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L. Regulation Identifier Number (RIN)

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. You may use the RIN that appears in the heading on the first page of this document to find this action in the Unified Agenda.

List of Subjects in 49 CFR Part 594

Imports, Motor vehicle safety, Motor vehicles.

In consideration of the foregoing, NHTSA proposes to amend 49 CFR part 594 as follows:

PART 594—SCHEDULE OF FEES AUTHORIZED BY 49 U.S.C. 30141

1. The authority citation for part 594 continues to read as follows:

Authority: 49 U.S.C. 30141, 31 U.S.C. 9701; delegation of authority at 49 CFR 1.50.

- 2. Amend § 594.6 by:
a. Revising the introductory text of paragraph (a);
b. Revising paragraph (b);
c. Revising the first sentence of paragraph (d);
d. Revising the second sentence of paragraph (h); and
e. Revising paragraph (i) to read as follows:

§ 594.6 Annual fee for administration of the registration program.

(a) Each person filing an application to be granted the status of a Registered Importer pursuant to part 592 of this chapter on or after October 1, 2010, must pay an annual fee of \$795, as calculated below, based upon the direct and indirect costs attributable to:

(b) That portion of the initial annual fee attributable to the processing of the application for applications filed on and after October 1, 2010, is \$320. The sum of \$320, representing this portion, shall

not be refundable if the application is denied or withdrawn.

(d) That portion of the initial annual fee attributable to the remaining activities of administering the registration program on and after October 1, 2010, is set forth in paragraph (i) of this section.

(h) This cost is \$20.67 per man-hour for the period beginning October 1, 2010.

(i) Based upon the elements and indirect costs of paragraphs (f), (g), and (h) of this section, the component of the initial annual fee attributable to administration of the registration program, covering the period beginning October 1, 2010, is \$475. When added to the costs of registration of \$320, as set forth in paragraph (b) of this section, the costs per applicant to be recovered through the annual fee are \$795. The annual renewal registration fee for the period beginning October 1, 2010, is \$670.

3. Amend § 594.7 by revising the first sentence of paragraph (e) to read as follows:

§ 594.7 Fee for filing petitions for a determination whether a vehicle is eligible for importation.

(e) For petitions filed on and after October 1, 2010, the fee payable for seeking a determination under paragraph (a)(1) of this section is \$175.

4. Amend § 594.8 by revising the first sentence of paragraph (b) and the first sentence of paragraph (c) to read as follows:

§ 594.8 Fee for importing a vehicle pursuant to a determination by the Administrator.

(b) If a determination has been made pursuant to a petition, the fee for each vehicle is \$158.

(c) If a determination has been made on or after October 1, 2010, pursuant to the Administrator's initiative, the fee for each vehicle is \$125.

5. Amend § 594.9 by revising paragraphs (c) and (e) to read as follows:

§ 594.9 Fee for reimbursement of bond processing costs and costs for processing offers of cash deposits or obligations of the United States in lieu of sureties on bonds.

(c) The bond processing fee for each vehicle imported on and after October 1, 2010, for which a certificate of conformity is furnished, is \$9.93.

(e) The fee for each vehicle imported on and after October 1, 2010, for which cash deposits or obligations of the United States are furnished in lieu of a conformance bond, is \$514.00.

6. Amend § 594.10 by revising the first and third sentences of paragraph (d) to read as follows:

§ 594.10 Fee for review and processing of conformity certificate.

(d) The review and processing fee for each certificate of conformity submitted on and after October 1, 2010 is \$17. If NHTSA finds that the information in the entry or the certificate is incorrect, requiring further processing, the processing fee shall be \$57.

Issued on: May 5, 2010.

Joseph Carra, Acting Senior Associate Administrator for Vehicle Safety.

[FR Doc. 2010-10816 Filed 5-6-10; 8:45 am]

BILLING CODE 4910-59-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 224

Docket No [0906221082-0122-02]

RIN 0648-XQ03

Endangered and Threatened Wildlife and Plants; Proposed Listing for the Largetooth Sawfish

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

ACTION: Proposed rule; 12-month petition finding; request for comments.

SUMMARY: We, NMFS, have determined that the largetooth sawfish (Pristis perotteti) qualifies as a "species" for listing as endangered or threatened under the Endangered Species Act (ESA), and propose listing the species as endangered. This proposed rule also constitutes the 12-month finding on the petition to list the largetooth sawfish throughout its range and designate critical habitat for the species. We are not proposing to designate critical habitat. This proposed rule to list the species as endangered is based on the status review of the species (NMFS, 2010), and the best available scientific and commercial data. We also solicit information that may be relevant to the status and conservation of the species.

DATES: Comments on this proposed rule must be received by July 6, 2010. Public hearing requests must be requested by June 21, 2010.

ADDRESSES: You may submit comments, identified by the RIN 0648–XQ03, by any of the following methods:

- **Electronic Submissions:** Submit all electronic public comments via the Federal eRulemaking Portal <http://www.regulations.gov>. Follow the instructions for submitting comments.

- **Mail or hand-delivery:** Assistant Regional Administrator for Protected Resources, NMFS, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701–5505.

- **Facsimile (fax):** 727 824 5309.

Instructions: No comments will be posted for public viewing until after the comment period. All comments received are considered part of the public record and will generally be posted to [HTTP://WWW.REGULATIONS.GOV](http://www.regulations.gov). All Personal Identifying Information (i.e., name, address, etc.) voluntarily submitted may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information. We will accept anonymous comments (enter “n/a” in the required fields if you wish to remain anonymous). Please provide electronic attachments using Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only. The proposed rule, the list of references, and the status review are also available electronically on the NMFS website at <http://sero.nmfs.noaa.gov/pr/Largetoothsawfish.htm>.

FOR FURTHER INFORMATION CONTACT:

Shelley Norton, NMFS, Southeast Regional Office (727) 824–5312 or Dwayne Meadows, NMFS, Office of Protected Resources (301) 713–1401.

SUPPLEMENTARY INFORMATION:

Background

NMFS identified the largemouth sawfish (*Pristis perotteti*) as a candidate species in 1991 (56 FR 26797). It was removed from the list on July 14, 1997 (62 FR 37560), but was subsequently added to the revised list on June 23, 1999 (64 FR 33466).

On November 30, 1999, the Center for Marine Conservation (currently called Ocean Conservancy) petitioned us to list North American populations of largemouth and smallmouth sawfish as endangered under the ESA. The largemouth sawfish underwent a formal status review; however, we determined that the petitioner did not present substantial evidence that the petitioned action may be warranted for the largemouth sawfish (56 FR 12959; March

10, 2000). Specifically, there was no evidence that a North American population of largemouth sawfish existed. The largemouth sawfish was, however, maintained on the candidate species list and later transferred to the new Species of Concern list on April 15, 2004 (69 FR 19975).

On April 21, 2009, WildEarth Guardians petitioned the Secretary of Commerce to list the largemouth sawfish (*Pristis perotteti*) as endangered or threatened throughout its range and to designate critical habitat for this species. The petitioners also requested that we reconsider our previous March 10, 2000, negative finding on listing the North American population.

On July 29, 2009, we published a positive 90–day finding (74 FR 37671) announcing that the petition presented substantial scientific or commercial information indicating the petitioned action of listing the species may be warranted. We announced the initiation of a status review of the species and requested information to inform the agency’s decision on whether to propose the species for ESA listing. Our Southeast Regional Office (SERO) issued two contracts in 2009 to the Florida Museum of Natural History to compile all confirmed records of largemouth sawfish in the U.S. and internationally. The status review (NMFS, 2010) was conducted by the Southeast Fisheries Science Center (SEFSC) and SERO staff. The status review is available electronically at <http://sero.nmfs.noaa.gov/pr/Largetoothsawfish.htm>.

