panmixia (having one, well-mixed breeding population), including evidence of genetic differentiation that results in selective growth, sex ratios, increased vulnerability to threats, or habitat preferences;

(b) Existence of population structure to the degree that a threat could have differentiating effects on portions of the population and not on the whole species;

(c) Statistically significant long-term glass eel recruitment declines. If landings data are used, the catch per unit effort is integrated into the results, preferably from more than one location along the Atlantic Coast. Raw data will be accepted; however, data that have not been analyzed will likely have limited value in our assessment.

(4) Information on the correlation between climate change and glass eel recruitment, such as Atlantic oceanic conditions data, analyses, and predictions including, but not limited to:

(a) Climate change predictions over the next 25, 50, 75, and/or 100 years as they relate to ocean circulation, changes in the Sargasso sea circulation, sea surface temperature (SST), or larvae and glass eel food availability, either directly or indirectly through changes in SST that affect primary productivity;

(b) Quantitative research on the food of eel larvae and the relationship of food availability to survival of eel larvae;

(c) Further investigations into the indirect effects of a change in SST on nutrient circulation due to enhanced stratification of the water column and its effects on phytoplankton communities;

(d) The length of time eel larvae take to migrate to the Atlantic coast from the Sargasso Sea;

(e) The impact of food availability along the entire migration route on eel larvae survival;

(f) Threats to the Sargasso Sea of the magnitude that would be predicted to affect glass eel recruitment, and information on increased larval retention in the Sargasso Sea gyre resulting from changes in winds due to climate change.

If, after the status review, we determine that listing the American eel is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act) under section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, we also request data and information on:

(1) What may constitute ''physical or biological features essential to the conservation of the species,'' within the geographical range currently occupied by the species;

(2) Where these features are currently found;

(3) Whether any of these features may require special management considerations or protection;

(4) Specific areas outside the geographical area occupied by the species that are ''essential for the conservation of the species;'' and

(5) What, if any, critical habitat you think we should propose for the designation if the species is proposed for listing, and why such habitat meets the requirements of section 4 of the Act.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made ''solely on the basis of the best scientific and commercial data available.''

You may submit your information concerning this status review by one of the methods listed in **ADDRESSES**. If you submit information via *http://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the Web site. If your submission is made via a hard copy that includes personal identifying information, you may request at the top of your document that we withhold this personal identifying information from public review. However, we cannot guarantee that we will be able to do so. We will post all hard copy submissions on *http://www.regulations.gov.*

Information and supporting documentation that we received and used in preparing this finding are available for you to review at *http://www.regulations.gov,* or you may make an appointment during normal business hours at the U.S. Fish and Wildlife Service, Northeast Regional Office (see **FOR FURTHER INFORMATION CONTACT**).

Background

Section 4(b)(3)(A) of the Act requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of the finding promptly in the **Federal Register**.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is ''that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted'' (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly conduct a species status review, which we subsequently summarize in our 12-month finding.

Petition History

On April 30, 2010, we received a petition dated April 30, 2010, from Craig Manson, Executive Director of the Council for Endangered Species Act Reliability (CESAR or petitioner), requesting that the American eel be listed by the Service and National Marine Fisheries Service (NMFS) as threatened under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioner, as required by 50 CFR 424.14(a). In a May 13, 2010, letter to the petitioner, we acknowledged receipt of the petition and stated that the Service, not NMFS, had jurisdiction over the American eel and we would be responding to the petition.

On September 7, 2010, we received a Notice of Intent to Sue (NOI) from the petitioner for failure to respond to the petition. In a November 23, 2010, letter to the petitioner, we stated that the Service's appropriation in fiscal year (FY) 2010 was insufficient to address its large backlog of listing actions, and consequently we had not yet been able to begin work on the petition. We also stated that we anticipated funding becoming available in FY 2011 to work on the petition. On December 29, 2010, we received a letter dated December 23, 2010, from the petitioner requesting clarification on our November 23, 2010, letter. The petitioner asked whether we had made a ''warranted but precluded'' determination due to funding limitations or were merely further acknowledging their petition. In a January 10, 2011, letter to the petitioner, we clarified that the intent of our November 23, 2010, letter was to both acknowledge receipt of the NOI and to explain that it was not practicable for the Service to work on the petition until we received funding to do so. We also stated that we had, as of January 10, 2011, received funding to evaluate the petition.

In a March 9, 2011, letter to the petitioner, we requested copies of the references that were cited as part of the petition but were not furnished with the petition or readily available in our files. On April 1, 2011, we received a letter dated March 31, 2011, from the petitioner stating that the requested citations were available via an internet Google search or through the Department of the Interior library or its interlibrary loan program. On April 4, 2011, we received a second copy of the March 31, 2011, letter with a compact disc containing most, but not all, of the requested references. This finding addresses the petition.

Previous Federal Action(s)

On May 27, 2004, the Atlantic States Marine Fisheries Commission (ASMFC), concerned about extreme declines in the Saint Lawrence River/Lake Ontario (SLR/LO) portion of the species' range, requested that the Service and NMFS conduct a status review of the American eel. The ASMFC also requested an evaluation of the appropriateness of a Distinct Population Segment (DPS) listing under the Act for the SLR/LO and Lake Champlain/Richelieu River portion of the American eel population, as well as an evaluation of the entire Atlantic coast American eel population (ASMFC 2004, p. 1). The Service responded to this request on September 24, 2004; our response stated that we had conducted a preliminary review regarding the potential DPS as described by the ASMFC, and determined that the American eel was not likely to meet the discreteness element of the policy requirements due to lack of population subdivision. Rather, the Service agreed to conduct a rangewide status review of the American eel in coordination with NMFS and ASMFC (Service 2004, p. 1).

On November 18, 2004, the Service and NMFS received a petition, dated November 12, 2004, from Timothy A. Watts and Douglas H. Watts, requesting that the Service and NMFS list the American eel as an endangered species under the Act. The petitioners cited destruction and modification of habitat, overutilization, inadequacy of existing regulatory mechanisms, and other natural and manmade factors (such as contaminants and hydroelectric turbines) as threats to the species. On July 6, 2005, the Service issued a 90-day finding (70 FR 38849), which found that the petition presented substantial information indicating that listing the American eel may be warranted, and initiated a status review.

On February 2, 2007, the Service issued a 12-month finding that listing the American eel as threatened or

endangered was not warranted (72 FR 4967).

Species Information

This section is a summary of the species information presented in the Service's 2007 12-month finding (72 FR 4967), supplemented where noted with more recent citations; for a more complete description of the species' biology, habitat and range, see 72 FR 4967, pp. 4968–4977.

The life history of the American eel begins in the Sargasso Sea, located in the middle of the North Atlantic Ocean, where eggs hatch into a larval stage known as ''leptocephali.'' These leptocephali are transported by ocean currents from the Sargasso Sea to the Atlantic coasts of North America and northern portions of South America. Leptocephali migrate in the surface layer of the ocean where food particles are most abundant. Tsukamoto *et al.* (2009, p. 835) found that leptocephali appear to have a unique mechanism of buoyancy control (chloride cells all over the body surface), that differs from other planktonic animals. The American eel undergoes several stages of metamorphosis, from leptocephali to juveniles arriving in coastal waters as unpigmented ''glass eels.'' When juvenile eels arrive in coastal waters, they can arrive in great density and with considerable yearly variation (ICES 2001, p. 2). Glass eels metamorphose (change) to pigmented ''elvers'' and then develop into ''yellow eels,'' occupying marine, estuarine, and freshwater habitats. American eels begin sexual differentiation at a length of about 20 to 25 centimeters (cm) (7.9 to 9.8 inches (in)) and, depending on eel density, become male or female ''silver eels.'' Upon nearing sexual maturity, these silver eels begin migration toward the Sargasso Sea, completing sexual maturation en route. Spawning occurs in the Sargasso Sea. It is hypothesized that there is an abrupt temperature change (referred to as a temperature front) or other as-yet-unidentified feature that serves as a cue for migrating adults to cease their long migration and begin spawning (Friedland 2007, p. 1). After spawning, the adults die; a species with this life-history trait is known as a semelparous species.

