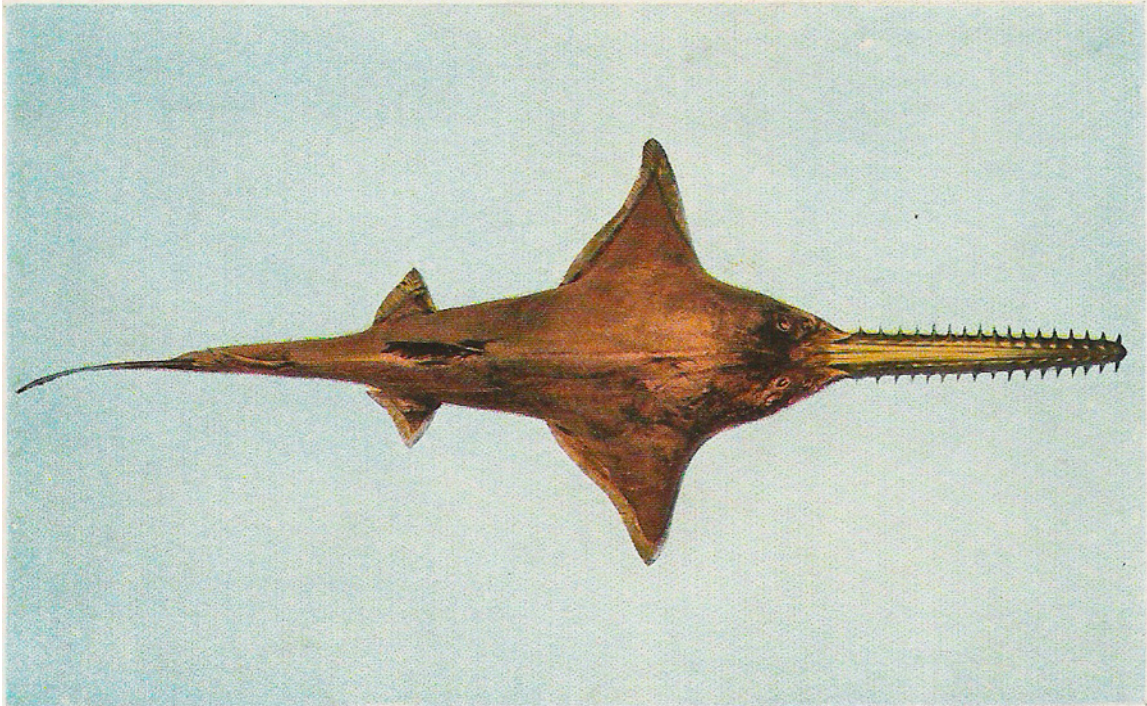


**A PETITION:  
REQUESTING THE SECRETARY OF COMMERCE  
ADD THE LARGETOOTH SAWFISH, *PRISTIS PEROTTETI*,  
TO THE LIST OF THREATENED OR ENDANGERED  
SPECIES MAINTAINED UNDER THE AUTHORITY OF  
THE ENDANGERED SPECIES ACT**

ON EXHIBIT AT BROWN HOTEL. DES MOINES. IOWA



SAW-FISH, LENGTH 18 FT., WEIGHT 1500 LBS., CAUGHT BY ERNEST W. BROWN, NEAR PORT ARTHUR, TEXAS

85047

Submitted By:  
WildEarth Guardians  
1536 Wynkoop St. Suite 301  
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## INTRODUCTION

Acting through the National Marine Fisheries Service (NMFS) and the National Oceanic and Atmospheric Administration (NOAA), the Secretary of Commerce (Secretary) has previously determined that the North American population of the Largetooth Sawfish, *Pristis perotteti*, does not warrant listing under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531, *et seq.* See 65 Fed. Reg. 12959 (March 10, 2000) (negative 90-day petition finding on a petition to list the North American population of Largetooth Sawfish). This Petition requests the Secretary re-examine and reverse this March 10, 2000 finding. In addition, unlike the prior petition rejected by the Secretary in March 2000, this Petition requests the Secretary to list as endangered or threatened not only the “North American population” of Largetooth Sawfish, but also the entire species, throughout its range.

“To the maximum extent practicable,” the Secretary must issue an initial finding as to whether this Petition “presents substantial scientific or commercial information indicating that the petitioned action may be warranted” within 90 days of receipt. 16 U.S.C. § 1533(b)(3)(A). Through this Petition, WildEarth Guardians (“Guardians”) need not demonstrate conclusively that the listing of the Largetooth Sawfish is warranted; rather, this Petition need only present information demonstrating that such listing *may be* warranted. *Id.* There can be no reasonable dispute that the available information indicates that listing the Largetooth Sawfish as either threatened or endangered *may be* warranted. Accordingly, it is entirely “practicable” for the Secretary to make a positive 90-day finding on this Petition within 90-days and to promptly commence a status review of the species as required by 16 U.S.C. § 1533(b)(3)(B). The fact that in the March 10, 2000 ruling on the prior petition the Secretary indicated that NMFS would “maintain the largetooth sawfish as a candidate species, and continue to solicit more information regarding this species to resolve doubts regarding its range and taxonomy,” 65 Fed. Reg. 12959, does not relieve the Secretary of the mandatory legal obligation to meet the statutory deadlines of the ESA concerning the review of this new Petition. See e.g. Center for Biological Diversity v. Norton, 254 F.3d 833 (9th Cir. 2001).

Additionally, Guardians notes that in rejecting the prior petition the Secretary relied upon a finding that:

... there is not substantial evidence to warrant initiation of a status review of North American populations of largetooth sawfish, on the basis that the petition did not contain substantial scientific and commercial information to indicate the present existence of such a population eligible for listing. While the petition presented evidence that largetooth sawfish did occur at one time in Texas waters, based on NMFS’ review of the petition and on other available information, we believe that the largetooth species is most likely a tropical species, only rarely straying to North American waters.<sup>1</sup>

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<sup>1</sup> 65 Fed. Reg. 12959, 12961 (March 10, 2000).