Listing Determinations Under the Endangered Species Act

We are responsible for determining whether the largemouth sawfish (*Pristis perotteti*) is threatened or endangered under the ESA (16 U.S.C. 1531 *et seq.*). Section 4(b)(1)(A) of the ESA requires us to make listing determinations based solely on the best scientific and commercial data available after conducting a review of the status of the species and after taking into account efforts being made by any state or foreign nation to protect the species. We have followed a stepwise approach in making this listing determination for the largemouth sawfish (*Pristis perotteti*). As the first of five steps, we determined if the largemouth sawfish is a “species” under the ESA. To be considered for listing under the ESA, a group of organisms must constitute a “species,” which is defined in section 3 of the ESA to include taxonomic species plus “any subspecies of fish or wildlife or plants, and any distinct population segment of

any species of vertebrate fish or wildlife which interbreeds when mature.”

Next we completed an extinction risk assessment to determine the status of the species, in particular whether it qualified for threatened or endangered status. Section 3 of the ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range” and a threatened species as one “which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” For our extinction risk analysis we follow the general procedure of Wainwright and Cope (1999).

In the third step, we assessed the threats affecting the species status. We did this by following the guidance in the ESA that requires us to determine whether any species is endangered or threatened due to any of the following five factors: (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 (section 4(a)(1)(A) through (E)). After analyzing the threats affecting the species, we re-evaluated the extinction status for the species to see if the status changed after the assessment of the five factors.

The fourth step involves an assessment of the efforts being made to protect the species to determine if these efforts are adequate to mitigate existing threats. We evaluated all conservation efforts using the criteria outlined in the joint NMFS and U.S. Fish and Wildlife Service (USFWS) Policy for Evaluating Conservation Efforts When Making Listing Decisions (PECE policy; 68 FR 15100; March 28, 2003) to determine their certainties of implementation and effectiveness. In the final step, we reassessed the preliminary extinction risk assessment conclusion from above to determine if the status of the species had changed based on the PECE analysis.

To evaluate the petitioner’s request that NMFS designate critical habitat for the species, we followed the provisions in the ESA and in our implementing regulations (50 CFR 424). Of particular relevance in this case are provisions that NMFS cannot designate critical habitat in “foreign countries” or areas outside of U.S. jurisdiction and that NMFS shall not designate as critical habitat areas outside of the geographical area presently occupied by a species, unless

“a designation limited to its present range would be inadequate to ensure the conservation of the species” (50 CFR 424.12).

Largetooth Sawfish Natural History

Taxonomy

All sawfishes belong to two Genera (*Pristis* and *Anoxypristis*) in the Family Pristidae of the Order Pristiformes, and are classified as rays (Superorder Batoidea). Sawfishes are distinguished from other rays by the long snout (rostrum) with teeth on either side. Using molecular phylogeny (mitochondrial and nuclear gene analysis) paired with morphological characters, Faria (2007) distinguished seven extant species in the Pristidae. Sawfishes are classified into three morphological groups based on rostrum characteristics: largetooth, smalltooth, and knifetooth (Garman, 1913). Three species are currently classified in the largetooth “group,” namely *P. perotteti*, *P. microdon*, and *P. pristis*, though difficulties associated with taxonomic identification are known (Faria, 2007; Wiley *et al.*, 2008, Wueringer *et al.*, 2009).

Pristis perotteti has been referred to by other names throughout its range. For instance, it has been called *P. antiquorum* (as cited in Bigelow and Schroeder 1953), *P. zephyreus* (Beebe and Tee-Van, 1941), *P. pristis* (McEachran and Fechtel, 1998), or *P. microdon* (Garman, 1913; Fowler, 1941; Chirichigno and Cornejo, 2001; Vakily *et al.*, 2002). Some authors consider the eastern Pacific populations to be part of the species *P. microdon* (Garman, 1913; Fowler, 1941; Chirichigno and Cornejo, 2001), while others consider the eastern Pacific populations to be *P. perotteti* (Jordan and Evermann, 1896; refs. in Beebe and Tee-Van, 1941; Compagno and Cook, 1995; Camhi *et al.*, 1998; Cook *et al.*, 2005). The species are generally classified based upon location (i.e., *P. perotteti* occurs in the Atlantic, while *P. microdon* is in the Indo-Pacific), and there is some evidence that tooth counts may differ (Wueringer *et al.*, 2009). The conserved morphology of sawfishes makes identification difficult in some cases; most species are distinguished by the number of teeth on, and size of, the rostrum, placement of the first dorsal fin in relation to the pectoral fins, and shape of the lower lobe of the caudal fin. However, Faria (2007), used both mitochondrial and nuclear genes to investigate the population structure for all Pristidae species. The results from his study indicate that the “largetooth” species *P. microdon* and *P. perotteti* are separate

species, and that *P. microdon* occurs in the Pacific, based on their mitochondrial deoxyribonucleic acid sequencing data and differences in external morphology (e.g., rostrum length and horizontal length of the eye). Based on the available taxonomic information on *P. perotteti*, we have determined the species’ range is the eastern and western Atlantic Ocean.

The rostral tooth count per side for *P. perotteti* ranges from 14 to 22, and the space between the two most posterior teeth is between 4.5 and 8.5 percent of rostrum standard length (Faria, 2007). The origin of the first dorsal fin is forward of the pelvic fin origin, and the lower lobe of the caudal fin is distinct at all maturity stages. The largest known specimen was a 275.6 in (700 cm) total length (TL) female captured in northern Brazilian waters (Almeida, 1999). The only other sawfish species that overlaps in range with *P. perotteti* is the smalltooth sawfish, *P. pectinata*. These species are differentiated by the number of teeth on the rostrum (24 to 32 for *P. pectinata*, 22 to 29 for *P. perotteti* (Wiley *et al.*, 2008)), and the rostrum length of *P. pectinata* is shorter in relation to its body length.

Habitat Use and Migration

Largetooth sawfish are generally restricted to shallow (< 33 ft (10 m)) coastal, estuarine, and fresh waters, although they have been found at depths of up to 400 ft (122 m) in Lake Nicaragua. Largetooth sawfish are often found in brackish water near river mouths and large bays, preferring partially enclosed waters, lying in deeper holes and on bottoms of mud or muddy sand (Bigelow and Schroeder, 1953). This species, like the smalltooth sawfish, is highly mangrove-associated (Burgess *et al.*, 2009). While it is thought that they spend most of their time on the bottom, they are commonly observed swimming near the surface in the wild and in aquaria (Cook *et al.*, 2005). Largetooth sawfish move across salinity gradients freely and appear to have more physiological tolerance of freshwater than smalltooth sawfish (Bigelow and Schroeder, 1953; Dahl, 1971; Thorson, 1974; 1976a; all as cited in Thorson, 1982a).

Though their habitats once overlapped in the northern Gulf of Mexico, the largetooth sawfish historically had a more southerly range than the smalltooth sawfish, with what appears to be a more narrow seasonal migration pattern. Mature largetooth sawfish seasonally ventured into waters as far north as U.S. waters of the Gulf of Mexico.

Age and Growth

There have been no formal studies examining the age and growth of the largetooth sawfish, though Thorson’s (1982a) study of the Lake Nicaragua population estimated size at birth to be 30 in (75 cm) and an early juvenile growth rate of 13.8 to 15.7 in (35 to 40 cm)/year. Thorson (1982a) also estimated age of maturity to be 10 years and size at maturity 118 in (300 cm). Preliminary vertebral growth ring analysis has extrapolated largetooth sawfish (*P. microdon*) lifespan to an estimated maximum age of 51 years (Peverell, 2006), and we determined this to be our best available estimate of largetooth sawfish lifespan.