In our 2007 12-month finding, we explained that the American eel is one of 15 ancient species, evolving about 52 million years ago, of the worldwide genus Anguilla. The American eel is a highly resilient species with plastic life-history strategies allowing individuals to adapt to varying conditions. For example, to successfully complete the migration from the continent to the Sargasso Sea (outmigration), great endurance and an extensive fat reserve are required. Larger, fatter eels have an advantage over smaller eels in reaching the Sargasso Sea and having sufficient energy stores to reproduce. Fecundity (a measure of fertility) of American eels varies with body length and habitat occupied, larger female eels occupying upstream habitat produce more eggs than do smaller, estuarine females. Eels from northern areas, where migration distances are great, show slower growth and greater length, weight, and age at migration, preparing them, it has been hypothesized, for the longer migration. American eels in United States southern Atlantic coast waters, although smaller, develop into silver eels about 5 years sooner than northern eels, likely as a result of warmer, more stable water conditions. These southern eels would travel significantly shorter distances back to the Sargasso than would northern eels. Variation in maturation age benefits the population by allowing different individuals of a given year class to reproduce at different times over a period of many years, which increases the chances that some eels will encounter environmental conditions favorable for spawning success and offspring survival. For example, variability in the maturation age of eels born in 2006 may result in spawners throughout 2010 to 2030, during which time favorable environmental conditions are likely to occur at least once.

American eels are currently thought to be one, well-mixed, single breeding (panmictic) population (PBS&J 2008, pp. 2–9; MacGregor *et al.* 2008, p. 2; Fenske 2009, p. 38; Mathers and Stewart 2009, p. 359; Tremblay 2009, p. 85; Jessup 2010, p. 339; Velez-Espino and Koops 2010, pp. 175–181). This panmictic life-history strategy maximizes adaptability to changing environments and is well suited to species that have unpredictable larval dispersal to many habitats (*e.g.,* marine, estuarine, and freshwater). By not exhibiting geographic or habitat-specific adaptations, eels have the ability to rapidly colonize new habitats and to recolonize disturbed ones over wide geographical ranges. The consequence of panmixia to the species' ability to withstand human-caused activities is captured in the following passage by Aoyama (2009, p. 32): ''with a panmictic population structure, overharvesting eels in one area likely will not affect subsequent recruitment to that particular area because new recruits will arrive randomly from spawners that originated from other areas.''

While one study (Cote *et al.* 2009, pp. 1943–1944) preliminarily suggests that regional variations in growth may be genetically related, and possibly call into question our understanding of panmixia in the American eel, the authors state that the genetics have not been rigorously tested, and the analysis may just show the start of possible adaptive population genetic differentiation (Cote *et al.* 2009, pp. 1943–1944; DeLeo *et al.* 2009, pp. 2, 4). If we find in the future that the Cote *et al.* (2009) hypothesis of a genetic basis for regional growth variations does have merit for the American eel, that will change our understanding that the eel is fully panmictic, and the Service may need to reexamine the species-level effects of the various threats discussed below. However, until such time as information becomes available concerning geographically distributed genetic structure for the American eel, we will continue to consider the American eel panmictic, as that life strategy is currently supported by the best scientific information available (PBS&J 2008, pp. 2–9; MacGregor *et al.* 2008, p. 2; Fenske 2009, p. 38; Mathers and Stewart 2009, p. 359, Tremblay 2009, p. 85; Jessup 2010, p. 339; Velez-Espino and Koops 2010, pp. 175–181).

The extensive range of the American eel includes all accessible river systems and coastal areas having access to the western North Atlantic Ocean and to which oceanic currents would provide transport. As a result of oceanic currents, the majority of American eels occur along the Atlantic seaboard of the United States and Canada. The historical and current distribution of the American eel within its extensive continental range is well documented along the United States and Canadian Atlantic coast, and the SLR/LO. The distribution is less well documented and likely rarer, again due to currents, in the Gulf of Mexico, Mississippi watershed, and Caribbean Islands, and least understood in Central and South America.

The American eel is said to occupy the broadest diversity of habitats of any fish species (Helfman *et al.* 1987, p. 42). During their spawning and oceanic migrations, eels occupy salt water, and in their continental phase, use all salinity zones: fresh, brackish, and marine (for detailed habitat use by life stage, see Cairns *et al.* 2005), and some eels move between fresh and brackish water several times throughout their life (Thibault *et al.* 2007, p. 1106; Jessup *et al.* 2008, p. 210). Barring impassable natural or humanmade barriers, eels occupy all freshwater systems, including large rivers and their

tributaries, lakes, reservoirs, canals, farm ponds, and even subterranean springs. The eel's anguillid (eel-shaped) body form allows it to climb when at young stages and under certain conditions (*e.g.,* rough surfaces), enabling it to pass up and over some barriers encountered during upstream migrations in freshwater streams (Craig 2006, pp. 1–4). Eels are able to survive out of water for an exceptionally long time (eels can meet virtually all their oxygen needs through their skin), as long as they are protected from drying (for which their ability to produce mucus is of great adaptive significance). Eels have been seen using overland routes (while moist) when they encounter a barrier, which explains their entrance into landlocked waters (Tesch 2003, pp. 184–185) and their presence above numerous dams and weirs (Service 2005b, pp. 16–18).

No rangewide estimate of abundance exists for the American eel. Information on demographic structure is lacking and difficult to determine because the American eel is panmictic (see above), with individuals randomly spread over an extremely large and diverse geographic range, and with growth rates and sex ratios determined by the environmental conditions they encounter. Because of this unique life history, site-specific information on eels must be evaluated in context of its significance to the entire species. Determining status trends is challenging because the relevant available data are limited to a few locations that may or may not be representative of the species' range. Little information exists about key factors such as mortality and recruitment that could be used to develop an assessment model. (Recruitment refers to juveniles surviving and being added to the population.) In the American eel, recruitment is typically measured by counting glass eels as they reach coastal waters. Furthermore, the ability to make inferences about the species' viability based on available trend information is hampered without an overall estimate of eel abundance (*i.e.,* no abundance data exist for the estuarine and saline habitats). Despite these challenges, the Service determined in its 2007 12-month status review (72 FR 4967) that the entire American eel population appeared stable over the long-term.

The 2007 12-month finding concluded:

> ''we find that the American eel remains widely distributed over their vast range including most of their historic freshwater habitat, eels are not solely dependent on freshwater habitat to complete their lifecycle utilizing marine and estuarine habitats as well, they remain in the millions, that recruitment trends appear variable, but stable, and that threats acting individually or in combination do not threaten the species at a population level. On the basis of the best available scientific and commercial information, we conclude that the American eel is not likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and is not in danger of extinction throughout all or a significant portion of its range. Therefore, listing of the American eel as threatened or endangered under the Act is not warranted (72 FR 4967, p. 4997).''

The Service acknowledged uncertainties while evaluating the best available data during the status review (72 FR 4967, pp. 4977–4978) and concluded that ''mortality during outmigration due to parasites and contaminants, and the potential effects of contaminants on early life stages, remain a concern,'' but, ''we have no information indicating that these threats are currently causing or are likely to cause population level effects to the American eel'' (72 FR 4967, p. 4996). The Service suggested that ''future research should focus on: The effects of contaminants on outmigration and spawning success and egg viability; the effects during outmigration, contributors to prevalence of, and prevention and/or treatment of, the exotic nematode, *Anguillicola crassus;* and improving the success and cost of downstream passage. In addition, future assessments and measuring the success of conservation actions would be improved by the collection of information useful for population dynamics and an increased understanding of how oceanic conditions affect larval distribution and abundance'' (Bell in litt. 2007, p. 1).

The Service's 2007 status review, documented in our 12-month finding (72 FR 4967), is, to date, the most comprehensive analysis of the American eel's rangewide status. The Service will use the 2007 status review as baseline information in the evaluation of the CESAR petition as well as other information that has become available since the 2007 12-month finding and prior to the receipt of the petition.

Evaluation of Information for This Finding

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations at 50 CFR part 424 set forth the procedures for adding a species to, or removing a species from, the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

In considering what factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat, and we then attempt to determine how significant a threat it is. If the threat is significant, it may drive or contribute to the risk of extinction of the species such that the species may warrant listing as threatened or endangered as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively may not be sufficient to compel a finding that listing may be warranted. The information shall contain evidence sufficient to suggest that these factors may be operative threats that act on the species to the point that the species may meet the definition of threatened or endangered under the Act.

In making this 90-day finding, we evaluated whether the information regarding threats to the American eel found in the petition and in our files, including our 2007 12-month finding, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

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

Information Provided in the Petition

The petitioner asserts the American eel is threatened by loss of habitat or range and reductions in habitat (ASMFC 2009, NatureServe 2004), stating ''significant anthropogenic [manmade] changes within the range have reduced the accessible habitat by percentages perilously close to 100 percent in some places'' (Petition, p. 17). The petitioner asserts that ''these reductions in habitat and their causes can have a cascading

adverse effect on eel populations'' (Petition, p. 17). The petitioner also asserts that freshwater riverine systems are the most important habitat for eels and that ''While it is possible that some eels spend their entire life cycle in salt water, oceanic research indicates such behavior is rare and virtually nonexistent; catch data from commercial trawling confirms empirically that this is rare. Certainly the marine component is small and at best an unknown and unquantified life strategy which provides little foundation for reliance on it as a basis for sustaining the American eel production'' (Petition, p. 17). The petitioner also provides summary information regarding freshwater stream habitat loss due to obstructions (*i.e.,* dams) and some eel abundance and density observations throughout the coastal range of the species (Petition, pp. 19–21).