This prior finding is not relevant to the present Petition because this Petition is not limited to seeking the listing of a North American population of Largetooth Sawfish, but seeks the listing of the Largetooth Sawfish as a species, wherever it might be found. Moreover, there is no requirement in the ESA that a species have a North American or United States population in order to be eligible for listing.<sup>2</sup> The ESA allows the listing of species entirely foreign to North America and of those extirpated from the United States.<sup>3</sup>

Finally, WildEarth Guardians also requests that, as required by the ESA, the Secretary designate critical habitat for the Largetooth Sawfish concurrently with listing the species as threatened or endangered. See 16 U.S.C. § 1533(a)(3)(A) and 50 C.F.R. § 424.12.

### **PETITIONER**

Petitioner WILDEARTH GUARDIANS (“Guardians”) maintains offices in, Arizona, California, Colorado, Montana, and New Mexico. Guardians has approximately 4,500 members that live throughout the country. Guardians has an active endangered species protection program and frequently files petitions to list species under the ESA. Guardians has devoted years of effort to protecting and restoring the Rio Grande from its headwaters in Colorado to its mouth in the Gulf of Mexico. Part of Guardians’ efforts to protect the Rio Grande involves protecting all the creatures that call the river home. Historically, the Largetooth Sawfish inhabited the Rio Grande delta and adjacent waters in the Gulf of Mexico. Guardians’ members and staff are harmed by the general loss of biodiversity in the Rio Grande watershed and the Gulf of Mexico. Guardians’ members and staff frequently use and enjoy the Rio Grande and the Gulf of Mexico, including areas that may be habitat for the Largetooth Sawfish, for recreational, aesthetic, and scientific activities and will continue to do so. Guardians and its members have a

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<sup>2</sup> Guardians notes that the Secretary’s March 2000 finding is confusing and inconsistent in that it seemingly equates “Texas waters” with “North American waters.” As discussed, *infra*, there is evidence that populations of Largetooth Sawfish existed and likely still exist in the tropical waters of the southern Gulf of Mexico adjacent to Mexico. Accordingly, whatever the veracity of the Secretary’s prior conclusion that no population of Largetooth Sawfish presently inhabits “Texas waters,” the Secretary incorrectly equated the alleged absence of a population of the species in “Texas waters” to an absence of populations of the species anywhere in “North American waters.” In any event, even a species that occasionally visits U.S. waters is still eligible for ESA listing. The Secretary’s prior contrary conclusion does not withstand scrutiny.

<sup>3</sup> The foreign threatened and endangered species list presently contains 572 species. See [http://ecos.fws.gov/tess\\_public/SpeciesReport.do?lead=10&listingType=L](http://ecos.fws.gov/tess_public/SpeciesReport.do?lead=10&listingType=L). See also, 51 Fed. Reg. 6686 (listing the Northern Aplomado Falcon throughout its historic range in United States even though at the time of listing it was extirpated as a breeding species in the U.S., and though Falcons occasionally were seen in the U.S., breeding populations existed only in Mexico and Central America).

substantial interest in the conservation of the Largetooth Sawfish and will be adversely affected if the Secretary declines to protect this species and its habitat under the ESA.

## NATURAL HISTORY AND STATUS OF THE LARGETOOTH SAWFISH

By virtue of the Secretary's prior, March 10, 2000, petition finding concerning the Largetooth Sawfish, 65 Fed. Reg. 12959, and the Secretary's listing of the Largetooth Sawfish as a "species of concern," much information concerning the natural history and status of the Largetooth Sawfish is already known to the Secretary. Rather than extensively restate, Guardians' incorporates by reference into this Petition all information already contained in the prior petition finding, 65 Fed. Reg. 12959, and all information contained on the NOAA/NMFS website's detailed listing of the Largetooth Sawfish as a species of concern.<sup>4</sup>

In rejecting the prior petition to list the Largetooth Sawfish, NOAA/NMFS indicated that it would "continue to solicit more information regarding this species to resolve doubts regarding its range and taxonomy." 65 Fed. Reg. 12959. However, in the detailed species of concern entry for the Largetooth Sawfish on NOAA/NMFS website, under the heading "Status Reviews/Research Underway" the Agency does not indicate that it is conducting any research or soliciting any information on the range and taxonomy of the Largetooth Sawfish as promised in the Federal Register notice. Rather, the website entry merely restates that:

In 2000, NMFS denied a petition to list the largetooth sawfish as threatened or endangered under the Endangered Species Act (65 FR 12959, March 10, 2000) because there was insufficient information presented in the petition and in NMFS files to indicate that a listing might be warranted.<sup>5</sup>

The apparent absence of any research effort on the range or taxonomy of the Largetooth Sawfish conflicts with the representations the Secretary made in rejecting the prior listing petition. More importantly, the Secretary's complaint that there "was insufficient information ... in NMFS files to indicate that a listing might be warranted" conflicts with the immediately following section of the website's Largetooth Sawfish "species of concern" entry entitled "Data Deficiencies" which reads simply "[n]one identified."<sup>6</sup> These inconsistencies force Guardians to draw a pejorative conclusion: The Secretary's refusal to list the Largetooth Sawfish is not based on a lack of information, but on a lack of will to protect the species. In any event, given the ESA's mandate that the Secretary base listing decisions on the "basis of the best scientific and commercial data *available*," the alleged lack of information on the range or taxonomy of the Largetooth Sawfish is not a legally sufficient excuse for the Secretary's failure to act. See 16 U.S.C. § 1533(b) (italics added).

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<sup>4</sup> See <http://www.nmfs.noaa.gov/pr/species/concern/> (detailed entry for Largetooth Sawfish).

<sup>5</sup> Id.

<sup>6</sup> Id.

## I. NATURAL HISTORY

### A. Species Description

Sawfish are a marine and estuarine elasmobranch species.<sup>7</sup> While they swim much like sharks, sawfish are actually a species of ray. Like Sharks, which are among the most ancient species on earth, appearing 200 million years ago, Sawfish first evolved approximately 100 million years ago, and have not changed much since then.<sup>8</sup>

A Sawfish's head is ventrally flattened with the mouth located underneath and the eyes positioned dorsally. Sawfish are able to breathe while lying on the ocean floor by drawing water into their gills through large holes behind each eye, called spiracles. Their most distinctive feature is their long flat rostrum or "saw" that is lined with rostral teeth along the margins. These "teeth" are set deeply in hard cartilage and do not grow back if the root becomes damaged.<sup>9</sup>

The Largetooth Sawfish, *Pristis perotteti*, and the Smalltooth Sawfish, *Pristis pectinata*, are similar in appearance and have overlapping ranges in the western Atlantic Ocean and parts of the eastern Atlantic Ocean.<sup>10</sup> The two species can usually be differentiated by noting the number of teeth on one side of the rostrum. Largetooth Sawfish can have between 14-21 rostral teeth on one edge of the saw whereas Smalltooth Sawfish usually have 23-34.<sup>11</sup> The historical photograph below illustrates the difference between the saws. That of the Largetooth Sawfish is on the right. In addition to having fewer teeth on its saw, the Largetooth Sawfish generally has a shorter and broader saw, and the individual saw teeth are larger, hence the name.