Reproductive Biology

The reproductive method of sawfishes is most likely lecithotrophic viviparity; ova are internally fertilized, developing embryos receive nourishment from an external yolk sac, and the pups are born live after the yolk sac is absorbed. The only known reproductive study of largetooth sawfish was from Lake Nicaragua in the 1970s (Thorson, 1976a). This study found that litter size ranged from one to 13 pups, with an average of 7.3 pups per cycle. The gestation period was approximately five months, with a biennial reproductive cycle. After a five-month gestation period, young are born between October and December (Oetinger, 1978). Thorson (1976a) also found that both ovaries appeared to be functional, though the left seemed to be larger and carry more ova. Parturition occurred in October and November and size at birth was between 28.7 and 31.5 in (73 and 80 cm) TL. Thorson (1976a) reported that the smallest gravid female was 120 in (305 cm) TL, and based on this and other observations, reported the size at maturity is estimated to be around 118 in (300 cm) TL. The life history of largetooth sawfish, like most elasmobranchs, is characterized by slow growth, late maturity, and low fecundity, which generally contributes to a low intrinsic rate of increase.

Simpfendorfer (2000) estimated that largetooth sawfish in Lake Nicaragua had an intrinsic rate of increase (r) of 0.05 to 0.07 per year, with a population doubling time (tx_2) of 10.3 to 13.6 years. Intrinsic rates of increase below 0.1 are considered low, making species particularly vulnerable to population decline (Musick *et al.*, 2000). The results indicated that if effective conservation measures are put in place for the species and its habitats, recovery to levels with little risk of extinction will take a few decades. Since Thorson

(1973) hypothesized that many Lake Nicaraguan sawfish may live their whole lives in the lake and Faria (2007) reported that the Lake Nicaraguan sawfish may be a separate stock, the life history parameters estimated by Simpfendorfer (2000) may be unique to that subpopulation or stock.

Diet and Feeding

No published information is available that quantitatively describes the diet of largemouth sawfish. Bigelow and Schroeder (1953) reported that, in general, sawfish subsist on the most abundant small schooling fishes in the area, such as mullets and small clupeids. There is also some evidence of largemouth sawfish feeding on crustaceans and other small benthic organisms (Bigelow and Schroeder, 1953). In these cases, the rostrum may be used to stir up the bottom sediments to locate prey, and in the case of fish predation, the rostrum may be used to stun or wound the fish in a slashing movement (Bigelow and Schroeder, 1953).

Predation

While there is potential for competition between *P. perotteti* and *P. pectinata* due to their overlap in range and habitat types, there is no data to support this and differences in patterns of habitat use and salinity tolerance may adequately partition the niches of these species. Thorson (1970) speculated that the Lake Nicaragua population may have also competed with the bull shark, *Carcharhinus leucas*, as both were quite prevalent (Thorson, 1970); however, both species have since declined to the point of near extirpation. A *Pristis* sp. has been documented within the stomach of a bottlenose dolphin near Bermuda (Bigelow and Schroeder, 1953), in the stomach of a bull shark (*C. leucas*) in Australia (Thorburn *et al.*, 2004), and a juvenile smalltooth sawfish was captured with fresh bite marks from what appears to be a bull shark (Tonya Wiley, pers. comm., 2009). The International Union for Conservation of Nature (IUCN) Red List for the largemouth sawfish also states that crocodiles prey on the species (Charvet-Almeida *et al.*, 2007).

Distribution and Abundance

Historically, *P. perotteti* are thought to inhabit warm temperate to tropical marine waters in the eastern and western Atlantic and Caribbean. In the western Atlantic, *P. perotteti* occurred from the Caribbean and Gulf of Mexico south through Brazil, and in the United States, largemouth sawfish were reported in the Gulf of Mexico, mainly along the

Texas coast and east into Florida waters (Burgess and Curtis, 2003; Burgess *et al.*, 2009). Burgess *et al.* (2009) also state that, based on the evidence, the species rarely occurred in Florida waters and that nearly all records of largemouth sawfish encountered in U.S. waters were limited to the Texas coast. In the eastern Atlantic, *P. perotteti* historically occurred from Spain through Angola.

Currently, *P. perotteti* are thought to primarily occur in freshwater habitats in Central (includes Mexico) and South America and West Africa. In Atlantic drainages, largemouth sawfish have been found in freshwater at least 833 miles (1,340 km) from the ocean in the Amazon River system (Manacapuru, Brazil), as well as in Lake Nicaragua and the San Juan River; the Rio Coco, on the border of Nicaragua and Honduras; Rio Patuca, Honduras; Lago de Izabal, Rio Motagua, and Rio Dulce, Guatemala; the Belize River, Belize; Mexican streams that flow into the Gulf of Mexico; Las Lagunas Del Tortuguero, Rio Parismina, Rio Pacuare, and Rio Matina, Costa Rica; Rio San Juan and the Magdalena River, Colombia; the Falm River in Mali and Senegal; the Saloum River, Senegal; coastal rivers in Gambia; and the Geba River, Guinea-Bissau (Thorson, 1974; 1982b; Castro-Aguirre, 1978 as cited in Thorson, 1982b; Compagno and Cook, 1995; C. Scharpf and M. McDavitt, pers. comm., as cited in Cook *et al.*, 2005).

The United States

Although the first confirmed record of a U.S. largemouth sawfish was from "the Gulf of Mexico" in 1878 (Burgess *et al.*, 2009), they were likely present prior to this time period. Sawfish encounters were reported in the entire Gulf of Mexico in the early popular literature of the late 1800s but the similarities between the smalltooth and largemouth sawfishes limited the ability of non-specialists to discriminate between the two species. Because of this, there are no conclusive data available for largemouth sawfish abundance before fishing and other anthropogenic pressures began to affect their distribution. Recreational fishers in Texas began targeting prize fishes, including large elasmobranchs such as sawfishes, in the 1930s. Photographs taken of these catches were favored in the print media, allowing Burgess *et al.* (2009) to identify 33 largemouth sawfish in Texas.

Though reported in the United States, it appears that *P. perotteti* was never abundant, with approximately 39 confirmed records (33 in Texas) from 1910 through 1961, and no confirmed sightings in the years since (Burgess *et al.*, 2009). A 1963 newspaper article

reporting a shrimp trawler off the coast of Texas taking a "broadbill sawfish" may refer to a largemouth sawfish (Burgess *et al.*, 2009). One specimen was reported between 1916 and 1919 in Louisiana. The capture location and identification as a largemouth sawfish species "presumably from Alabama" was catalogued at the University of Alabama but could not be verified (Burgess *et al.*, 2009). Four individuals from Florida were noted between 1910 and 1960 (Burgess *et al.*, 2009). Two of the reports in Florida were identified by elasmobranch researcher Stewart Springer by rostral tooth counts: one from Key West (1941) and another from Port Salerno (Baughman, 1943; Bigelow and Schroeder, 1953). Port Salerno is on the east coast of Florida, making this capture the only reported largemouth sawfish outside of the Gulf of Mexico in the U.S. Another specimen from south Florida was collected by the American Museum of Natural History in 1910. The final record for *P. perotteti* in Florida was recorded in the Springer and Woodburn (1960) study of Tampa Bay fishes. The dried specimen was on display at the Sea-Orama in the city of Clearwater Beach, but the identification was not verified, and the size of the specimen (Burgess *et al.*, 2009) was much smaller than any other individual captured in U.S. waters. With this exception, all largemouth sawfish captured in the U.S. were 14 feet (4.3 m) in length or larger.