Evaluation of Information Provided in the Petition and Available in Service Files

The petitioner restated much of the information provided in the Service's 2007 12-month finding (72 FR 4967), along with information from a few sources published after the 2007 12-month finding. However, most of these ''new'' sources of information, while published after the 2007 12-month finding, summarize the same historical information regarding habitat loss and degradation available to, and considered by, the Service for the 2007 12-month finding (see Busch *et al.* 1998 cited in ASMFC 2009, Maryland Department of Natural Resources 1999, NatureServe 2004). The petitioner cited information from a book ''Eels at the Edge'' (Casselman and Cairns 2009). This entire book was unavailable to the authors of this 90-day finding to analyze since the petitioner did not provide the requested copy and the entire book did not become available from the Service's files until after the 90-day finding was drafted; however, the book is actually a compilation of papers, many of which (*e.g.,* Weeder and Uphoff (2009) and Welsh and Hammond (2009)) were available and analyzed by us for this 90-day finding. The complete Casselman and Cairns (2009) book will be evaluated during the new 12-month status review.

The Service's Factor A analysis in the 2007 12-month finding (72 FR 4967, pp. 4978–4983) reviewed spawning and ocean migration habitat; estuarine and marine habitat; and freshwater habitat, including lacustrine (lake) habitat, specifically Lake Ontario, and the impacts of barriers (including dams) on distribution. The Service found in the 2007 12-month finding that spawning and ocean habitats were not impacted by significant threats and that American eels used estuarine, marine, and freshwater habitats, including exclusive use of marine and estuarine habitats by some eels (72 FR 4967, p. 4983). Although extensive loss of historical freshwater habitat has occurred due to human-induced barriers (*i.e.,* dams constructed for hydroelectric, water supply, and recreational purposes), any population-level impacts have likely already been realized and there is no indication of future barrier construction that would further limit freshwater habitat (72 FR 4967, p. 4983). The ''American eel remains well-distributed throughout roughly 75 percent of its historical range, mainly in the lower reaches of the watersheds,'' and although American eel abundance has been more affected by barriers than has distribution, ''there is no evidence that the reduction in densities has resulted in a negative population-level effect such as a reduction in glass eel recruitment. Analyses of local and regional declines in abundance do not temporally correlate with the loss of access to freshwater habitat'' (72 FR 4967, p. 4983). The 2007 12-month finding concluded that freshwater, estuarine, and marine habitats were sufficient to sustain American eel populations, and the present or threatened destruction, modification, or curtailment of its habitat or range was not a threat to the American eel (72 FR 4967, pp. 4983, 4996).

In addition to the baseline information in the Service's 2007 12-month finding, new information in the Service's files at the time of the receipt of the petition continues to demonstrate that American eels persist in all three habitat types, despite localized impacts. In some instances, the new information suggests that American eels do more than just ''persist'' in estuarine and coastal marine waters; in fact, those habitat types may be even more important to American eels than we previously thought (Machut *et al.* 2007, p. 1707; Jessup *et al.* 2008, p. 210; Cairns 2009, p. 74; Fenske 2009, p. 75; ICES 2009, p. 1; Jessup *et al.* 2009, pp. 867–868; Jessup 2010, p. 328). Examples of localized impacts to freshwater habitat include a paper by Machut *et al.* (2007, p. 1700) that suggests urbanization in Hudson River tributaries impacts the invertebrate communities used as food for the American eel and may be contributing to the reported decline of American eels from certain portions of their historic range, and a letter from the Service to the City of Raleigh indicating impacts to the Little River in North Carolina if projected water supply and disposal projects proceed (USFWS *in litt.* 2009b). However, we have no information to suggest that these two localized examples are indicative of rangewide impacts to freshwater habitat.

Throughout the freshwater range of the American eel, new eel passage projects (since 2007) have been completed or are planned. While upstream passage facilities are not present everywhere within the American eel's range (Minkkinen and Park 2007, p. 1) and existing upstream passage facilities do cause some mortality, more American eels are passed into the upper reaches of watersheds now than prior to 2007. For example, an eel passage project was completed at the Roanoke Rapids Dam in North Carolina (American Eel Working Group (AEWG) 2010, p. 1; Roanoke Rapids and Gaston 2010, p. 2). Eel passage projects are in variable stages of planning and construction in other watersheds, including in the Potomac River watershed (Chesapeake Bay Field Office (CBFO) 2009, p. 1); at the Stevenson Dam on the Housatonic River and the Taftville Dam on the Shetucket River in Connecticut (Connecticut Department of Environmental Protection (CTDEP 2009, p. 4)); at the Millville, Warren, and Luray Dams on the Shenandoah River in West Virginia (Eyler *et al.* 2008, slide 4; Welsh 2008, slide 22); in the Piedmont region of South Carolina (Rohde *et al.* 2008, p. 82); in the Santee River Basin in South Carolina (Santee River Basin Accord 2008, pp. 6–7); and in Quebec and Ontario Provinces, Canada (Verreault *et al.* 2009b, p. 21). Although the success of ladder placement to minimize entrainment (the process by which aquatic organisms, suspended in water, are pulled through a pump or other device (Webster's On-line Dictionary, 2011)) is specific to each dam (McGrath *et al.* 2009, p. 1), American eels can show a positive, quick response to the placement of ladders and use them to swim past/over barriers (Cairns *et al.* 2008, p. 2; Schmidt *et al.* 2009, p. 718).

Since 2007, more studies on the American eel's use of freshwater, estuarine, and coastal marine waters have been completed. These studies confirm that eels use all three habitat types (Dutil *et al.,* 2009, pp. 1979, 1981; ICES 2009, p. 1) and that brackish (*i.e.,* estuarine waters) and salt water are important for American eel growth, in terms both of faster growth rates and larger size of individuals, and

productivity (Machut *et al.* 2007, p. 1707; Jessup *et al.* 2008, p. 210; Cairns 2009, p. 74; Fenske 2009, p. 75; ICES 2009, p. 1; Jessup *et al.* 2009, pp. 867–868; Jessup 2010, p. 328). For example, Jessop *et al.* (2009, p. 866) found growth rates of 3.2 times greater in American eels that had resided primarily in estuarine waters than those that had resided only in freshwater. Lamson *et al.* (2009, pp. 310, 312) found that on average, eels grew in length 2.2 times faster and gained weight 5.3 times faster in full-strength seawater than did freshwater residents (freshwater residents took 2.4 times longer to reach the silver eel stage). This rapid growth enhances many fitness-related aspects of fish demographics, including quicker progression to reproductive capability and decreased vulnerability to predators, hastening the single reproductive opportunity of these fishes (Cairns *et al.* 2009, p. 2095). The mechanism behind, and the evolutionary advantage of, this rapid growth in saline environments (Cairns *et al.* 2009, p. 2095) and the latitudinal variability in length and age at maturity of both males and females (Jessop 2010, p. 328) continues to intrigue researchers. While there is no indication that the importance of freshwater habitat for American eel has diminished, recent information shows that estuarine (brackish) areas also provide valuable American eel productivity partially due to the increased food availability and decreased exposure to natural and anthropogenic mortality (Lamson *et al.* 2009, p. 311). Some eels move between salt water and brackish water and between brackish water and freshwater several times within their lifetime prior to outmigration to the Sargasso Sea spawning grounds (Jessup *et al.* 2008, p. 210; Thibault *et al.* 2007, p. 1106).

In summary, we find that the information provided in the petition, as well as baseline and other new information in our files, does not present substantial scientific or commercial information indicating that the petitioned action may be warranted due to the present or threatened destruction, modification, or curtailment of the American eel's habitat or range. There is no evidence that additional freshwater habitat is being lost or modified rangewide beyond the already documented historical loss that was previously determined not to be a threat to the American eel. The new information indicates more freshwater habitat is becoming available to the American eel with the installation of upstream passage projects. In addition, information suggests that estuarine and coastal marine habitats are readily used by, and may be more important to, the American eel than previously thought. In our new 12-month status review, we will, however, further investigate any new information on habitat destruction, modification, or curtailment of the species' habitat or range in relation to current or projected population declines.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

Information Provided in the Petition

The petitioner asserts that American eels are commercially harvested at all juvenile and adult life stages and ''it is undisputed that overutilization of American eel is now occurring across the species' range in the United States of America'' (Petition, p. 22). The petitioner cites information from ASMFC (2000) and Geer (2004) that discuss reduction in commercial landings from the historical levels of the mid 1970s and 1950, respectively. The petitioner also cites information from the ASMFC Addendum II (2008) report and 2007 harvest data from State Compliance Reports (2008) that document eel fisheries in almost all States and overall landings of eels decreasing over time. The petitioner asserts that the ASMFC's own records show a failure to implement protective measures for American eels, including restriction or reduction of harvest levels, despite the ''declines in abundance'' (Petition, p. 23). The petitioner also asserts that there is a level of recreational harvest that also contributes to the decline of American eels (Petition, p. 23).