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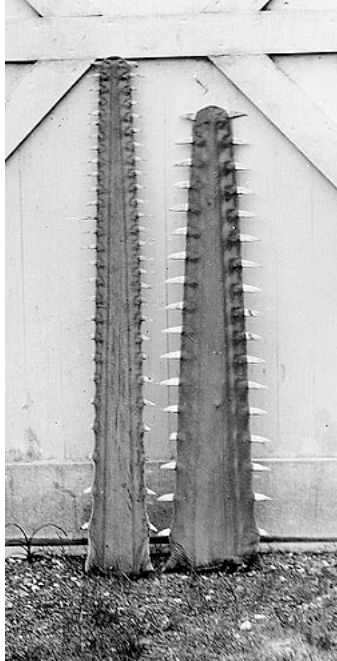
<sup>7</sup> The elasmobranchii are a subclass of cartilaginous (with skeleton made of cartilage rather than bone) fishes (class chondrichthyes) that includes skates, rays and sharks. Elasmobranchs have an upper jaw that is not fused to the braincase and separate slitted gill openings. See <http://www.nmfs.noaa.gov/pr/glossary.htm#eez>

<sup>8</sup> See <http://www.flmnh.ufl.edu/fish/sharks/InNews/sawedoff2006.html>

<sup>9</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History).

<sup>10</sup> The Secretary has listed a U.S. Distinct Population Segment of Smalltooth Sawfish as endangered. 68 Fed. Reg. 15674.

<sup>11</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History).



The two species can also be distinguished by observing that in Largetooth Sawfish the first dorsal fin originates anterior to the pelvic fins while in Smalltooth Sawfish the first dorsal fin originates along the same axis as the pelvic fins. The pectoral fins of Largetooth Sawfish are proportionally larger than those of Smalltooth Sawfish. Furthermore, only Largetooth Sawfish have a distinct lower lobe on their caudal fin.<sup>12</sup>

Largetooth Sawfish caught in saltwater are dark gray to golden brown in color. Freshwater specimens are mouse gray with red coloration around the back, lower sides, second dorsal, pelvic fins, and caudal sides. The first dorsal may have pale yellow coloration with a reddish rear tip. The reddish tint may be normal or a result of suffusion with blood below the skin.<sup>13</sup>

Inside its mouth, the teeth of the Largetooth Sawfish are dome-shaped anteriorly with an obtuse cutting edge. These teeth are a bit larger than in the Smalltooth Sawfish, with about 12 functional rows in each jaw. The number of teeth increases as the sawfish matures. Newborn Largetooth Sawfish have 70 teeth and larger individuals have approximately 80-90.<sup>14</sup>

Dermal denticles of Largetooth Sawfish are more widely spaced over the upper surface than in Smalltooth Sawfish. The blades are ovoid in shape and rather strongly oblique. The bases are roughly four-cornered and are evident through the skin in very young specimens but more concealed in larger specimens. The denticles on the saw of Largetooth Sawfish are rounded to oval and are so closely crowded, they conceal the skin

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<sup>12</sup> Id.

<sup>13</sup> Id.

<sup>14</sup> Id.

entirely. The denticles along the margins of this fish are the largest; those on lower surface are similar to those on the upper surface but are more closely crowded.<sup>15</sup>

The maximum size of Largetooth Sawfish is reported at approximately 20-21 feet (6.1-6.5 meters) of total length and between 1,102-1,323 pounds (500-600 kg) in weight. Largetooth Sawfish are believed to mature around at around 10 feet (3 meters) in length. Largetooth Sawfish grow slowly, reaching maturity late at approximately 10 years of age and producing few young. As a result, their population growth is extremely low. Although lifespan in the wild is unknown, research suggests this species lives roughly 30 years.<sup>16</sup>

The Largetooth Sawfish is ovoviviparous. Its eggs are retained in the uterus and the embryos develop while being nourished by a yolk sac. The young are fully developed at birth and litters consist of 1-13 young with 7-9 being the most frequent litter size. Nicaraguan specimens have been recorded at 2.5 feet (76 cm) total length at birth. Litters may be produced every other year. The mating season for the Lake Nicaragua population of Largetooth Sawfish is early June to July, gestation lasts approximately five months, with young born from October to December. The saw teeth of young sawfish do not fully erupt, and are covered by a sheath of tissue until after birth to protect the mother during the birthing process.<sup>17</sup>

The Largetooth Sawfish feeds on benthic crustaceans and other invertebrates it stirs up from the substrate with its saw. The saw may also be used to disable prey by stunning small schooling fish such as mullet and smaller herrings before consuming them.<sup>18</sup>

## **B. Habitat and Range**

Sawfish in general inhabit the shallow coastal waters in tropical, subtropical and warm-temperate waters. They are typically found very close to shore lying on muddy and sandy bottoms, in bays, estuaries, and lagoons. Generally thought to rarely descend to depths greater than 33 feet (10 meters), sawfish have been found in water up to 400 feet (122 meters) deep in Lake Nicaragua.<sup>19</sup>

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<sup>15</sup> Id.

<sup>16</sup> Id.

<sup>17</sup> Id. See also IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (discussing Habitat and Ecology).

<sup>18</sup> Id. See also IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (discussing Habitat and Ecology).