In Texas, largemouth sawfish were primarily found in three regions: Padre Island-Laguna Madre, Corpus Christi-Port Aransas, and Galveston-Freeport (Burgess *et al.*, 2009). Most were caught from 1929 through 1957, though some records may have been duplicated (Baughman, 1943). Ten largemouth sawfish were encountered in the Corpus Christi-Port Aransas region, from 1917 to 1961, though again duplication of records is possible. The highest number of records is from the northeast Texas coast (Galveston) and the lowest number from near the Texas-Mexico border (Padre Island), corresponding to the historical freshwater inflow patterns of the region (Longley, 1994). That is, sighting frequency is positively correlated with higher freshwater flow discharge. While it is likely that the freshwater affinity of this species, especially in comparison to the smalltooth sawfish, attracted the largemouth sawfish to these high outflow areas, these numbers may also be an artifact of higher fishing effort or likelihood of reporting in that area.

Burgess *et al.* (2009) report captures of largemouth sawfish in Texas were primarily in shallow inshore waters and

the majority (65 percent) of those captures noted were taken from fisheries using rod and reel gears. Additionally, shrimp nets (reported as shrimp seines, shrimp net, and shrimp trawls) are the gear type associated with approximately 25 percent of all captures. Where size data could be determined, all largemouth sawfish caught in Texas were greater than 16 ft (4.88 m) TL. Burgess *et al.* (2009) report all largemouth sawfish found in U.S. waters were large (>14 ft (4.3 m)) and were primarily encountered during periods of warm water (May through October), suggesting that adults of this species mainly utilized Texas waters in the summer (but data on month of capture only exist for 10 records).

The last confirmed record of *P. perotteti* in U.S. waters was from Port Aransas, Texas on June 24, 1961. The last records for other Gulf of Mexico states include Florida in 1941 and Louisiana in 1917. No records of largemouth sawfish were found from Mississippi, and, as stated previously, the one Alabama specimen could not be verified.

The Caribbean, Central America, and Northern South America

Only 33 confirmed records of *P. perotteti* exist for this region outside of Costa Rica and Nicaragua (Burgess *et al.*, 2009). The lack of data likely stems from several factors, including confusion or ambiguity of identification with smalltooth sawfish and the lack of scientific surveys and popular reports during the time of highest abundance. In total, 5 largemouth sawfish records were from Mexico, 5 from Guatemala, 1 from Honduras, 483 from Nicaragua, 37 from Costa Rica, 7 from Colombia, 6 from Venezuela, 1 from Guyana, 5 from Suriname, 1 from French Guiana, and 1 from Trinidad. Length data were not available for most of these specimens.

Of the known Mexican largemouth sawfish, four were from the southwestern Gulf of Mexico (Tamaulipas, Veracruz, Tabasco, and Campeche), while one was captured at the northeastern tip of the Yucatan Peninsula (Quintana Roo). The mature (17.7 ft (5.4 m in total length), 1764 lbs (800 kg)) Yucatan individual was captured in 1997, which is the northernmost record in recent history. It appears that the last records in the Mexican Gulf of Mexico were prior to 1978, and Caribbean records are very sparse.

No encounters could be substantiated in Belize (Burgess *et al.*, 2009). All five Guatemalan largemouth sawfish were from a survey of Lake Izabal between 1946 and 1947, and sawfishes were reported to be important inland fishes

(Saunders *et al.*, 1950). Though reported by Thorson *et al.* (1966a; 1966b) to be common throughout the area, a claim which was mirrored by local fishers at the time, there are no recent reports of encounters with sawfishes in Guatemala. The lone largemouth sawfish reported from Honduras was acquired from that country, but the true origin of the rostrum and the date of capture could not be confirmed.

The vast majority of *P. perotteti* records from Costa Rica (34 of 37) and Nicaragua (397 of 483) stem from Thorson's (1982a; 1982b) years of work on the Lake Nicaragua-Rio San Juan system. The San Juan River originates at Lake Nicaragua and runs along the Nicaragua-Costa Rica border until it reaches the Caribbean slightly south of the Nicaraguan border; therefore, movement between the countries was likely. Sawfish were noted in Nicaragua as early as 1529 by a Spanish chronicler (Gill and Bransford, 1877). This species was also reported in Nicaragua by Meek (1907), Regan (1908), Marden (1944), Bigelow and Schroeder (1953), Hagberg (1968), and Baez (1980a; 1980b). A commercial fishery for the largemouth sawfish that began in earnest around 1970 quickly decimated the Lake Nicaragua population (Thorson, 1982a). Low-level sustenance fishing for this species was common before this time, but the Nicaraguan government helped to establish a processing plant in 1970, which processed and sold the meat, fins, and rostra in an efficient manner. In the 1970s, an American supermarket chain (A&P) produced advertisements in their Ohio, Pennsylvania, and Illinois chains which included "Fish Features" listing "Sierra Steaks" using the Spanish name for sawfish, *pez sierra*, as a fresh fish available in their stores (The Times Recorder, 1975). By 1981, Thorson (1982a) was unable to locate a single live specimen. Thorson (1982a) documented that within a decade the commercial largemouth sawfish fishery had removed the species from shallow water habitats within Lake Nicaragua. The species was relegated to deep water "pockets" remaining in Lake Nicaragua. Commercial fishing for largemouth sawfish in Lake Nicaragua was banned in 2006, but the species is still caught incidentally by fishers netting for other species (McDavitt, 2002). A Lake Nicaraguan fisherman reported that he encounters a few sawfish annually, nowadays (McDavitt, 2002). There are no known Nicaraguan records of the largemouth sawfish outside of the Lake Nicaragua-Rio San Juan-Rio Colorado system (Burgess *et al.*, 2009).

Bussing (2002) indicated that this species was known to inhabit the Rio

Tempisque and tributaries of the San Juan basin in Costa Rica. Three occurrences in that river were found in internet searches, one being a 200 lb (90.7-kg) specimen caught recreationally (Burgess *et al.*, 2009). In Colombia, the Magdalena River estuary was the primary source for largemouth sawfish encounters from the 1940s (Miles, 1945), while other records originated from the Bahia de Cartagena and Isla de Salamanca (both marine), and Rio Sinu (freshwater) from the 1960s through the 1980s (Dahl, 1964; 1971; Frank and Rodriguez, 1976; Alvarez and Blanco, 1985). Scientists in the country reported that there have been no sightings of this species in Colombia for about 10 years (Burgess *et al.*, 2009).

Though thought to have once been abundant in some areas of Venezuela (Cervignon, 1966a; 1966b), the last of the four confirmed records of *P. perotteti* from that country was from 1962. The single records from Guyana, French Guiana, and Trinidad appear to be from the late 1800s and early 1900s. Of the five Suriname accounts, the latest was collected in 1962.

Brazil

The largemouth sawfish was assessed as critically endangered in Brazil by Charvet-Almeida and Faria (2008). A total of 139 reports are available for this species (Burgess *et al.*, 2009), some from as recently as 2009. Most of the records for which location is known originated in the state of Amazonas (12), which encompasses the middle section of the Amazon River basin along with the confluence of the Rio Negro and Rio Solimoes (in the state of Manaus). The other known locations are from the states of Rio Grande do Norte, Sergipe, Bahia, Espirito Santo, Rio de Janeiro, and Sao Paulo (1 record each), Para (7 records), and Maranhao (3 records). Para contains the estuary and lower reaches of the Amazon River, and Maranhao is just southeast of Para. Anecdotal reports from fishers indicate that they are also caught in Amapa, which is the northernmost state in Brazil (Charvet-Almeida and Faria, 2008).

The Amazon River basin and adjacent waters are traditionally the most abundant known area for largemouth sawfish in Brazil (Bates, 1964; Marlier, 1967; Furneau, 1969); however, scientific collection and fisheries data for this region are very limited, both historically and recently. Sawfishes are captured as bycatch in artisanal and commercial fisheries in northern Brazil (Charvet-Almeida, 2002). Most historic records of largemouth sawfish in the Amazon River (Amazonia) predate 1974.