Evaluation of Information Provided in the Petition and Available in Service Files

The information cited in the petition is a compilation of historical information available to, and considered by, the Service in our 2007 12-month finding, as well as more recent raw landing data from years after the 2007 12-month finding. For example, the following references available in the Service's files or provided by the petitioner were published since 2007 but summarized historical data sets, the results of which were already considered in the 2007 12-month finding: Susquehanna River Anadromous Fish Restoration Cooperative (SRAFRC) 2010, Clark 2009, DeLafontaine *et al.* 2009, Mathers and Stewart 2009, Overton and Rulifson 2009, Weeder and Hammond 2009, Weeder and Uphoff 2009, MacGregor *et al.* 2008, and Casselman and Marcogliese 2007. The ASMFC 2007 (petitioner's ASMFC 2008 citation) and ASMFC–AEPRT 2008 reports included raw landing data from 2007.

As explained in the Service's 2007 12-month finding, correlating landings data with long-term increases or decreases in American eel population trends is speculative at best, given the multifaceted analysis required. This analysis has not yet been conducted (72 FR 4967, p. 4986). To determine the impacts of commercial and recreational harvest at a population level, given the assumption that the American eel is panmictic, the following factors must be taken into account: ''(1) The level of individuals [that] are not subjected to fishing pressure; (2) the theory that fishing of glass eels and elvers does not necessarily represent a substantial loss to reproductive capacity of the species; (3) the vast areas that remain unfished; and (4) the lack of evidence that there is a reduction in glass and elver recruitment rangewide'' (72 FR 4967, p. 4986).

The petitioner states that the ASMFC Addendum II (petitioner's ASMFC 2008 citation, our ASMFC 2007 reference) indicates that recreational fishing of American eels stems from incidental bycatch by anglers, commercial bait for sport fish such as striped bass, and some amount of bait use by recreational fisherman (Petition p. 23). The ASMFC (2007, pp. 6–7) report does state that the NMFS Marine Recreational Fisheries Statistics Survey (MRFSS) for 2007 indicated that the recreational total catch was 139,731 American eel, which represented a large increase from the 2006 total of 85,969 American eel. However, the report goes on to state in a footnote to the catch data that the ''MRFSS Data for American Eel are unreliable. 2005 Proportional Standard Error (PSE) values for recreational harvest in Rhode Island, New Jersey, Delaware, Maryland, Virginia, and South Carolina are 98.1, 100, 96.6, 70.1, 100.5, 100, and 79.1, respectively'' (ASMFC 2007, p. 7). This means that the American eel recreational harvest data could be drastically under or over counted depending upon the potential for error.

We analyzed MRFSS information, available from 1981, as part of our 2007 12-month finding. Part of the data analysis included evaluating the reliability of the MRFSS data, especially given the margin for error noted in the ASFMC 2007 (p. 7) report. Our 2007 12-month finding stated that ''recreational harvest is either limited or nonexistent

throughout most of the range of the American eel,'' and described the source of the recreational harvest similarly to the petitioner's categories (72 FR 4967, p. 4986). The 2007 12-month finding went on to describe the low levels of recreational harvest throughout the American eel's range, the gear and catch restrictions put in place by the ASFMC member states to prevent unregulated recreational harvest, and the limited information about subsistence harvest and bycatch (72 FR 4967, p. 4987). Through our analysis, we concluded in the 2007 12-month finding that ''there are no data to suggest that subsistence harvest, bycatch, and recreational harvest are having a significant impact on American eel regionally or rangewide'' (72 FR 4967, p. 4987).

In addition to the ASMFC 2007 report, the outline of a Verreault *et al.* (2009b) report indicates that some recreational harvest information for American eels in Canada may be available. However, the recreational harvest sections of the report for glass eel, yellow eel, and silver eel all state that there are ''no data available'' (Verreault *et al.* 2009b, pp. 5, 11).

In summary, at the time the petition was received, we had only the ASMFC 2007 report, which indicates that the little recreational harvest data that are available may be unreliable, and the Verreault *et al.* 2009b report, which indicates that there are no recreational harvest data available in Canada. Therefore, because there is no new information about the potential impact of ongoing commercial harvest, and monitoring and reporting of recreational harvest continues to be limited or nonexistent throughout the range of the American eel, the conclusion from the 2007 12-month finding that commercial and recreational harvest does not impact the American eel at the panmictic population level is reasonable. We will, however, further investigate commercial and recreational harvest impacts to the American eel in our new 12-month status review.

New models for estimating abundance of fish species are being developed, but due to the global and complex life-history traits of the American eel and the difficulties inherent in simulating those traits, as well as the models' assumption limitations, no reliable model for the American eel currently exists, especially one that relies on harvest (*i.e.,* landings) data (ASMFC–AEPRT 2008, p. 2; ASMFC–AESAS 2008a, pp. 9–11; Cairns *et al.* 2008, p. 3; MacGregor *et al.* 2008, p. 4; ASFMS–AETC&SAS 2009c, p. 8). The ASMFC (2008c, pp. 1–2) listed the need for a fishery-independent sampling program for yellow and silver eels as a high priority, as this information would give a more reliable indicator of population trends.

The petitioner's assertion that the ASMFC failed to implement protective measures for American eels, including restriction or reduction of harvest levels, despite the ''declines in abundance'' (Petition, p. 23), will be addressed under Factor D below.

In summary, we find that the information provided in the petition, as well as baseline and other new information in our files, does not present substantial scientific or commercial information indicating that the petitioned action may be warranted due to overutilization of the American eel for commercial, recreational, scientific, or educational purposes. There is no evidence indicating that harvest of American eels may be a threat at the population level. While new population models are becoming available, the continued reliance on landings data remains problematic in determining accurate population trends. We will, however, further investigate new information regarding overutilization of the American eel for commercial, recreational, scientific or educational purposes in our new 12-month status review.

C. Disease or Predation.

Information Provided in the Petition

The petitioner asserts that the American eel is threatened by *Anguillicola crassus,* a parasite infesting the eel's swim bladder (an internal gas-filled organ that regulates a fish's buoyancy) (Petition, pp. 23–28). The swim bladder is used by the eel for vertical migration (defined as moving at different depths in the water column) during its spawning migration (Petition, p. 25). This parasite spread from its native host, Japanese eels (*Anguilla japonica*), to both the European (*Anguilla anguilla*) and American eel through the expanding eel trade between countries and the eel aquaculture industry (Petition, p. 23). The parasite infects an eel's swim bladder and causes damage to the swim bladder, potentially affecting the eel's ability to reach the spawning ground in the Sargasso Sea (Petition, p. 25). The petitioner cites studies by Aieta and Oliveria (2009) and Sokolowski and Dove (2006) documenting the spread of *A. crassus* throughout the American eel's range (Petition, pp. 24–25). The petitioner concludes that the effects of *A. crassus,* in combination with the impacts of hydroelectric turbine mortality, contaminant accumulation, low fat stores, and commercial and recreational harvest, are causing fewer eels to reach their Sargasso Sea spawning grounds (Petition, p. 26). The petitioner also asserts that the results of experiments (Gollock *et al.* 2005) conducted on European eels showing evidence of decreased survival rate of European eels infected with *A. crassus* and exposed to hypoxic (reduced oxygen) conditions (associated with warmer than normal water temperatures) can be extrapolated to American eels (Petition, p. 26). The petitioner also asserts that eels infected with *A. crassus* that do survive the migration to the Sargasso Sea will not have the necessary fat stores to successfully reproduce because the eels may have used too much stored fat energy swimming with impaired swim bladders (Petition, p. 27). The petitioner also asserts the reduction in the number of eels reaching the spawning grounds will cause a long-term ''allee effect'' (an effect of population density on population growth, by which there is a decrease in reproductive rate at a very low population density and a positive relationship between population density and the reproduction and survival of individuals (Science-Dictionary.com 2011)) because eels will be unable to find mates (Petition, p. 28).

The petitioner did not assert that predation was a threat to the American eel.