<sup>19</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History). See also IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (discussing Habitat and Ecology and describing the Largetooth Sawfish as inhabiting warm-temperate and tropical waters, including nearshore marine, brackish and freshwater (river and lake) environments. The IUCN further specifies that adults may occur across the continental shelf and that though

Only the Largetooth Sawfish and its close relative the Smalltooth Sawfish are found in the western Atlantic Ocean. Historically, Largetooth Sawfish were found in warm tropical and sub-tropical marine, estuarine, and contiguous freshwater habitats in the Atlantic Ocean and along the tropical and subtropical Pacific coasts of the Americas. It is believed that Largetooth Sawfish once occurred in the eastern Mediterranean Sea and in freshwater of Africa as well as almost certainly still occurring in North, Central and South America. There was a freshwater population of Largetooth Sawfish in Lake Nicaragua (Central America) that was studied over a long period of time until it was virtually depleted by 1981 due to overfishing. Largetooth Sawfish had been typically found in shallow coastal waters less than 33 feet (10 meters) deep, in estuaries and lagoons, and often been found to have traveled great distances up rivers. While reports of the species in U.S. waters are now rare, Largetooth Sawfish have been seen along the Texas coast to the Louisiana line. Southeastern United States waters are most likely the northernmost limit of the Largetooth Sawfish's historic range.<sup>20</sup>

The IUCN describes the Largetooth Sawfish range in the Western Atlantic as “USA (Texas (historically), Louisiana, and occasionally south Florida), Mexico, Belize, Guatemala, Honduras, Nicaragua, Costa Rica, Colombia, Venezuela, Caribbean Sea, Guyana, Suriname, French Guiana and Brazil.”<sup>21</sup> In the Western Atlantic, the IUCN states the Largetooth Sawfish is native to “Belize; Brazil; Colombia; Costa Rica; French Guiana; Guatemala; Guinea-Bissau; Guyana; Honduras; Mexico; Nicaragua; Suriname; United States (Florida, Louisiana, Texas - Possibly Extinct); Venezuela.”<sup>22</sup>

The IUCN describes the Largetooth Sawfish range in the Eastern Atlantic as “Historically reported from: Gibraltar, Spain, Morocco, Western Sahara, Mauritania, Senegal, Mali, Gambia, Guinea-Bissau, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Democratic Republic of Congo, Zaire, Angola, and also possibly in the Mediterranean Sea. Present reported range: Senegal, Gambia, Sierra Leone, Liberia, Ivory Coast, Congo, Democratic Republic of Congo and Angola.”<sup>23</sup> In the Eastern Atlantic the IUCN states the Largetooth Sawfish is native to, but possible extinct in, “Angola; Benin; Cameroon; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia; Ghana; Gibraltar; Guinea; Liberia; Mali; Mauritania; Morocco; Nigeria; Senegal; Sierra Leone; Spain; Togo; Western Sahara.”<sup>24</sup>

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the Largetooth Sawfish probably spends most of its time on or near the bottom it is also commonly observed swimming quite near the surface for extended periods of time.).

<sup>20</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History).

<sup>21</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (discussing geographic range).

<sup>22</sup> Id.

<sup>23</sup> Id.

<sup>24</sup> Id.



Based on this information, the Secretary's conclusion in the March 2000 finding rejecting the prior petition that there are no populations of Largetooth Sawfish in "North American waters" is incorrect. See 65 Fed. Reg. 12959, 12961 (March 10, 2000) (Secretary's finding). According to the information summarized by the Florida Museum of Natural History, Largetooth Sawfish are "almost certainly still occurring in *North*, Central and South America."<sup>25</sup> Additionally, the IUCN describes the Largetooth Sawfish range as including "USA (Texas (historically), Louisiana, and occasionally south Florida), [and] Mexico."<sup>26</sup> The IUCN further states that the Largetooth Sawfish is native to North American waters including those of Texas, Louisiana, Florida, and Mexico.<sup>27</sup> Furthermore, it is entirely likely that Largetooth Sawfish in neighboring Central and South American waters could venture into North American waters.

The Secretary's March 2000 finding also inappropriately discounts the historic abundance of Largetooth Sawfish in Texas waters and elsewhere along the United States Gulf Coast. See 65 Fed. Reg. 12959, 12960-61 (March 10, 2000). The original source cited by the Secretary, "Notes on Sawfish, *Pristis perotteti* Müller and Henle, not Previously Reported from the Waters of the United States,' (Baughman, 1943)" tells a far different story. See 65 Fed. Reg. 12959, 12960 (Secretary's reliance on Baughman, 1943). Indeed, the Secretary's conclusion that "there are no data to support that there is presently, or ever was, a resident North American population of largetooth sawfish" is undercut by a close reading of Baughman, 1943. See 65 Fed. Reg. 12959, 12961 (Secretary's conclusion).

Baughman began his investigation of the Largetooth Sawfish, *Pristis perotteti*, "not Previously Reported from the Waters of the United States"<sup>28</sup> when he examined a saw that had too few teeth to have come from a Smalltooth Sawfish:

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<sup>25</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History, italics added for emphasis).

<sup>26</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (discussing geographic range).

<sup>27</sup> Id.

<sup>28</sup> Baughman's statement that the Largetooth Sawfish was not previously reported from the waters of the United States is limited. Baughman means that Largetooth Sawfish were not reported in the scientific literature he reviewed. He acknowledges that "[o]f the coast between Nicaragua and Texas little is known, only four or five papers having been published on that section." Baughman (1943) at p. 43. Additionally, Baughman's statement should not be interpreted as implying Largetooth Sawfish were not previously known to local fishermen as his subsequent investigation established, or to the indigenous people. See e.g. <http://www.flmnh.ufl.edu/fish/sharks/InNews/sawedoff2006.html> ("Sawfish bills, or rostrums, were believed to hold the spirit of the Aztec's Earth goddess Cipactli and were used in their rituals 500 years ago. In 1979, archeologists found several sawfish rostrums underneath the Aztec Great Temple in Mexico City, according to the Florida Museum of Natural History.").

It was with considerable interest, then, that I first examined a saw presented to the Rice Institute Collection of fishes, in which the tooth count of the saw was only 18/18. This number lies well below the diagnostic count of *pectinatus* [Smalltooth Sawfish].<sup>29</sup>

Concluding that this saw must have come from a Largetooth Sawfish, not previously reported in scientific literature as frequenting Texas, Baughman began his investigation. First, he researched the history of the saw in the Rice collection:

The fish from which [the saw] had been taken was caught in an otter trawl by a shrimp boat operating out of Freeport, Texas. An effort to acquire additional information having failed at Freeport, examination was made of a large number of dried saws at Galveston, Texas. Those with the low tooth count [Largetooth Sawfish] occurred in about a 1 to 3 ratio with saws of *pectinatus* [Smalltooth Sawfish]. Fishermen with whom I talked were of the opinion that the two species were present in about equal numbers, and, curiously enough, considered the marked variation in saws as sexual dimorphism, and were loath to believe otherwise.<sup>30</sup>

Accordingly, while Baughman's investigation, based on his survey of dried saws, might indicate that Smalltooth Sawfish were more numerous than Largetooth Sawfish in Texas waters, he cites local fishermen, as indicating the "two species were present in about equal numbers." In any event, there is nothing here to indicate a population of Largetooth Sawfish did not historically exist off the Texas coast.