Known lengths ranged from 4.9 to 8.2 ft (1.5 to 2.5 m) in total length. Mathew McDavitt (pers. comm., 2010) notes there is anecdotal evidence that *P. perotteti* is currently being targeted in Brazil for the lucrative Chinese shark fin trade. A recent popular guide in China for dried seafood products provides descriptions of a dozen or so popular shark fin categories. Based on photographs and descriptions, the category *huang jiao* (literally: “yellow-glue”) comes from *Pristis* sawfishes, the trade name deriving from its beige color and the especially copious gelatine it produces when cooked. This Chinese dried seafood book gives the current sources for *huang jiao* fin, noting that the supply from Brazil is favored nowadays due to its comparatively large size.

The Brazilian sawfish populations, which include both *P. perotteti* and *P. pectinata*, are found in this region but are almost exclusively of the largetooth species, are presumably large and abundant, compared to those captured in other localities, due to the fact that sawfishes have not yet been extirpated in Brazilian waters to the extent that they have been elsewhere. Presumably both species are caught and sold. No quantification of the exact species or number of captured or sold sawfishes is currently available, though Charvet-Almeida and Faria (2008) reported that as many as 1500 small and medium rostra and 180 large rostra were sold each year in Para alone.

The two most recent largetooth encounters in Brazil were from Maranhao, one caught by a fisher in 1998 and another in 2009. The latter was a gravid female estimated to be 7 m TL (Burgess *et al.*, 2009). Earlier reports of largetooth sawfish in Maranhao were mostly from the 1980s and 90s (Lessa, 1986; Martins-Juras *et al.*, 1987; Stride and Batista, 1992; Menni and Lessa, 1998; and Lessa *et al.*, 1999). Sawfish are likely caught incidentally by shark fishers in this state and landed for their saws (Almeida *et al.*, 2006).

Records of largetooth sawfish in each of the states south of Maranhao are limited to one each, and the dates of capture are largely unknown, though most appear to be from the nineteenth century. An archeological site in Sao Paulo yielded tooled *P. perotteti* rostral teeth, though whether they came from locally caught animals, or were traded from the north is unknown. Charvet-Almeida and Faria (2008) concluded that largetooth sawfish are most likely extirpated in most of the states south of Maranhao.

West Coast of Africa

Historical records indicate that largetooth sawfish were once relatively common in the coastal estuaries of West Africa. Verified records exist from Senegal (1841 to 1902), Gambia (1885 to 1909), Guinea-Bissau (1912), Republic of Guinea (1965), Sierra Leone (date unknown), Liberia (1927), Cote d'Ivoire (1881 to 1923), Congo (1951 to 1958), Democratic Republic of the Congo (1951 to 1959), and Angola (1951) (Burgess *et al.*, 2009). Most records, however, lacked species identification and locality data and may have been confused taxonomically with other sawfish species that also occur in the area. Unpublished notes from a 1950s survey detail 12 *P. perotteti* from Mauritania, Senegal, Guinea, Cote d'Ivoire, and Nigeria, ranging in size from 35 through 276 in (89 through 700 cm) in total length (Burgess *et al.*, 2009).

A more recent status review by Ballouard *et al.* (2006) reported that sawfishes, including the largetooth sawfish, were once common from Mauritania to the Republic of Guinea, but are now rarely captured or encountered. According to this report, the range of sawfishes has decreased to the Bissagos Archipelago (Guinea Bissau). The most recent sawfish encounters outside Guinea Bissau were in the 1990s in Mauritania, Senegal, Gambia, and the Republic of Guinea. The most recent documented *P. perotteti* capture was from 2005 in Nord de Caravela (Guinea Bissau), along with anecdotal accounts from fishers of captures off of two islands in the same area (Burgess *et al.*, 2009).

Summary and Abundance

As we document above, the range of the largetooth sawfish has contracted significantly on both sides of the Atlantic. Although no time-series abundance data exists to quantify the extent of the decline of the species throughout its range, we believe that with the substantial number of commercial and recreational fisheries fishing along our U.S. coast, the uniqueness of the species morphology, and because media and internet sites are easily accessible to the public, largetooth sawfish encounters would be noteworthy and reported. Additionally, outreach efforts along the Gulf of Mexico coast in the U.S. for the smalltooth sawfish, which includes printed brochures and signage in local bait shops, marinas, and boat ramps on where and how to report sawfish encounters, should have increased the likelihood of reporting a largetooth sawfish encounter. Access to media and

internet sites for reporting largetooth encounters outside the U.S. is most likely less common in some of the remote areas along the coasts of Central America, the Amazonian region of Brazil, and West Africa. Nevertheless, the apparent decrease of sightings over time suggests that the species has undergone severe declines in abundance throughout its range. Moreover, the decline in museum records, negative scientific survey results in the U.S. and Lake Nicaragua, and anecdotal reports from fisher people suggest the trend for the species is declining (Burgess *et al.*, 2009).

Species Determination

We first considered whether or not *P. perotteti* met the definition of “species” pursuant to section 3 of the ESA as described above. As stated in the taxonomy section above, after reviewing the best available scientific and commercial taxonomic data on the species, we determined that *P. perotteti* is a “species” and its range is the eastern and western Atlantic Ocean. The best available scientific and commercial data available also suggest *P. perotteti* has a tropical distribution in the eastern and western Atlantic Ocean and has been rare at latitudes higher than 12° N and 12° S during historic times.

Extinction Risk

We next considered the risk of extinction for *P. perotteti* to determine whether the species is threatened or endangered as defined above. No quantitative estimate of abundance for the species is known, so methods such as population viability analysis cannot be used to determine the risk of extinction for the species. Therefore, we must use a method to determine the risk of extinction using qualitative information.

Wainwright and Kope (1999) developed methods to assess the risk of extinction for U.S. West Coast salmon. Using the definitions of endangered and threatened in the ESA, they considered a variety of information to assess extinction risks, including abundance, trends, productivity, variability, genetic integrity, and other risks. Wainwright and Kope (1999) further consider the risk to small populations based on potential genetic effects or random demographic effects. They also considered habitat capacity to answer questions about the carrying capacity and whether or not the carrying capacity can ensure the populations viability. In assessing the risk of extinction using trends, productivity, and variability, Wainwright and Kope (1999) indicate that short and long-term trends in

abundance are the primary indicators of risk. Wainwright and Kope (1999) also assessed the effects of genetic integrity (introduced genotypes, interactions with hatchery fish, or anthropogenic selection) as it relates to evaluating the risk of extinction. Loss of fitness and loss of diversity can occur from random genetic effects and increase the risk of extinction for a species. Wainwright and Kope (1999) also evaluated other risks that are considered for salmonids (disease, predation, and changes in life history). These “other risks” can affect the sustainability of a population. The last factor that Wainwright and Kope (1999) evaluated is the risks associated with recent events. Changes in harvest rates, anthropogenic changes in the environment (habitat degradation or enhancement), or natural events (floods, volcanic eruptions) can pose a risk for species but may not have been adequately considered by looking at the other effects above when there is a time-lag in seeing the effect of recent events.

In addition to analyzing factors that may affect the risk of extinction for salmon, Wainwright and Kope (1999) developed a general quantitative evaluation method to assess both qualitative and quantitative evidence for the various risk factors. In this method, four of the major categories of extinction risk are scored. These four categories are: (1) abundance, (2) trend, productivity, and variability (TPV), (3) genetic integrity, and (4) “other risks”. The risk categories are scored on a scale from 1 to 5. A score of 1 represents a very low risk and factors (single or multiple factors) scored at this level are unlikely to contribute significantly to risk of extinction. A score of 2 represents a low risk and single factors are unlikely to contribute to extinction alone, but in combination with other factors may be a concern. Scores of 3 represent moderate risk. These factors contribute significantly to long-term risk of extinction, but do not alone constitute a danger of extinction in the near future. Score values of 4 represent increasing risk. This rating indicates the present risk is low or moderate, but is likely to increase to high risk in the future (reflects the ESA definition of threatened). Scores of 5 represent the high risk rating. This factor indicates danger of extinction in the near future.