Evaluation of Information Provided in the Petition and Available in Service Files

The Service's 2007 12-month finding discussed the latest laboratory research on the negative effects *Anguillicola crassus* infection on European eel swim capacity. Although *A. crassus* infection causes physiological damage to the swim bladder, this damage is only a concern for silver eels during outmigration when buoyancy and depth control are needed for the presumed deepwater migration to the Sargasso Sea (72 FR 4967, p. 4988). The 2007 12-month finding also discussed the implications of this reduced swim capacity to outmigration and spawning of American eel, and concluded that there may be less of a potential impact from *A. crassus* to American eel than to European eel (72 FR 4967, p. 4988). The 2007 12-month finding concluded that there was no apparent causal link between the *A. crassus* parasite in individual American eel and population-level effects, such as reduced recruitment of glass eels. However, the Service acknowledged that, because the effects of the parasite are difficult to study under natural

conditions, a level of uncertainty was inherent in our conclusion.

New information readily available to the Service since the 2007 12-month finding and prior to receipt of the petition provides, as the 12-month finding anticipated, evidence of a northerly extension of *Anguillicola crassus* distribution through New England to eastern Canada (Rockwell *et al.* 2009, p. 483). Competing hypotheses continue as to whether colder temperatures will limit the spread of this parasite (Aieta and Oliveira 2009, p. 234; Sjoberg *et al.* 2009, p. 2167) and what effect *A. crassus* infection has on the fat reserves required for successful migration (Petition, p. 26; Sjoberg *et al.* 2009, p. 2166). However, although new literature has been published since the 2007 12-month finding, some of these publications were based on research results that were considered in the 2007 12-month finding. Other new publications confirmed the presence of *A. crassus* in a previously unexamined area of the Upper Potomac River drainage of the mid-Atlantic (Zimmerman and Welsh 2008, p. 34). The Service anticipated the spread of *A. crassus* in the 2007 12-month finding. The current and anticipated impacts of *A. crassus,* thus, were previously addressed (*e.g.,* Palstra 2007a). Therefore, the new validation of the northerly invasion is not substantial information because the current and anticipated impacts of the parasite on American eel were already analyzed at the species level.

The petitioner also asserts that new research states that the eel's vertical migrations are limited by *Anguillicola crassus,* and this may affect outmigration (Sjoberg *et al.* 2009, p. 2166). Reports such as Sjoberg *et al.* (2009) and Chow *et al.* (2009), while published since the 2007 finding, merely confirm information from laboratory studies analyzed in the 12-month finding about the impacts of *A. crassus* on silver eels' buoyancy and depth control during outmigration (72 FR 4967, p. 4988). Sjoberg *et al.* (2009, pp. 2165–2166) reports it appears that more heavily infected European eels were relatively more vulnerable to recapture in pound nets; therefore, it is hypothesized by the authors that parasite-induced damage to the swim bladder inhibited vertical migrations, and infected European eels tended to migrate in shallower coastal waters, relatively close to the shore. Chow *et al.* (2009, pp. 257–258) captured two Japanese eels at depths of greater than 230 meters (m) (755 feet (ft)), confirming at least for Japanese eel what has been hypothesized for all *Anguillicola,* that migrations may occur at significant depths. The concern put forward by the petitioner is that, without a functioning swim bladder, such as those damaged by *A. crassus,* eels cannot make vertical migrations into or out of such depths. Because our 2007 12-month finding discussed the implications of *A. crassus* on the American eel, the new validation of *A. crassus* impacts is not substantial information because the current and anticipated impacts of the parasite on American eel were already analyzed at the species level.

Other new information presented by the petitioner and in the Service's files suggests that physical barriers such as dams and natural waterfalls significantly reduce *Anguillicola crassus* infection rates upstream (Machut and Limberg 2008, p. 13). In addition, recent genetic research into the population structure of *A. crassus* indicates that the parasitic infestation likely arose from long-range transfers of infected eels during eel stocking (Wielgoss *et al.* 2008, p. 3491), which raises doubts about the petitioner's assertion of *A. crassus* introduction via ballast water.

The petitioner cited research by Gollock *et al.* (2005) asserting a generalized decreased survival rate due to heightened mortality of *Anguillicola crassus* infected eels under hypoxic conditions. However, these findings applied to eels living in Lake Balaton where dissolved oxygen may decrease rapidly overnight because of the cessation of photosynthesis by phytoplankton. Given the localized nature of this research, any extrapolation of these findings to population-level effects on American eel is speculative at best.

The petitioner, citing a paper discussing extinction risk of the polar bear, suggested that the infections by *Anguillicola crassus,* together with other threats, may limit the probability of American eels finding a mate in the vast Sargasso Sea and that this ''allee effect'' will edge the species closer to extinction (Petition, p. 28). The allee effect is a concept that has been discussed in relation to the European eel, which has experienced significant recruitment failure, but because there is no evidence that significant recruitment failure may be occurring with American eel, this new assertion is speculative. Attributing effects seen in European eel to American eel (*e.g.,* effects to spawning from *A. crassus* infection) was discussed in the 2007 12-month finding. There is no new available information either provided by the petitioner or found in the Service's files that alters the cautions in that finding against untempered transfer of information specific to the European eel, to the American eel.

There was no information provided by the petitioner or new information in our files concerning the effects of predation on the American eel population. The 2007 12-month finding stated that individual American eels are sometimes predated by birds of prey and piscivorous (fish-eating) fish, but this level of predation does not impact the species rangewide (72 FR 4967, p. 4987).

In summary, we find that the information provided in the petition, as well as other information in our files, does not present substantial scientific or commercial information indicating that the petitioned action may be warranted due to disease or predation. We will, however, further investigate new information regarding the population-level impacts of *A. crassus* and predation on the American eel in our new 12-month status review.

D. The Inadequacy of Existing Regulatory Mechanisms

Information Provided in the Petition

In general, the petitioner asserts that the Service, NMFS, Federal Energy Regulatory Commission (FERC), U.S. Environmental Protection Agency (EPA), ASMFC, and Canada lack adequate regulatory mechanisms under existing authorities to protect the American eel (Petition, pp. 28–35). The petitioner cites a lack of follow-through on ASMFC's stated need for a stock assessment, the Service's and NMFS' lack of specificity in their FY 2007–2011 strategic plan and ''Our Living Oceans'' documents, respectively (Petition, p. 28). The petitioner asserts an under-reporting of the number of structures serving as barriers to American eels and lack of ''systematic effort to alleviate the threat of dams'' (Petition, p. 29), as well as a failure of existing regulatory mechanisms to address the decline of American eels (Petition, p. 32).

Specifically, the petitioner asserts there is inadequate regulation of hydroelectric power dams via implementation of legal authorities under the Federal Power Act on the part of the Service, NMFS, and FERC, and via implementation of the Clean Water Act on the part of the EPA (Petition, p. 32). The petitioner asserts these Federal agencies have failed to provide ''safe and efficient upstream and downstream passage for American eels at hydroelectric dams in the historic range of the American eel in the United States.''

The petitioner also asserts the EPA has failed to adequately regulate the disposition of ballast water under the Clean Water Act, which has led to the spread of *Anguillicola crassus.* The petitioner cites several information sources suggesting that the discharge of ballast water is a likely mechanism for the spread of *A. crassus* through intermediary hosts, as well as numerous other invasive species (Petition, p. 34). The petitioner asserts that the Service did not address ballast water disposition in the 2007 12-month finding.

The petitioner also asserts that the ASMFC has failed to limit or prohibit the harvest of American eel on the Atlantic seaboard through their legal authorities under the Magnuson-Stevens Fisheries Conservation Act despite ASMFC's statement in 2004 recommending the Service and NMFS consider protection of the American eel under the Endangered Species Act (Petition, p. 34).

Evaluation of Information Provided in the Petition and Available in Service Files

The petitioner states that the Service's Region 5 Fiscal Years (FYs) 2007–2011 Strategic Plan and NMFS' Our Living Oceans documents do little to demonstrate the agencies' ''systematic effort to alleviate the threat of dams to eels,'' and quotes information from those two documents as it pertains to the importance of habitat restoration. Because strategic plans for FYs 2007 to 2011 do not exist, we assume that the petitioner meant to cite the Northeast Region (*i.e.,* Region 5) Fisheries Program Strategic Plan for FYs 2004–2008 (Service 2004b) or FYs 2009–2011 (Service 2009). That said, strategic plans are broad-vision documents meant to provide the general framework and goals for separate stepped-down operational plans, which have the specificity that the petitioner notes the strategic plan lacks. For example, a strategic plan may recommend the need for research and modeling to determine the optimal path to achieve a specific goal. One such model is the habitat suitability index (HSI) discussed by Kocovsky *et al.* (2008), which prioritizes the temporal sequence of dam removal in the Susquehanna River based on suitable habitat conditions for target fish species, including the American eel. Because they do not prescribe any specific actions, the strategic plans do not constitute regulatory mechanisms, and are not analyzed as such. The Factor A section of the 2007 12-month finding (72 FR 4967, p. 4983) concluded the present or threatened destruction, modification, or curtailment of the American eels' habitat or range is not a significant threat to the American eel rangewide and the Factor A section of this 90-day finding above concludes there is no substantial information indicating this may be a significant threat now.

