

comprises an important component of the sawfishes' remaining global biological diversity, as sawfish in general are suffering worldwide declines. The U.S. population of smalltooth sawfish is also the northernmost population in the western hemisphere. Loss of the U.S. population of smalltooth sawfish would clearly result in a significant gap in the range of this species. For these reasons, the U.S. population of smalltooth sawfish is significant as defined under the DPS policy.

Based on the above analysis of the discreteness and significance of smalltooth sawfish, the population of smalltooth sawfish that occurs in waters of the eastern United States is both discrete and significant and constitutes a DPS. Therefore, consideration of the conservation status of the U.S. DPS of smalltooth sawfish in relationship to the ESA's listing standards is appropriate.

Distribution and Abundance

Smalltooth sawfish are tropical marine and estuarine fish that have the northwestern terminus of their Atlantic range in the waters of the eastern United States. In the United States, smalltooth sawfish are generally a shallow water fish of inshore bars, mangrove edges, and seagrass beds, but larger animals can be found in deeper coastal waters.

In order to assess both the historic and the current distribution and abundance of the smalltooth sawfish, the status review team collected and compiled literature accounts, museum collection specimens, and other records on the species. This information indicates that prior to around 1960, smalltooth sawfish occurred commonly in shallow waters of the Gulf of Mexico and eastern seaboard up to North Carolina, and more rarely as far north as New York. Subsequently their distribution has contracted to peninsular Florida and, within that area, they can only be found with any regularity off the extreme southern portion of the state. The current distribution is centered in the Everglades National Park, including Florida Bay.

Smalltooth sawfish have declined dramatically in U.S. waters over the last century, as indicated by publication and museum records, negative scientific survey results, anecdotal fisher observations, and limited landings per unit effort (from Louisiana). The "Fisheries Statistics of the United States" data sets from 1945–1978 report that smalltooth sawfish landings in Louisiana declined from a high of 34,900 lbs (15,830 kg) in 1949 to less than 1,500 lbs (680 kg) in most years

after 1967. The decline is likely greater than indicated by numbers or frequencies of catches because during the past century, both fishing and scientific sampling effort have increased by orders of magnitude. The fact that documented smalltooth sawfish catch records have declined during this period despite these tremendous increases in fishing effort underscores the population reduction in the species. While NMFS lacks time-series abundance data to quantify the extent of the DPS's decline, the best available information indicates that the abundance of the U.S. DPS of smalltooth sawfish is at an extremely low level relative to historic levels.

Summary of Factors Affecting the Species

Section 4 of the ESA (16 U.S.C. 1533) and regulations promulgated to implement the listing provisions of the ESA (50 CFR part 424) set forth the procedures for adding species to the Federal list. Section 4 requires that listing determinations be based solely on the best scientific and commercial data available, without consideration of possible economic or other impacts of such determinations. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1) of the ESA.

NMFS has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species and conservation efforts that are underway in determining to promulgate this final rule. The ESA defines an endangered species as one that is in danger of extinction throughout all or a significant portion of its range. NMFS has determined that the U.S. DPS of smalltooth sawfish is in danger of extinction throughout all or a significant portion of its range from a combination of four listing factors: The present threatened destruction, modification, or curtailment of habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; inadequacy of existing regulatory mechanisms; and other natural and manmade factors affecting the continued existence of the species. For these reasons, NMFS is listing the U.S. DPS of smalltooth sawfish as endangered. The listing factors and their application to the U.S. DPS of smalltooth sawfish are described below.

(a) The Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

Loss and degradation of habitat has contributed to the decline of many marine species, and is judged to have impacted the distribution and abundance of smalltooth sawfish. The continued urbanization of the southeastern coastal states has resulted in substantial loss of coastal habitat through such activities as agricultural and urban development, commercial activities, dredge and fill operations, boating, erosion, and diversions of freshwater run-off. Animal wastes and fertilizers from agricultural runoff contribute large amounts of non-point source nutrient loading and introduce a wide range of toxic chemicals into habitats important to smalltooth sawfish. The rate of urban development in the southeast coastal zone is more than four times the national average, destroying or degrading significant amounts of coastal and estuarine habitat. Commercial activities in the southeast eliminate or degrade substantial amounts of marine and estuarine fish habitat, although the exact amount is unknown. An analysis of 18 major southeastern estuaries recorded over 703 miles (1,131 km) of navigation channels and 9,844 miles (15,842 km) of shoreline modifications. Profound impacts to hydrological regimes have been produced in South Florida through the construction of a 1,400-mile (2,253-km) network of canals, levees, locks, and other water control structures that modulate freshwater flow from Lake Okeechobee, the Everglades, and other coastal areas.

Potential detrimental impacts from the activities listed above on habitat of the U.S. DPS of smalltooth sawfish include: (1) loss of wetlands, (2) eutrophication, (3) point and non-point sources of pollution, (4) increased sedimentation and turbidity, and (5) hydrologic modifications. Smalltooth sawfish may be especially vulnerable to coastal habitat degradation due to their affinity for shallow, estuarine systems. The cumulative impacts from habitat degradation discussed above may reduce habitat quality and limit habitat quantity available to the species. Given current low levels of abundance, and its current retracted range, efforts need to be undertaken to better understand, avoid, minimize and mitigate these factors.