Professional biologists at SERO used Wainwright and Kope’s (1999) methods to assess extinction risk for *P. perotteti*. For the abundance category the following were important considerations. Small-population risks for the species were considered to assess the risk of extinction. As detailed above, museum records, negative scientific

survey results in the U.S. and Lake Nicaragua, and anecdotal reports from fisher people suggest the trend for the species is declining and population size is small. This species is also a K-selected animal which indicates they are usually successful at maintaining relatively small, persistent population sizes in relatively constant environments. We expect changes from random demographic effects are likely to be significant for the species since they are not able to respond rapidly to stochastic events. Information on the distribution of the species was also used as an indicator of abundance. The current distribution for the species is significantly reduced from its historic range. Thus, the existing population of *P. perotteti* does not adequately represent historic patterns of geographic distribution and this is considered a risk factor for the species. We could not determine the habitat capacity for the species since most of the habitat within the species range is located in foreign countries and we have poor data from those areas. Based on small population risks that could occur from demographic effects and the severe range constriction that has occurred, we assigned a rating of 5 (high-risk) for the abundance factor.

For the TPV category we considered that the data for the species indicates a declining trend in abundance. A directed fishery existed for the species in Lake Nicaragua but no longer exists today. Reports of the species in Lake Nicaragua are rare. Lack of reports of the species occurrence throughout most of its range, including the U.S. and southern Brazil, also indicates the species abundance is declining. Productivity rates are not known for the species but are expected to be declining (Shaffer 1981). Variations in freshwater and marine environments within the species range are difficult to assess. Since reports of the species are rare throughout its range, we expect productivity is low.

Genetic integrity was not evaluated because we do not have information on the loss of fitness and loss of genetic diversity for the species.

Our evaluation of the “other risk” factor considered information about the species life history characteristics, in particular that the species has slow growth rates, late maturation, low fecundity, and population recovery potential is considered limited. Based on this information, we scored the other risk category as a 3.

Using Wainwright and Kope (1999) methods to determine the risk of extinction for *P. perotteti*, we believe that abundance and distribution of *P. perotteti* is likely to continue to decline

in the near future. Therefore, we have determined the current threats affecting the species will continue into the future and the species is currently in danger of extinction throughout all of its range.

Summary of Factors Affecting the Largetooth Sawfish

In this section, we consider the five factors specified in section 4(a)(1) of the ESA that we outlined as step XX of our listing determination process above.

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

Coastal habitat loss throughout the species’ historical range is a contributing factor to the species decline. Coastal habitats in the southern U. S. Gulf of Mexico region have experienced and continue to experience losses due to urbanization. Wetland losses in the Gulf of Mexico region of the U.S. averages annual net losses of 60,000 acres (242.8 km²) of coastal and freshwater habitats from 1998 to 2004 (Stedman *et al.*, 2008). Although wetland restoration activities are ongoing in this region of the U.S., the losses significantly outweigh the gains (Stedman *et al.*, 2008). These losses have been attributed to commercial and residential development, port construction (dredging, blasting, and filling activities), construction of water control structures, modification to freshwater inflows (Rio Grande River in Texas), and gas and oil related activities. Riverine systems throughout the species’ historical range have been altered or dammed. NOAA’s Restoration Center is involved in ongoing coastal restoration activities throughout the Gulf of Mexico to restore coastal habitats. In spite of ongoing efforts to restore coastal habitats, coastal habitat losses will continue to occur.

The status of habitats within the current international range of the species is not well known, but with continued development and human population growth, negative effects on habitat are likely. Ruiz-Luna *et al.* (2008) acknowledge that deforestation of mangrove forests in Mexico has occurred from logging practices, construction of harbors, tourism, and aquaculture activities. In addition to deforestation, Ruiz-Luna *et al.* (2008) document that changes in the hydrological systems occurred with opening of the artificial canal in Cuautla, in the state of Nayarit. Valiela *et al.* (2001) report the total area of mangrove habitats in Brazil has decreased significantly (from 9,653 to 5,174 mi² (25,000 to 13,400 km²)) from 1983 to 1997, with similar trends in

Guinea-Bissau (1,838 to 959 mi² (4760 to 2484 km²)) from 1953 to 1995. Habitat modification, including mangrove forest removal, is also likely in northern Brazil (Compagno *et al.*, 2006). The areas with the most rapid mangrove declines in the Americas included Venezuela, Mexico, Panama, the United States, and Brazil, while Senegal, Gambia, Sierra Leone, and Guinea-Bissau showed the largest declines in western Africa (Ruiz-Luna *et al.* 2008). World-wide mangrove habitat loss was estimated to be 35 percent from 1980 to 2000 (Valiela *et al.*, 2001). There are unconfirmed reports of dam building activities on the Rio San Juan (Nicaragua) system, which could affect the movements of largemouth sawfish in that region. These threats cannot be directly related to the decline of the largemouth sawfish, but habitat loss is a known factor contributing to the decline of many freshwater and marine species, including the endangered U.S. distinct population segment (DPS) of smalltooth sawfish.

Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Commercial Fisheries

Sawfishes are very vulnerable to most fishing gears, and were historically caught by gillnets, trawls, seines, and lines (Compagno *et al.*, 2006). Most targeted catches of largemouth sawfish in Texas in the 1930s were from recreational hook and line, but they were also caught incidentally by shrimp trawls and seines (Burgess *et al.*, 2009). The Lake Nicaragua commercial fishery for largemouth sawfish consisted mostly of gillnet boats (Thorson, 1982a), and the commercial small coastal shark fishery in Brazil mainly utilizes gillnets and some handlines (Charvet-Almeida, 2002). Today the main threat to the largemouth sawfish is most likely from bycatch mortality, though sawfishes may be targeted opportunistically in some areas (Brazil) when the occasion arises. The current scarcity of sawfish may inhibit targeted fisheries that might occur in spite of international trade bans. However, if caught as bycatch they are most likely retained because of the value of their parts (e.g., the rostra, teeth, and fins). For example McDavitt's (2006) review of eBay sales of rostra is estimate a total of 200 rostra per year are sold, with a value of more than US \$25,000.

Recreational Fisheries

Historically, recreational hook and line fishers targeted large elasmobranchs, including sawfishes, as

trophies in Texas (Burgess *et al.*, 2009). Elsewhere in the U.S., abundance was likely never high enough for recreational fishers to encounter this species, much less target it. Because of its current distribution, which is mostly in developing nations, the largemouth sawfish is unlikely to be encountered by recreational fishers, with possible rare exceptions of tourists in these areas. There is no current information on the use of sawfish species for subsistence fishing, though it was noted in Brazil that the meat was often sold in local fish markets, while the other products (rostra, fins) were sold internationally (Charvet-Almeida, 2002).

Commercial Trade

There is very little information available about the trade of sawfish products in general, especially the largemouth sawfish. Largemouth sawfish were listed under Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2007, which prohibits the commercial trade of largemouth sawfish parts (see Regulatory Mechanisms section below). In 2006, eBay banned the sale of smalltooth sawfish on their online auction site; however, the ban was not established for all sawfish species. A survey by McDavitt and Charvet-Almeida (2004) of sawfish rostra on eBay (before the ban) found that large rostra command prices of over \$1,000 (US). An informal web search in November 2009 turned up several sawfish rostra for sale online to international buyers, some listed as "largemouth", along with sites selling cockfighting spurs made from South American sawfish teeth. It is apparent that largemouth and smalltooth sawfishes are still landed and sold illegally in northern Brazil (Charvet-Almeida pers. comm., 2009). It was previously observed that sawfish rostra from small individuals were sold to tourists, while damaged or cut rostra were used for local folk medicine (McDavitt and Charvet-Almeida, 2004). The larger rostra were sold in international cockfighting markets, as the rostral teeth were used as spurs. The larger rostra were also purchased by Asian shark fin buyers, most likely for medicine or curios. The proportion of largemouth sawfish in these markets is unknown, though as many as 180 large *Pristis* spp. rostra were sold per year at a single market in northern Brazil in the early 2000s (McDavitt and Charvet-Almeida, 2004). With little enforcement of regional and international laws, the practice of landing sawfishes may continue in Brazil, though the extent of any international trade since the CITES

listing is unknown. No confirmed reports of *P. perotteti* in aquaria exist currently. No seizures of largemouth sawfish in international trade have occurred since its CITES listing (Sharon Lynn (USFWS) pers. comm.).