The petitioner asserts that the EPA has failed to adequately regulate the disposition of ballast water under the Clean Water Act, which has lead to the spread of *Anguillicola crassus.* The petitioner states, ''Numerous authors, as well as panelists in the 2004 FWS sponsored workshop, pointed out that ballast water of ships is the most likely mechanism for the rapid spread of the parasite from one location to another, through the dispersal of its intermediate hosts'' (Petition, p. 34). As explained above under Factor C, recent genetic research into the population structure of *A. crassus* indicates that the parasitic infestation likely arose from long-range transfers of infected eels during eel stocking (Wielgoss *et al.* 2008, p. 3491). This genetic research was completed after the 2007 12-month status review, but took into account information from the 2004 Service workshop referenced by the petitioner. In addition, Factor C in the 2007 12-month finding concluded that disease is not a significant threat to the American eel rangewide and the Factor C section of this 90-day finding above concludes there is no substantial information indicating this may be a significant threat now. Therefore, there is no substantial information on the inadequacy of existing regulatory mechanisms associated with disease.

The petitioner asserts that ASMFC failed to limit or prohibit the harvest of American eel on the Atlantic seaboard through their legal authorities under the Magnuson-Stevens Fisheries Conservation Act: ''The ASMFC has done little over the past decade effectively to reverse the declines in eel recruitment, halt commercial [fishing] and commercial take of American eels for recreational use as bait, or implement consistent methods to accurately assess their population size (ASMFC 2008; Taylor *et al.* 2008).'' The petitioner's Taylor *et al.* 2008, citation is the same document discussed below with the ASMFC–AERPT 2008 citation; however, we disagree with the conclusion the petitioner draws from this document. The ASMFC–AERPT (2008, pp. 2–5) document reaffirms the 2007 12-month finding's conclusion that using harvest data to determine abundance is problematic (p. 1); reports that all States that harvest American eel have gear or size limit restrictions in place to regulate the harvest (pp. 4–5); identifies high-priority research needs (p. 6); discusses the ASMFC Appendix II (petitioner's ASMFC 2008 citation, our ASFMC 2007 reference), which emphasizes improving upstream and downstream passage, and the decision to delay in implementing further gear and size restrictions pending the outcome of the (delayed) 2010 stock assessment (p. 7); discusses the planned Memorandum of Understanding between ASMFC and the Great Lakes Fisheries Commission to improve joint management of the American eel (p. 7); and reports that all States are in compliance with implementing the requirements of the American Eel Fisheries Management Plan (p. 8). This summary list illustrates that ASMFC is working with the States to implement conservation actions to limit eel harvests, identify current and future research priorities, and manage the eel fishery by using the available information appropriately (*i.e.,* not using harvest data to determine abundance). Therefore, we find the petitioner's assertion to be without merit. In addition, the Factor B section of the 2007 12-month finding (72 FR 4967, p. 4987) concluded that overutilization for commercial, recreational, scientific, or educational purposes is not a significant threat to the American eel rangewide, and the Factor B section of this 90-day finding above concludes there is no substantial information indicating this may be a significant threat now.

Factor D of the Service's 2007 12-month finding (72 FR 4967, pp. 4990–4991) extensively analyzed the existing regulatory mechanisms that address fish passage. The discussions of hydropower turbines in Factor E of the Service's 2007 12-month finding (72 FR 4967, p. 4991) and below in this 90-day finding acknowledge that American eels experience some mortality at hydroelectric power plant turbines. However, the 2007 12-month finding concluded that mortality of individuals, even thousands of individuals each year, while unfortunate, is not at a level that is a threat to the American eel population rangewide. The Factor E section of this 90-day finding below finds that there is not substantial information to indicate that this may be a significant threat now. The petitioner asserts that the Service, NMFS, and FERC have declined to exercise their regulatory authorities under the Federal Power Act. The petitioner did not, however, provide any information under Factor D on how these agencies have failed to exercise their regulatory authorities. As explained further in Factor E below, several studies have

recommended modifications to hydropower facilities for safer downstream eel migration (Carr and Whoriskey 2008, p. 399; Durif and Elie 2008, pp. 135–136), and some facilities already implement these modifications (Service 2007a, pp. 3–4; Eyler 2009, p. 2; Service 2009, pp 6–10; Verreault *et al.* 2009a, p. 21) with variable levels of success. Factor D of the Service's 2007 12-month finding (72 FR 4967, p. 4991) concluded that ''turbines can cause regional impacts to abundance of American eels within the watershed, but there is no evidence that turbines are affecting the species at a population level (for full discussion of turbine impacts see Factor E). Therefore we find that the regulations governing fish passage are adequate for the protection of American eel.''

We have no information in our files or provided by the petitioner on any regulatory mechanisms to address the threat of changes in oceanic conditions due to climate change discussed in Factor E below. We will, however, further investigate this in our new 12-month status review.

As discussed in Factor E below, we have no information indicating that electro-magnetic fields, acoustic disturbance, and the harvest of seaweed for biofuel are significant threats to the American eel. We will, however, further investigate these activities and regulatory mechanisms in our new 12-month status review.

In summary, we find that the information provided in the petition, as well as other information in our files, does not present substantial scientific or commercial information indicating that the petitioned action may be warranted due to the inadequacy of existing regulatory mechanisms. We will, however, further investigate new information regarding existing regulatory mechanisms for the American eel in our new 12-month status review.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Information Provided in the Petition

The petitioner asserts that Atlantic seaboard river systems are the ''sole migratory pathways for female American eels to gain access to their required freshwater habitat'' (Petition, p. 35). The petitioner states both upstream (discussed under Factor A) and downstream river habitat used by American eels are fully or partially blocked by numerous hydroelectric power dams and the impact of those dams (*i.e.,* turbine mortality) has a disproportionate impact on female American eels and recruitment of the species (Petition pp. 35–36, 38). The petitioner cites the Busch *et al.* (1998) paper, which states that of the 15,570 dams blocking America eel habitat in the United States, 1,100 of these dams are used for hydroelectric power. The petitioner further asserts that few of these 1,100 dams provide safe passage for migrating female American eels, which results in the death of virtually all female eels attempting to migrate. The petitioner also cites other papers that include information about dam-specific mortality rates (Petition, pp. 37–38). All of these cited papers were published prior to, and considered in, the Service's 2007 12-month finding.

The petitioner also asserts that changes in oceanic conditions resulting from global warming (*i.e.,* climate change) are contributing to the worldwide decline of eel species, including the American eel (Petition, p. 38). The petitioner asserts that changes in sea surface temperature (SST) and shifts in latitudinal isotherms (a line that connects points on a map that have the same temperature) are impacting the productivity of the eel's spawning area, changing the northern extent of the Sargasso Sea spawning area, and affecting the transportation and survival rates of leptocephali (Petition, p. 38). The petitioner, citing new research related to the European eel, asserts that this new information could also apply to the American eel. For example, citing Friedland *et al.'*s (2009) conclusion that changes in SST are impacting transportation and larval retention (amount of time the larvae stay in the current) of European eels, the petitioner asserts that, given the close proximity of the two spawning areas in the Sargasso Sea, this change in SST could also affect American eels (Petition, pp. 38–39). Citing Bonhommeau *et al.* (2008), the petitioner asserts that the authors linked global warming to eel declines via decreased productivity and recruitment. The petitioner asserts the ''worldwide recruitment decline in freshwater anguillid populations began almost simultaneously in the 1980s. While there are many factors that have contributed to this decline, recent analyses point to oceanic changes as being the more likely factor driving this trend (Bonhommeau *et al.* 2008, Friedland *et al.* 2007'' (Petition, p. 39). The petitioner also asserts that although the American eel may have been resilient to environmental changes throughout its evolutionary history, the rapid changes in the ocean environment combined with the ongoing impacts of habitat loss, hydroelectric dams, harvest, contaminants, and *Anguillicola crassus* infection, are beyond American eel's adaptability (Petition, p. 39).

The petitioner also asserts unspecified threats to the American eel from exposure to mercury, PCBs (polychlorinated biphenyls), and DDT (dichlorodiphenyltrichloroethane). The petitioner cites reports from the ASMFC (2000) and the Vermont Fish and Wildlife Department (2008) documenting the presence of these contaminants in eel samples. The petitioner also mentions elevated levels of mercury in streams from coal-burning electric power generators and acid rain causing stream acidification and fish kills (Petition, p. 40); however, the petitioner neither provides citations for this information nor explains how it demonstrates a threat to American eel.