Baughman next relates that "later in the summer," of the year of his investigation, "seven of these fish were caught at Galveston by E.F. Reid."<sup>31</sup> Baughman states: "[t]hese fish ranged in weight from 500 to 1300 pounds, and in length from 14 feet to 17 feet 4 ½ inches. The largest was a female; several of the smaller ones were male."<sup>32</sup> Baughman examined these fish and documented his conclusion that they belonged to the species *Pristis perotteti* [Largetooth Sawfish] as first described by Müller and Henle. Again, contrary to the Secretary's conclusion in March 2000, Baughman's report of a single fisherman catching seven fish, including males and females, at a single port, in a single summer, likely indicates the existence of a population using Texas waters.

Baughman's report provides further support establishing the existence of Largetooth Sawfish population historically inhabiting Texas waters. He discusses evidence, including photographs, of a Largetooth Sawfish measuring 18 feet 7 inches and weighing 1200 pounds caught at Aransas Pass on June 16, 1940, and a second Largetooth Sawfish caught at the same location measuring 16 feet 4 inches.<sup>33</sup> More importantly,

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<sup>29</sup> Baughman, 1943 at p. 43.

<sup>30</sup> *Id.*

<sup>31</sup> Baughman, 1943 at p. 43-44.

<sup>32</sup> Baughman, 1943 at p. 44.

<sup>33</sup> Baughman, 1943 at p. 44-45.

Baughman states: “[b]oth species [Largetooth and Smalltooth Sawfish] breed off the Texas coast, according to the shrimp fishermen at Galveston and Freeport.”<sup>34</sup> Baughman reviews earlier scientific reports indicating Largetooth Sawfish might exist in the “waters of our southern states,” and a report of a Largetooth Sawfish from Florida.<sup>35</sup> However, he concludes that his report is the first to definitively document the Largetooth Sawfish as existing in Texas waters and describes its range as from “Port Arthur on the east to Brownsville on the south.”<sup>36</sup>

In sum, Baughman’s report, based on what appears to be a single season of research, documented that Largetooth Sawfish of both sexes were regularly caught in Texas waters. Local fishermen he interviewed, and whose information was most likely based on extensive experience, indicated that Largetooth Sawfish bred in Texas waters, and while perhaps less common than Smalltooth Sawfish, were present all along the Texas coast. The Secretary’s reliance on Baughman to draw the conclusion that no population of Largetooth Sawfish existed in Texas waters or in North American waters is simply misplaced. Indeed, a close reading of the report indicates that Baughman himself believed otherwise. However, in any event, Baughman clearly establishes that the historic range of the Largetooth Sawfish included the entire Texas coastline.<sup>37</sup>

## II. STATUS

According to the International Union for Conservation of Nature (IUCN)<sup>38</sup> Shark Specialist Group, sawfishes, *Pristis* species, are among the most threatened elasmobranchs worldwide.<sup>39</sup> All *Pristis* species are suffering declines, and are listed on the IUCN Red List<sup>40</sup> as either Endangered or Critically Endangered. The Largetooth

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<sup>34</sup> Baughman, 1943 at p. 45.

<sup>35</sup> Baughman, 1943 at p. 46.

<sup>36</sup> Id.

<sup>37</sup> As noted above, this Petition is not limited to U.S. waters or even North American waters but seeks a listing of the Largetooth Sawfish range-wide.

<sup>38</sup> According to its website, the IUCN is the world’s oldest and largest global environmental network. It is a democratic membership union with more than 1,000 government and non-governmental organization (NGO) members, and almost 11,000 volunteer scientists in more than 160 countries. Its work is supported by over 1,000 professional staff in 60 offices and hundreds of partners in public, NGO and private sectors around the world. See <http://www.iucn.org/about/> The IUCN is generally recognized as the leading scientific authority on the status of thousands of species.

<sup>39</sup> See

[http://www.iucn.org/about/work/programmes/species/about\\_ssc/specialist\\_groups/specialist\\_group\\_profiles/shark\\_sg\\_profile/](http://www.iucn.org/about/work/programmes/species/about_ssc/specialist_groups/specialist_group_profiles/shark_sg_profile/)

<sup>40</sup> The IUCN Red List is the world’s most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of biological diversity. See

Sawfish is listed by the IUCN as “critically endangered.”<sup>41</sup> The “critically endangered” assessment indicates the highest level of extinction risk, short of a species being extinct in the wild.<sup>42</sup> Even more alarming, the IUCN indicates that populations of this species are still declining.<sup>43</sup> The IUCN describes the species’ current population as unknown, but states: “[i]ts abundance has been continuously declining over the past few decades to the point that it can now be considered rare or even extirpated in some areas where it was previously considered a common species. Probably the largest or one of the last largest populations survives in the northern region of South America.”<sup>44</sup>

Early accounts of the elasmobranch fauna of the Gulf of Mexico reported that sawfish were once abundant in areas where today they are rarely or never reported. Similarly, sawfishes were reportedly common until the 1950s or 1960s in most other inshore and estuarine areas of the tropics from which they have now virtually vanished. Given the lack of direct documentation of their decline, perhaps the best indirect evidence comes from Lake Nicaragua, where in the 1970s an increase in commercial fishing corresponded with a drastic population decline. Elsewhere there were relatively large catches of sawfish prior to the 1960s, followed by a period during the 1960s and 1970s when a steep decline in catches was reported. This coincided with a huge increase in gillnet fishing worldwide that began in the 1960s.<sup>45</sup>

As justification for its listing of the Largetooth Sawfish as critically endangered the IUCN states the species is a “previously widely distributed marine, estuarine and freshwater sawfish” that “has been extirpated from most of its former range.”<sup>46</sup> Its population status is known to be critical especially in Lake Nicaragua, other Central/South American sites and in West Africa.<sup>47</sup> Artisanal and commercial landings are in decline in regions where it still occurs.<sup>48</sup> The IUCN concludes that “[t]his species is assessed as Critically Endangered on the basis of observed and inferred declines in abundance in both the Eastern and Western Atlantic where it is believed to have been extirpated from much of its former range.”<sup>49</sup>

Sadly the IUCN lists the Largetooth Sawfish as possibly extinct in, “Angola; Benin; Cameroon; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia; Ghana; Gibraltar; Guinea; Liberia; Mali; Mauritania;

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[http://www.iucn.org/about/work/programmes/species/red\\_list/about\\_the\\_red\\_list/](http://www.iucn.org/about/work/programmes/species/red_list/about_the_red_list/)

<sup>41</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

<sup>42</sup> Id.