Scientific Use

The only published studies on life history and movements of the largemouth sawfish were conducted by Thorson in the 1970s and 1980s in Costa Rica and Nicaragua (Thorson, 1970; 1973; 1974; 1976a; 1976b; 1978; 1982a; 1982b; 1987; Thorson *et al.*, 1966a; 1966b). While many live largemouth sawfish were tagged by Thorson in this time period, it seems that most of the biological data were obtained from dead specimens that were purchased from commercial fishers. Most areas where the largemouth sawfish now occurs suffer from lack of biological sampling due to logistical difficulties and most likely low funding of research. However, there is some scientific information being collected by researchers in Brazil, mostly from fish markets, where sawfishes are illegally landed and sold.

Disease and Predation

No commercial or scientific data exists on diseases that may affect the largemouth sawfish and all information related to predation is listed above in the Largemouth Sawfish Natural History section. There is no evidence that unusual levels of disease or predation are a threat to the species.

The Inadequacy of Existing Regulatory Mechanisms

Protective measures covering trade in the largemouth sawfish (*Pristis perotteti*) are implemented internationally under Appendix I of CITES, making non-domestic trade of parts illegal. Additional Federal, state, and national laws in the United States, Nicaragua, and Brazil are designed to limit the harvest and sale of largemouth sawfish locally and internationally. The Nicaraguan government officially banned commercial fishing for largemouth sawfish in Lake Nicaragua in 2006. The Brazilian Environment Ministry listed *P. perotteti* in Appendix I of the "Instrucao Normativa numero 05," meaning that the species is considered endangered and therefore cannot be landed or sold. Enforcement of these regulations in Brazil and Nicaragua is difficult due to the length of the coastline, extensive internal waterways, lack of enforcement personnel, and the need for more efficient tools. Sawfish abundance within other parts of their current range is depleted so targeted fisheries are

unlikely; however, those caught as bycatch are probably kept due to their value. Thus, illegal foreign trade of sawfish parts may be ongoing in Nicaragua and Brazil and elsewhere in spite of the CITES listing and national laws due to lack of enforcement and the high value of sawfish parts.

The status of largemouth sawfish protection in western Africa is mostly unknown, though Guinea-Bissau has created six official Protected Areas, which were established in 2005 (UNEP, 2008). Among these areas are several island chains and deltas with intertidal muddy sand banks and mangroves, which are ideal sawfish habitat. Nevertheless, existing regulations in this part of the world may be inadequate to protect and restore populations of largemouth sawfish.

Though not currently found in U.S. waters, existing regulations and measures put in place to protect the smalltooth sawfish could also benefit the largemouth sawfish, should it return into the northern most extent of its historical range in North America. The U.S. DPS of smalltooth sawfish (*Pristis pectinata*) was listed as endangered on April 1, 2003. Both the smalltooth and largemouth sawfish are susceptible to similar threats (e.g., bycatch in various fisheries and habitat loss) so protections for the smalltooth sawfish will benefit the largemouth sawfish. In response to the listing of the U.S. DPS of smalltooth sawfish, Texas implemented a ban on harvest of largemouth sawfish because of the possibility of misidentification. The trading of any largemouth sawfish parts is banned by state laws in both Florida and Louisiana. Additionally, Florida and Texas do not allow gillnet fishing in state waters less than 9 miles (14.5 km) from shore, and Alabama restricts gillnet fishing within less than 3.5 miles (5.6 km) from shore.

In summary, the high value of sawfish parts, weak enforcement, and lack of adequate protections for largemouth sawfish habitat mean that existing regulations are inadequate to protect the species from further declines.

Other Natural or Manmade Factors Affecting its Continued Existence

Largemouth sawfish have slow growth rates, late maturity, a long life span, and low fecundity rates. The largemouth sawfish is a more k-selected type species, with an intrinsic rate of population increase below 1.0 (Simpfendorfer, 2000). K-selected animals are usually successful at maintaining relatively small, persistent population sizes in relatively constant environments. Conversely, they are not able to respond rapidly to additional

sources of mortality, such as overexploitation and habitat degradation. Because of this, the risk of extinction remains high without effective conservation plans put into place.

Red tide may also be a human amplified factor that could affect the species. Red tide is caused by an increase of toxic, naturally occurring microscopic blooms of plankton and is a coastal phenomenon which is caused by environmental conditions. Factors that are especially favorable include warm surface temperatures, high nutrient content, low salinity, and calm seas. Rain followed by sunny weather in the summer months is often associated with red tide blooms. We do not have specific information on red tide effects to largemouth sawfish but we do have a report of a smalltooth sawfish that was found dead along the west coast of Florida during a red tide event (National Sawfish Encounter Database, 2009).

Summary of Findings

After considering the 5 factors above from Section 4(a)(1) of the ESA we determined that the species continues to be in danger of extinction throughout all of its range.

Protective Efforts

As a requirement of the ESA, current or future conservation efforts that have yet to be implemented or to show effectiveness to protect and recover largemouth sawfish must be evaluated under the PECE Policy (see above). This policy is designed to determine whether any conservation efforts that have been recently adopted or implemented or proposed, but not yet proven to be successful, will result in recovering the species to the point at which listing is not warranted or contribute to forming a basis for listing a species as threatened rather than endangered (68 FR 15101; March 28, 2003). The PECE policy established two basic criteria to be met before an action could be considered to help improve the conservation status of a species: (1) the certainty that the conservation efforts will be implemented, and (2) the certainty that the efforts will be effective.

Ongoing conservation efforts for the smalltooth sawfish may benefit the conservation of the largemouth sawfish if it returns to U.S. waters. The Smalltooth Sawfish Recovery Plan was finalized in 2009. The Smalltooth Sawfish Recovery Plan lays out specific guidelines for federal and state agencies to follow. Among the recovery plan's objectives are to minimize harm caused by human interactions and to protect and restore habitats. Since both species are

susceptible to similar threats, implementation of the Smalltooth Sawfish Recovery Plan will provide conservation benefits for the largemouth sawfish if it returns to U.S. waters. Additionally, in 2010, NOAA will fund coastal restoration activities in Texas and Louisiana using appropriations from The American Recovery and Reinvestment Act of 2009, which restore habitats used by sawfish. Both of these projects meet the criteria of the PECE for certainty of implementation and effectiveness. However, we have determined that these conservation efforts will not alter the extinction risk of the species.

Proposed Determination

NMFS is responsible for determining whether the largemouth sawfish (*Pristis perotteti*) is threatened or endangered under the ESA (16 U.S.C. 1531 *et seq.*) Accordingly, we have followed a stepwise approach as outlined above in making this listing determination for the largemouth sawfish. We determined that *P. perotteti* is a valid species with a range in the eastern and western Atlantic Ocean. We then reviewed the status of the species and the threats to its status using the five-factor analysis described above. Next, we assessed efforts being made to protect the species, determining if these efforts are adequate to mitigate existing threats.