Lastly, the petitioner asserts that electro-magnetic fields from submarine cables, acoustic disturbance from offshore wind development, and biofuel production from floating biomass (including sargassum) harvested from gyres in the open ocean are emerging threats to the American eel. Although the petitioner provided citations for the acoustic disturbance from off-shore wind development (Oham *et al.* 2007) and biomass harvesting (Markels 2009), the petitioner did not explain how any of these factors poses a threat to the American eel (Petition, p. 40).

Evaluation of Information Provided in the Petition and Available in Service Files

Hydropower

The petitioner discussed the results from a selection of citations on the effects of hydropower turbines, most of which were assessed for, but may not have been specifically cited in, the Service's 2007 12-month finding. While some of these citations may have been published after the 2007 12-month finding, the data the citations examine are either from prior to the 2007 12-month finding or merely describe an additional year of data in an ongoing study. Therefore, we conclude that this type of information in the petitioner's referenced citations offers no significant, additional value for this 90-day finding. In the Service's 2007 12-month finding, the range and rates of impacts from various turbine types to various sizes of eels (see synopsis of the Electric Power Research Institute report at 72 FR 4967, pp. 4991–4992) were thoroughly analyzed and discussed. Contrary to the assertions of the petitioner that virtually all female eels attempting to migrate are killed, the 2007 12-month finding found rates of

mortality ranging from 25 to 50 percent when one turbine is encountered during outmigration, and 40 to 60 percent when one or more turbines are encountered (72 FR 4967, p. 4992). This level of mortality, the 2007 12-month finding explains, leaves escapement values (the percent of individuals that survive to continue outmigration) of a minimum of 40 percent and a maximum of 75 percent. The 2007 12-month finding states that only 4.5 percent of the 33,663 dams on the Atlantic coast have hydropower, leaving significant areas of freshwater habitat turbine-free, and that the portion of the population that inhabits estuarine and marine waters is largely unaffected. The 2007 12-month finding concluded that, although mortality from turbines is evident and can be substantial in some cases, there is no evidence that this mortality is a significant threat to the American eel at a rangewide population level (72 FR 4967, p. 4992).

New information in the Service's files continues to support the escapement figures presented in the 2007 12-month finding. Research conducted in 2007 and 2008 on the Shenandoah River in the mid-Atlantic region showed a 47 percent survivorship of eels that migrate out of the Shenandoah River from above the Shenandoah Dam. The study also identified decreased mortality during the seasonal shutdown of the hydropower facility that was designed to protect downstream migrating eels. However, 64 percent of migrants moved downstream outside the recommended seasonal shutdown period, suggesting that additional revisions to dam operations could improve these mitigation efforts (Welsh *et al.* 2009, p. 20). Ongoing research continues to improve such mitigation efforts through improving escapement rates. Research also continues on the influence of environmental variables (such as stream flow, water temperature, and lunar phase) on downstream migration (Jansen *et al.* 2007, pp. 1442–1443; Hammond and Welsh 2009, pp. 319–320; Welsh *et al.* 2009, pp. 20–22). This work will inform turbine operations and the assessment of success rates of other mitigation measures, such as controlled spillage, diversions, and trap and transport of silver eels downstream of hazards such as turbines (McCarthy *et al.* 2008, p. 122). While the results of this research may further improve downstream passage for American eels, there is no information in our files indicating that the level of existing downstream passage may be a threat to the overall population of the American eel rangewide.

In addition to turbine mortality, several papers have documented individual eels exhibiting altered search pattern behavior when physically encountering power plant facilities (*i.e.,* bar racks, bypass structures, etc.) (Jansen *et al.* 2007, pp. 1440–1442; Carr and Whoriskey 2008, p. 397; Durif and Elie 2008, p. 208; Eltz *et al.* 2008, p. 29; Brown *et al.* 2009, p. 285; Calles *et al.* 2010, pp. 2175–2178). This search pattern behavior has delayed (hours to weeks) some eels' outmigration. As described above in the hydropower turbine section, a significant number of eels successfully migrate, and migration occurs in a normal temporal sequence. While delayed migration occurs in some individuals, there is no information in our files indicating that this may be a threat to the overall population of American eel rangewide.

Changes in Oceanic Conditions Due to Climate Change

The Service's 2007 12-month finding explored the relationship between oceanic conditions and the successful maturation and transportation of leptocephali within ocean currents from the Sargasso Sea and, therefore, recruitment of glass eels at coastal and riverine habitats. We stated that oceanic conditions, which are highly variable and cyclical, likely play a significant role in the population dynamics of the American eel (72 FR 4967, p. 4995), but at the time of the 2007 status review, the relationships between specific oceanic conditions and eel recruitment remained almost entirely hypothetical. We acknowledged that our information was scant and, therefore, turned to oceanic and eel experts to better understand the complex relationships between various oceanic conditions and eel recruitment.

The types of oceanic conditions that had the potential to affect eels in the North Atlantic, we stated, include: ''(1) changes to sea surface temperatures (SSTs); (2) changes to mixed layer depth (MLD) (the depth to which mixing is complete, relative to the layer of ocean water beneath it); (3) deflections of the Gulf Stream at the Charleston Bump, off Cape Hatteras; and (4) other changes (72 FR 4967, p. 4994).'' Changes in SSTs include inhibition of spring mixing, and nutrient recirculation and productivity, which may influence leptocephali (*i.e.,* larval) food abundance (72 FR 4967, pp. 4994–4995). We concluded that there was no indication that the American eel was suffering rangewide abundance or distributional collapse and the species was evolutionarily adapted to oceanic variations (at the time, thought to be within normal variations). Therefore, there was ''no indication that the American eel was at a reduced level where this natural oceanic variation would significantly affect the species'' and ''natural oceanic conditions were not currently, or anticipated to be in the future, a significant threat to the American eel at a population level'' (72 FR 4967, p. 4995).

Since the 2007 12-month finding, and prior to receipt of the petition, additional research has been conducted on the effects of climate change on oceanic conditions and the correlation of those changes to European and American eel recruitment. The impacts of climate change may be affecting European and American eel recruitment in three ways: (1) Shifts in spawning locations within the Sargasso Sea, (2) reduced food availability for leptocephali, and (3) shifts in where the leptocephali enter and exit the ocean currents to their continental habitats.

With regard to spawning locations, in March 2007, after the publication of the 2007 12-month finding, Friedland *et al.* (2007, pp. 1, 6) published correlative data indicating that climatic changes in the Sargasso Sea may be influencing oceanic reproduction and larval (*i.e.,* leptocephali) survival in European eels. The authors found evidence of a northern shift in the temperature front that defines the northern boundary of the European eel spawning ground within the Sargasso Sea, which ''may affect the location of spawning areas by silver eels and the survival of leptocephali during the key period when they are transported towards the Gulf Stream.'' Friedland *et al.* (2007, p. 6) stated: ''Our finding provides evidence of linkages between declines in recruitment of the European eel and specific environmental changes [thermal, wind, and mixing parameters] within the spawning and early larval development areas of eels in the Sargasso Sea.'' Their analysis went on to suggest that a number of oceanic condition parameters have changed in the Sargasso Sea and, because of the proximity of spawning areas of European and American eel, they hypothesized that American glass eel recruitment could also be affected (Friedland *et al.* 2007, pp. 7–10).

With regard to larval food availability, in 2008, Bonhommeau *et al.* (2008a, 2008b) published two papers that causally linked fluctuations in European, American, and Japanese glass eel recruitment, as measured on arrival to continental waters, to larval food availability. Larval food availability impacts the survival of larvae during their ocean migration from the Sargasso Sea to continental waters. The authors

examined the relationships between glass eel recruitment (measured at the Loire River in France for European eels and Little Egg inlet in New Jersey and Beaufort inlet in North Carolina for American eels) and marine primary production (PP) (the production of organic compounds from atmospheric or aquatic carbon dioxide) in the Sargasso Sea spawning areas. In this study, PP was used as a proxy for leptocephali food availability. Bonhommeau *et al.* (2008b) found that SST influences PP and that, specifically in the Sargasso Sea, increasing SSTs led to a decrease in PP (*i.e.,* a decrease in eel food availability). Therefore, Bonhommeau *et al.* (2008b) theorized, the warmer the Sargasso Sea, the lower the European and American eels' recruitment. Bonhommeau *et al.* (2008b, p. 75) stated that fluctuations in the Sargasso Sea SSTs followed the same trends as anomalies of temperature across the Northern Hemisphere, which suggested a direct link between global warming and the increase in SST. They concluded by suggesting that a subtle increase in temperature may have dramatic effects on leptocephali, given the length of their oceanic migration.

Also with regard to larval food availability, Miller *et al.* (2009, pp. 235–238) state that although Anguillid eel populations can likely survive wide-ranging changes in oceanic and continental climates (given that Atlantic eels (European and American eels) have survived ice ages), the current lower recruitment levels (which may be explained in part by oceanic conditions) put the European eel at risk. The authors conclude with ''If increases in temperature reduce productivity enough to affect the feeding success of leptocephali, then a continued global warming trend is an additional concern'' (p. 245).