<sup>43</sup> Id.

<sup>44</sup> Id.

<sup>45</sup> See

[http://www.iucn.org/about/work/programmes/species/about\\_ssc/specialist\\_groups/specialist\\_group\\_profiles/shark\\_sg\\_profile/](http://www.iucn.org/about/work/programmes/species/about_ssc/specialist_groups/specialist_group_profiles/shark_sg_profile/)

<sup>46</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

<sup>47</sup> Id.

<sup>48</sup> Id.

<sup>49</sup> Id.

Morocco; Nigeria; Senegal; Sierra Leone; Spain; Togo; Western Sahara.”<sup>50</sup>

## CRITERIA FOR ENDANGERED SPECIES ACT LISTING

### I. THE LARGETOOTH SAWFISH IS A “SPECIES” UNDER THE ESA

The Endangered Species Act, 16 U.S.C. §§ 1531 - 1544, allows any species of fish or wildlife or plants to be listed under the provisions of the act. Section 3(8) of the ESA defines “fish or wildlife” to mean “any member of the animal kingdom, including without limitation any ... *fish*,...” 16 U.S.C. § 1532 (8) (Emphasis added). The Largetooth Sawfish, *Pristis perotteti*, is a fish. It was formally described as a species by Müller & Henle in 1841.<sup>51</sup> The Florida Museum of Natural History discusses the taxonomy of the Largetooth Sawfish as follows:

The currently valid scientific name for the largetooth sawfish is *Pristis perotteti* (Müller & Henle, 1841). The genus name *Pristis* is derived from the Greek word “pristis” which means saw. The specific name *perotteti* is named after the French naturalist M. Perrotet who obtained the type specimens. A common synonym that has been used in past scientific literature is *Pristis pristis* Linnaeus 1758, which was taken probably not based upon any particular species of sawfish but rather treated sawfishes as a whole. *Pristis microdon* Latham 1794 has appeared as a misidentification and *Pristis perotteti* as a misspelling. The taxonomy of the largetooth sawfish has been difficult to determine due to a lack of adult specimens, questionable identifications, and the number of synonyms that have been used in past scientific literature which remain to be resolved. Presently, there is difficulty in determining how many valid species within the genus *Pristis* actually exist.<sup>52</sup>

However, whatever concerns might exist regarding historic confusion over the taxonomy of the Largetooth Sawfish or of other species within the genus *Pristis*, the currently valid species identification of Largetooth Sawfish as *Pristis perotteti* is recognized by the IUCN.<sup>53</sup> The Largetooth Sawfish qualifies as a “species” under the ESA. Guardians seeks listing of the Largetooth Sawfish, *Pristis Perotteti*, as a species throughout its range both in North American waters and elsewhere as described above.

### II. THE LARGETOOTH SAWFISH IS ENDANGERED UNDER THE ESA

The Secretary is required to determine, substantiated solely on the basis of the best scientific and commercial data available, whether a species is endangered or threatened in all or a significant portion of its range because of any of the following

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<sup>50</sup> Id.

<sup>51</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html>

(Florida Museum of Natural History, entry on taxonomy).

<sup>52</sup> Id.

<sup>53</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. 16 U.S.C. §§ 1533(a)(1) and 1533(b).

Guardians believes that all five of these factors have played a role in bringing the Largetooth Sawfish to its current perilous condition. The most immediate threat to the species is the extreme reduction in abundance and density caused by overharvest and bycatch. While critically low populations and extirpation have reduced harvest, declines of the species continue. Consequently, all existing regulatory mechanisms have proven ineffective in protecting or recovering the species from its severely depleted numbers. The species is in dire need of the additional protections that only listing under the ESA can provide.

#### **A. PRESENT OR THREATENED DESTRUCTION, MODIFICATION OR CURTAILMENT OF ITS HABITAT OR RANGE**

It is clear the Largetooth Sawfish has suffered a dramatic curtailment of its range. Indeed, the IUCN unequivocally concludes the species “has been extirpated from most of its former range.”<sup>54</sup> On this basis alone, the Secretary should conclude the species is endangered or threatened in a significant portion of its range and list the species.

It is also clear that much of the species former estuarine habitat has been degraded or lost to coastal development. For example, Galveston and Port Arthur Texas, where the species was once caught, as discussed above, are now major industrial ports. Similar development has taken place along major rivers and estuaries throughout the species’ range. Indeed, the IUCN concludes that the “remnant population of Smalltooth Sawfish in the Gulf of Mexico is considered to have survived because of the benefits of large marine and coastal protected areas, including the establishment of the Everglades National Park in 1947.”<sup>55</sup> The Largetooth Sawfish lacks any such protected estuarine habitat in the areas where it once occurred on the Texas coast or elsewhere in the Gulf of Mexico.