In summary, the largemouth sawfish (*P. perotteti*) faces ongoing threats from habitat alteration, bycatch, trade, and the inadequacy of existing regulatory mechanisms to address and reduce habitat alterations, bycatch, and trade. The species range has constricted so that it has not been seen in the U.S. since 1961. A similar range constriction is apparent at the southern extreme of the species' historical range. The species has not been reported from southern Brazil for almost a century. All of the threats attributed to the species decline are ongoing, except for the directed largemouth sawfish fishery in Lake Nicaragua. The Lake Nicaraguan fishery collapsed presumably when the sawfish population collapsed. These ongoing threats exist throughout the species current range (Central and South America and West Africa) and existing regulatory mechanisms in place are insufficient to protect the species from further decline. No current or proposed conservation activities will be enough to sufficiently improve the species status. Based on our review, therefore, we find that the species is in danger of extinction throughout all of its range and should be listed as endangered.

Effects of Listing

Conservation measures provided for species listed as endangered or threatened under the ESA include recovery actions (16 U.S.C. 1533(f)), Federal agency consultation requirements (16 U.S.C. 1536), and critical habitat designations, and prohibitions on taking (16 U.S.C. 1538). Recognition of the species' plight through listing promotes conservation actions by Federal and state agencies, foreign entities, private groups, and individuals. Should the proposed listing be made final, a recovery plan may be developed, unless such plan would not promote the conservation of the species.

Identifying Section 7 Consultation Requirements

Section 7(a)(2) of the ESA requires Federal agencies to consult with NMFS to ensure that activities authorized, funded, or carried out are not likely to jeopardize the continued existence of the species or destroy or adversely modify critical habitat. We anticipate few section 7 consultation requirements for Federal agencies given the species current distribution and abundance.

Critical Habitat

Critical habitat is defined in section 3 of the ESA (16 U.S.C. 1532(5)) as: (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed upon a determination that such areas are essential for the conservation of the species.

"Conservation" means the use of all methods and procedures needed to bring the species to the point at which listing under the ESA is no longer necessary. Regulations require that we shall designate critical habitat in areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species (50 CFR 424.12 (e)).

Section 4(a)(3)(A) of the ESA (16 U.S.C. 1533(a)(3)(A)) requires that, to the extent prudent and determinable, critical habitat be designated concurrently with the listing of a species. Critical habitat shall not be designated in foreign countries or other areas outside U.S. jurisdiction (50 CFR 424.12 (h)).

The best available scientific and commercial data as discussed above identify the geographical area occupied by *P. perotteti* as Central and South America and West Africa. Since these areas are entirely outside U.S. jurisdiction, NMFS cannot designate critical habitat in the geographical area occupied by the species. NMFS can designate critical habitat in unoccupied areas if the area(s) are determined by the Secretary to be essential for the conservation of the species. Regulations at 50 CFR 424.12 (e) specify that we shall designate as critical habitat areas outside the geographical range presently occupied by the species only when the designation limited to its present range would be inadequate to ensure the conservation of the species.

The best available scientific and commercial information on the species does not indicate that U.S. waters provided any specific essential biological function other than general foraging opportunities for the species. All records of *P. perotteti* were larger animals (adults). No records of juveniles are documented in U.S. waters, which suggest the species was not using the area as a nursery. The majority of the reports of the species in U.S. waters suggest they were in the U.S. during the summer months when water temperatures were warmer. No reports of the species in U.S. waters suggest breeding aggregations were present. Based on the best available information we have not identified unoccupied area(s) that are currently essential to the conservation of the species. Therefore, no critical habitat designation is currently being proposed.

Take Prohibitions

Because we are proposing to list this species as endangered all of the take prohibitions of Section 9(a)(10) of the ESA of the act will apply. These include prohibitions against the import, export, use in foreign commerce, or "take" of the species. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." These prohibitions apply to all persons subject to the jurisdiction of the United States, including in the U.S. or on the high seas.

Service Policies on Endangered and Threatened Fish and Wildlife

On July 1, 1994, NMFS and USFWS published a series of policies regarding listings under the ESA, including a policy for peer review of scientific data (59 FR 34270; July 1, 1994), the Office of Management and Budget (2004) Bulletin on Peer Review, and a policy to

identify, to the maximum extent possible, those activities that would or would not constitute a violation of section 9 of the ESA (59 FR 34272; July 1, 1994).

Role of Peer Review

The intent of the peer review policy is to ensure that listings are based on the best scientific and commercial data available. Prior to a final listing, NMFS formally solicits expert opinions and analyses on one or more specific questions or assumptions. This solicitation process may take place during a public comment period on any proposed rule or draft recovery plan, during the status review of a species under active consideration for listing, or at any other time deemed necessary to clarify a scientific question. The status review was peer reviewed by two elasmobranch experts in the field and an elasmobranch trade expert, with their substantive comments incorporated in the final status review.

Identification of Those Activities That Would Constitute a Violation of Section 9 of the ESA

The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species' range. NMFS will identify, to the extent known at the time of the final rule, specific activities that will not be considered likely to result in violation of section 9, as well as activities that will be considered likely to result in violation. Activities that NMFS believes could result in violation of section 9 prohibitions against "take" of theargetooth sawfish include, but are not limited to, the following: (1) importation, (2) exportation, (3) take, (4) sale, and (5) delivery that directly or indirectly affect endangered species, and (6) take any such species on the high seas. These prohibitions apply to all individuals, organizations, and agencies subject to U.S. jurisdiction.

References

A complete list of the references used in this proposed rule is available upon request (see ADDRESSES).

Classification

National Environmental Policy Act

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation v. Andrus*, 675 F. 2d 825 (6th Cir. 1981), NMFS has

concluded that ESA listing actions are not subject to the environmental assessment requirements of the National Environmental Policy Act (NEPA) (See NOAA Administrative Order 216-6).

Executive Order 12866, Regulatory Flexibility Act and Paperwork Reduction Act

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the listing process. In addition, this proposed rule is exempt from review under Executive Order 12866. This proposed rule does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

Executive Order 13132, Federalism

In keeping with the intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual state and Federal interest, this proposed rule will be given to the relevant governmental agencies in each state in which the subject species historically occurred, and these agencies will be invited to comment.

International Relations

NMFS has conferred with the U.S. Department of State to ensure appropriate notice is given to foreign nations within the range of the species. As the process continues, NMFS intends to continue engaging in informal and formal contacts with the U.S. State Department, giving careful consideration to all written and oral comments received.

Public Comments Solicited

NMFS intends that any final action resulting from this proposal will be as accurate as possible and informed by the best available scientific and commercial information. Therefore, NMFS request comments or information from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. NMFS particularly seek comments containing:

- (1) Information concerning the location(s) of any sightings or captures of the species; and
- (2) Information concerning the threats to the species; and
- (3) Taxonomic information on the species; and
- (4) Efforts being made to protect the species throughout its current range.

Public hearing requests must be requested by June 21, 2010.

List of Subjects in 50 CFR Part 224

Administrative practice and procedure, Endangered and threatened species, Exports, Imports, Reporting and record keeping requirements, Transportation.

Dated: April 30, 2010.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 224 is proposed to be amended as follows:

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

1. The authority citation for part 224 continues to read as follows:

Authority: 16 U.S.C. 1531–1543 and 16 U.S.C. 1361 *et seq.*

2. In § 224.101, the table in paragraph (a) is amended by adding an entry for “Largetooth Sawfish” at the end of the table to read as follows:

§ 224.101 Enumeration of endangered marine and threatened anadromous species.

* * * * *
(a) * * *

Species		Where Listed	Citation(s) for listing determination(s)	Citation(s) for critical habitat designation(s)
Common name	Scientific name			
* * *	* * *	*	*	*
Largetooth Sawfish	<i>Pristis perotteti</i>	Everywhere	[Insert FEDERAL REGISTER citation and date when published as a final rule]	NA
* * *	* * *	*	*	*