With regard to shifts in leptocephali transport by currents, recent research results for the Japanese eel indicate that the latitudinal (north to south) location of spawning events can shift depending on oceanic conditions, and subsequently have the potential to negatively affect coastal glass eel recruitment (Tsukamoto 2009, p.1846). Citing Kettle and Haines (2006) and Friedland *et al.* (2007), Tsukamoto states that the exact spawning location of the European eel and consequently the American eel since the two species share the same spawning ground, also appears to have the potential to affect where larvae may eventually recruit as glass eels in their respective continental waters. In the Sargasso Sea, the temperature front at the northern edge of the spawning area for the American eel and the European eel appears to have been moving to the north in recent years and this may cause the silver eels to spawn slightly farther north. Shifting spawning grounds may affect where leptocephali enter and subsequently leave the ocean currents used for dispersal and may, therefore, negatively affect coastal recruitment of American eels (Tsukamoto 2009, p. 1846).

The Intergovernmental Panel on Climate Change (IPCC) 2007 synthesis report provides an ''integrated view of climate change as the final part of the IPCC's Fourth Assessment Report'' (IPCC 2007, p. 26). The synthesis report covers several topics including the observed changes in climate and effects on natural and human systems, causes (*e.g.,* anthropogenic vs. natural) of the observed changes, and projections of future climate change and related impacts under different scenarios. The IPCC defines climate change as ''a change in the state of the climate that can be identified (*e.g.,* using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity'' (IPCC 2007, p. 30).

The IPCC 2007 report unequivocally states that there is a warming of the climate system as evidenced by observed increases in global average air and ocean temperatures (p. 30), that the increase in anthropogenic greenhouse gas (GHG) concentrations are very likely the cause of increased global average temperatures since the mid-20th century (p. 39), and that ''for the next two decades a warming of about 0.2 °C per decade is projected for a range of SERS [Special Report on Emission Scenarios] emission scenarios. Even if the concentrations of GHG and aerosols had been kept constant at year 2000 levels, a further warming of about 0.1 °C per decade would be expected. Afterwards, temperature projections increasingly depend on specific emission scenarios'' (p. 45). While there is uncertainty when applying the global IPCC findings at some regional scales, the general conclusions stated above are fairly robust (IPCC 2007, pp. 72–73). This climate change information, coupled with the suggested impacts on sea conditions and coastal eel recruitment, is substantial enough to find that it may pose a significant threat to the American eel. We will fully investigate all climate change information, including any regional scale data, in our 12-month status review.

The findings stated by Bonhommeau *et al.* (2008a, 2008b), Friedland *et al.* (2007), Miller *et al.* (2009) and Tsukamoto (2009), coupled with the climate change projections indicating continued, accelerated rates of human-induced temperature increases into the future (IPCC 2007), may change our 2007 12-month finding's (72 FR 4967, p. 4995) conclusion. Specifically, these findings may change our previous conclusion that current and projected oceanic conditions are within normal variations to which the American eel is evolutionarily adapted (*i.e.,* one of the conclusions discussed in the second paragraph of this section ''Changes in Oceanic Conditions Due to Climate Change''). Therefore, we find that information provided by the petitioner and information in our files present substantial information with regard to the potential for global warming to affect the status of the American eel in the future.

Contaminants

We found the petitioner did not provide any substantive new information regarding contaminants affecting the American eel population. The Service's 2007 12-month finding discussed and analyzed the impacts of existing contaminants, new and emergent contaminants, other persistent and nonpersistent contaminants, complex mixtures of contaminants, vitamin deficiency, and combined threats such as disease, parasite infection, and contaminants on the American eel population (72 FR 4967, pp. 4992–4994). In summary, contaminants may impact individual or local populations of American eel. However, we cautioned against extrapolating preliminary laboratory studies to rangewide implications, given the lack of evidence of correlations between known contamination of specific river systems and corresponding localized declines (72 FR 4967, p. 4994). Dittman *et al.* (2009, p. 48) documented PBDE (polybrominated diphenyl ether) contaminants in some American eels, but the authors noted that these contaminants were in lower concentrations than previously discussed PCBs and had unknown effects. In addition, the Deepwater Horizon (Mississippi Canyon 252) oil well blowout and uncontrolled oil release began 10 days prior to the receipt of CESAR's petition. We have no information about the possible impacts of the oil release on American eels at a population level; however, we will evaluate any new information regarding potential impacts to the species during our status review. In summary, while

we did have information on contaminants occurring in individual eels, this is not substantive information on the effects of contaminants on the overall American eel population.

Although the petitioner asserted effects to the American eel from electro-magnetic fields, acoustic disturbance, and the harvest of seaweed for biofuel, the petitioner did not provide any data and we have no information in our files to support the claims. Therefore, we find the assertions to be speculative and not a sufficient basis to conclude that any of these may pose a significant threat to the American eel.

Summary of Factor E

We find that the information provided in the petition, as well as other new information in our files, presents substantial scientific or commercial information indicating that the petitioned action may be warranted by a causal link between oceanic changes (increasing sea surface temperature with a corresponding shift in spawning location, decrease in food availability, or shift in leptocephali transport by currents, tied to global warming) and decreasing glass eel recruitment. We will further explore any current or future population level impacts that may result from climate change in our new 12-month status review. However, we find that the information provided in the petition, as well as baseline and other new information in our files, does not present substantial scientific or commercial information indicating that the petitioned action may be warranted due to hydropower impacts, contaminants, electro-magnetic fields, acoustic disturbance, or the harvest of seaweed for biofuel. Information in our files and in the petition does not present new information to change the Service's previous conclusion in the 2007 12-month finding that hydropower and contaminants are not significant threats to the American eel population. We will, however, investigate any new information regarding Factor E threats that arises during the course of our new 12-month status review.

Finding

On the basis of our determination under section 4(b)(3)(A) of the Act, we determine that the petition presents substantial scientific or commercial information indicating that listing the American eel throughout its entire range may be warranted. This finding is based on information provided under factor E (changes in oceanic conditions due to climate change). We determine that the information provided under factors A (habitat loss, degradation or curtailment of habitat or range), B (overutilization for scientific, commercial, or educational purposes), C (disease or predation), D (inadequacy of existing regulatory mechanisms), and E (hydropower turbines, contaminants, electro-magnetic fields, acoustic disturbance, or seaweed harvesting) is not substantial.

Because we have found that the petition presents substantial information indicating that listing the American eel may be warranted, we are initiating a status review to determine whether listing the American eel under the Act is warranted.

The ''substantial information'' standard for a 90-day finding differs from the Act's ''best scientific and commercial data'' standard that applies to a status review to determine whether a petitioned action is warranted. A 90-day finding does not constitute a status review under the Act. In a 12-month finding, we determine whether a petitioned action is warranted after we have completed a thorough status review of the species, which is conducted following a ''substantial'' 90-day finding. Because the status review may provide additional information, and because the Act's standards for 90-day and 12-month findings are different, as described above, a ''substantial'' 90-day finding does not mean that the status review will result in a ''warranted'' finding.

References Cited

A complete list of references cited is available on the Internet at *http://www.regulations.gov* and upon request from the Northeast Regional Office (see **FOR FURTHER INFORMATION CONTACT**).

Author

The primary authors of this notice are the staff members of the Northeast Regional Office.

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

Dated: September 21, 2011.

Daniel M. Ashe,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2011–25084 Filed 9–28–11; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 622

RIN 0648–BB33

Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region; Amendment 18

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

ACTION: Notice of availability; request for comments.

SUMMARY: NMFS announces that the Gulf of Mexico (Gulf) and South Atlantic Fishery Management Councils (Councils) have submitted Amendment 18 to the Fishery Management Plan for the Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (FMP) for review, approval, and implementation by NMFS. The amendment proposes actions to remove species from the FMP; modify the framework procedures; establish two migratory groups for cobia; and establish annual catch limits (ACLs), annual catch targets (ACTs), and accountability measures (AMs) for king mackerel, Spanish mackerel, and cobia. In addition, Amendment 18 proposes to set allocations and establish control rules for Atlantic group cobia and revise definitions for management thresholds for Atlantic migratory groups.

DATES: Written comments must be received on or before November 28, 2011.

ADDRESSES: You may submit comments on the amendment identified by ''NOAA–NMFS–2011–0223'' by any of the following methods:

- *Electronic submissions:* Submit electronic comments via the Federal e-Rulemaking Portal: *http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Mail:* Susan Gerhart, Southeast Regional Office, NMFS, 263 13th Avenue South, St. Petersburg, FL 33701.

Instructions: All comments received are a part of the public record and will generally be posted to *http://www.regulations.gov* without change. All Personal Identifying 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.