Habitat loss and damage is identified as a threat to the Largetooth Sawfish by the IUCN Shark Specialist Group and is listed as a threat in the IUCN’s Red List entry for the Species.<sup>56</sup>

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<sup>54</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

<sup>55</sup> *Id.*

<sup>56</sup> See IUCN Shark Specialist Group [http://www.iucn.org/about/work/programmes/species/about\\_ssc/specialist\\_groups/specialist\\_group\\_profiles/shark\\_sg\\_profile/](http://www.iucn.org/about/work/programmes/species/about_ssc/specialist_groups/specialist_group_profiles/shark_sg_profile/) (“freshwater and estuarine habitat loss and damage has probably also had an effect”); and IUCN Red List Entry for Largetooth Sawfish

## B. OVERUTILIZATION FOR COMMERCIAL, RECREATIONAL, SCIENTIFIC OR EDUCATIONAL PURPOSES

Worldwide, sawfish saws have long been sold as trophies or curios. Historical uses of sawfish products have included the rostra being used in religious offerings and traditional medicine. The rostral teeth of the sawfish have been hand crafted into tools or attached to the legs of fighting birds used in cockfights. Sawfish meat has been harvested for human consumption and is reported to be white and tender. Today, sawfish fins are more valuable than the meat and have been sold in the Asian “shark fin” trade. Some cultures believe tea made from the saws aid in treating asthma.<sup>57</sup>

The Largetooth Sawfish is currently threatened by both fisheries directed at it specifically and by unintended take (bycatch) in other fisheries. The Largetooth Sawfish “is a long-lived species with little capacity to recover from depletion.”<sup>58</sup>

According to the IUCN:

This species has been fished intensively at various locations within its range, with a dramatic decline in local stocks noted as a result. In Lake Nicaragua (Nicaragua, Central America) Thorson noted large catches of largetooth sawfish during his preliminary visits to Granada in 1963 (T.B. Thorson pers. comm). However, intense fishing efforts for sawfish and the bull shark *Carcharhinus leucas* in the lake led to rapid decline of stocks of both species (Thorson 1974, 1976, 1980, 1982a, 1987). Taniuchi (1992) did not see any sawfish or bull sharks in the lake during his survey of Central American freshwater elasmobranchs. He noted that during the entire previous season only one of each species had been reported in the fishery. Tanaka (1994) did observe a few specimens of the largetooth sawfish in his studies of Lake Nicaragua. The fisheries for largetooth sawfish in Lake Nicaragua have been characterized by continued effort long after local stocks were practically non-existent.<sup>59</sup>

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<http://www.iucnredlist.org/details/18176> (“Habitat degradation (mainly mangrove destruction) is also a threat”).

<sup>57</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History).

<sup>58</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

<sup>59</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (the IUCN’s internal citations are preserved and as discussed below in the Bibliography of Sources Cited are incorporated herein by reference).



Largetooth Sawfish harvest

Even the species' last apparent hideout in Brazilian waters is threatened by fishing. According to the IUCN:

The occurrence of this species off the Brazilian coast is historically described as a vast coastal area ranging from the northern to southeastern coast, but recent reports indicate a distribution restricted to the northern coast (Menni and Stehmann 2000). It has been extirpated from the southeastern Brazilian coast and is in decline in other regions as a result of artisanal and commercial fishing. [...] According to FAO data (Food and Agricultural Organization) the contribution of sawfish to the total percentage of sharks and rays landed in the north Brazilian region is large (Bonfil 1994). *P. perotteti* is routinely fished in north Brazil, having its meat, fins and saws traded (Charvet-Almeida 2002). Local fishermen mention a local population declining over the past 15 years (Charvet-Almeida 1999).<sup>60</sup>

Additionally, “the largetooth sawfish (*Pristis perotteti*) is extremely vulnerable to bycatch in virtually all fisheries throughout its Atlantic and Eastern Pacific range.”<sup>61</sup> The

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<sup>60</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (the IUCN's internal citations are preserved and as discussed below in the Bibliography of Sources Cited are incorporated herein by reference).

<sup>61</sup> See [http://www.iucn.org/about/work/programmes/species/about\\_ssc/specialist\\_groups/specialist\\_group\\_profiles/shark\\_sg\\_profile/](http://www.iucn.org/about/work/programmes/species/about_ssc/specialist_groups/specialist_group_profiles/shark_sg_profile/) See also IUCN Red List Entry for Largetooth



IUCN states that “[i]t is a fair assumption that extensive gillnetting and trawling in coastal, estuarine and freshwater areas throughout their range are responsible for decimating sawfish populations.”<sup>62</sup> “Because of their large toothed rostrum (saw), sawfish are extremely vulnerable to entanglement in nets, and it is almost impossible to remove them without killing them.”<sup>63</sup> Indeed, because the Largetooth Sawfish’s “high-value fins and saws are traded internationally,”<sup>64</sup> it is possible that fishermen may not even attempt to return unintentionally caught Sawfish to the water.

The trade in Largetooth Sawfish saws is also a threat to the species. This threat would be substantially reduced by an ESA listing of the species. The IUCN observes that as a result of the United States’ ESA listing of the Smalltooth Sawfish, the online auction site eBay banned the sale of Smalltooth Sawfish, but not Largetooth Sawfish, parts and products:

In January 2006, eBay announced it would ban the sale of smalltooth sawfish parts and products on their on-line auction site. This measure will require vigilant monitoring within eBay and with the help of outside experts. A similar ban on the largetooth sawfish has not been established to date.<sup>65</sup>

Prior to this ban the trade in Smalltooth Sawfish parts on eBay was a significant threat to the species. As reported by the Florida Museum of Natural History “in 2004, eBay opened bidding at \$1,240 for a sawfish snout, despite federal protections in place since they were classified ‘endangered’ in 2003.”<sup>66</sup> The Florida Museum of Natural History further reports that prior to the ban as many as 20 Smalltooth Sawfish snouts a month were being sold on eBay.<sup>67</sup>

The lack of a similar ban on the sale of Largetooth Sawfish parts and products is a threat to the species and, as discussed below under the inadequacy of existing regulatory

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Sawfish <http://www.iucnredlist.org/details/18176> (“It has been taken in (former) directed fisheries and is extremely vulnerable to bycatch in virtually all fisheries throughout its tropical Atlantic range.”).

<sup>62</sup> See

[http://www.iucn.org/about/work/programmes/species/about\\_ssc/specialist\\_groups/specialist\\_group\\_profiles/shark\\_sg\\_profile/](http://www.iucn.org/about/work/programmes/species/about_ssc/specialist_groups/specialist_group_profiles/shark_sg_profile/)

<sup>63</sup> Id.

<sup>64</sup> Id.

<sup>65</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

See also eBay’s policies, available at <http://pages.ebay.com/help/policies/wildlife.html>

(“Animal parts, including pelts and skins from endangered species (such as leopards, tigers, cheetahs, jaguars, sable antelopes, mountain zebras, and Hartmann mountain zebras) may not be sold in interstate commerce and therefore are not permitted on eBay.”).

<sup>66</sup> <http://www.flmnh.ufl.edu/fish/sharks/InNews/sawedoff2006.html>

<sup>67</sup> Id.

measures, would be redressed by an ESA listing of the species.

### C. DISEASE AND PREDATION

Non-human predators of the Largetooth Sawfish include the American crocodile (*Crocodylus acutus*), copper sharks (*Carcharhinus brachyurus*), bull sharks (*Carcharhinus leucas*), and tiger sharks (*Galeocerdo cuvier*).<sup>68</sup> Sawfishes may also fall victim to red tides. Red tide (*Karenia brevis*) is a local phenomenon in the Gulf of Mexico, along the Florida coast, and impacts many species of fish and wildlife.<sup>69</sup> Some evidence indicates that global warming and pollution of the Gulf is making red tides more common. These threats are more serious as a result of the already extremely low population of Largetooth Sawfish.

### D. INADEQUACY OF EXISTING REGULATORY MECHANISMS

The Largetooth Sawfish has reached its current status due, in part, to the failure of fisheries regulations throughout its range to protect the species.

According to the IUCN, in the United States the Largetooth Sawfish is protected by two States, Florida and Louisiana, but not Federally.<sup>70</sup> Additionally, the IUCN reports, the state of Texas prohibited catch of Smalltooth Sawfish in concert with the ESA listing and has proposed similar action for Largetooth Sawfish based on similarity of appearance.<sup>71</sup> There is no evidence this proposed protection for Largetooth Sawfish in Texas has been finalized. More importantly, none of these regulations protect the Largetooth Sawfish against bycatch, which is normally fatal to Sawfish.

Additionally, as discussed above, because of the lack of ESA protection for Largetooth Sawfish trade in parts of the species is still allowed. The ban on the sale of Smalltooth Sawfish parts and products instituted by eBay does not protect Largetooth Sawfish.<sup>72</sup>

Outside the United States the IUCN reports only two countries undertaking conservation efforts to benefit the Largetooth Sawfish.

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<sup>68</sup> See <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> (Florida Museum of Natural History).

<sup>69</sup> *Id.*

<sup>70</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

<sup>71</sup> *Id.*

<sup>72</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (“A similar ban on the largetooth sawfish has not been established to date.”). See also eBay’s policies, available at <http://pages.ebay.com/help/policies/wildlife.html> (specifying that only animal products from species listed under the ESA “may not be sold in interstate commerce and therefore are not permitted on eBay.”).

The Nicaraguan government imposed a temporary moratorium on targeted fishing for sawfish in Lake Nicaragua in the early 1980s (Thorson 1982), after the population collapsed following intensive fishing in the 1970s. The aim was to allow the population to recover, but no such recovery has occurred (McDavitt 2002a). Protection was bolstered in 2006 with a Nicaraguan ban on fishing for sawfish, but only in Lake Nicaragua.<sup>73</sup>

The Brazilian Environment Ministry edited a federal law (MMA-IN05/2004) that has also considered it a threatened species and indicated that it should be protected. Enforcement of this protection has been a great challenge.<sup>74</sup>

Accordingly, based on the failure and lack of adequate regulatory protections for the Largetooth Sawfish the IUCN concludes: “[f]urther appropriate protection measures and fisheries controls are required to prevent this species from being extirpated where populations still persist.”<sup>75</sup> Finally, the IUCN recommends that this species be included in CITES Appendix I.<sup>76</sup>

#### **E. OTHER NATURAL OR ANTHROPOGENIC FACTORS**

Largetooth Sawfish populations have reached such critically low numbers in much of its range that the species is threatened by stochastic events and the possibility that male and female Sawfish can no longer encounter each other with sufficient frequency for successful breeding.

#### **CRITICAL HABITAT**

Guardians requests the designation of critical habitat for the Largetooth Sawfish concurrent with its listing. Such critical habitat should include areas on the Texas, Louisiana, and Florida coasts where Largetooth Sawfish were historically documented, or which still provide appropriate Sawfish habitat. The constituent elements should include estuarine, and contiguous freshwater habitats to a depth of 10 meters as well as adjacent areas of the continental shelf providing deeper water habitat along these coasts.

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<sup>73</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176> (the IUCN’s internal citations are preserved and as discussed below in the Bibliography of Sources Cited are incorporated herein by reference).

<sup>74</sup> IUCN Red List Entry for Largetooth Sawfish <http://www.iucnredlist.org/details/18176>

<sup>75</sup> Id.

<sup>76</sup> Id.

## CONCLUSION

Based on the information presented above, it is clear that the Largetooth Sawfish is in danger of extinction throughout all or a significant portion of its range, and therefore, is endangered within the meaning of the ESA, 16 U.S.C. § 1532(6). However, this Petition seeks the listing of the Largetooth Sawfish as either endangered or threatened. As discussed at the outset this Petition is not limited to a North American population of Largetooth Sawfish, but rather seeks the listing of the species throughout its historic and current range, including the territorial waters of the United States.

Guardians looks forward to your initial response to this Petition within 90-days.

Respectfully Submitted,

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## BIBLIOGRAPHY OF SOURCES CITED

Unless otherwise specifically noted above this Petition is based upon four principal sources: (1) the Secretary's prior finding rejecting a petition to list the North American population of Largetooth Sawfish, 65 Fed. Reg. 12959 (March 10, 2000); (2) the Secretary's detailed website entry for the Largetooth Sawfish as a species of concern, <http://www.nmfs.noaa.gov/pr/species/concern/> (detailed entry for Largetooth Sawfish); (3) the Florida Museum of Natural History's detailed species discussion of the Largetooth Sawfish, <http://www.flmnh.ufl.edu/fish/Gallery/Descript/LTSawfish/LTSawfish.html> ; and (4) the IUCN Red List entry for Largetooth Sawfish, <http://www.iucnredlist.org/details/18176> . These sources in turn contain many citations to scientific literature. These scientific documents are generally available and/or already in NOAA/NMFS possession. Accordingly, rather than restate and duplicate, Guardians incorporates by reference into this Petition all other sources cited in the four principal sources Guardians has relied upon. If the Secretary is unable to obtain or does not possess any of these sources please contact counsel for Guardians at the above address, and Guardians will assist the Secretary in locating these sources.