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SAVING SAWFISH

Progress and Priorities

An Update on the Global Strategy
to Protect the World's Most
Threatened Marine Fishes

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Since the SSG Strategy was published:

- Hundreds of fishers all across Africa have been interviewed about their historical knowledge.
- Sawfish research has been undertaken in at least 35 countries.
- Scientific activity, measured by citations per year, has tripled.

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A Global Conservation Strategy

The sawfishes, revered for millennia by coastal people around the world, now face greater extinction risk than any other family of marine fish. The Shark Specialist Group (SSG) is executing a global strategy aimed at reigniting sawfish reverence and sparking conservation action in time to bring these iconic species back from the brink.

Characterized by long, toothed snouts ("rostra"), the sawfishes are the largest of the rays, reaching seven meters in length. Once found in the coastal waters and rivers of more than 78 tropical and subtropical countries, all five species are today classified as *Endangered* or *Critically Endangered* on the IUCN Red List. Mortality from targeted and incidental fishing is the main threat to sawfish. Their rostra are easily entangled in fishing gear, particularly trawls and gillnets. The destruction of key habitats, such as mangroves, also jeopardizes sawfish survival.

In 2012, the SSG convened an expert workshop to develop a comprehensive Global Strategy for Sawfish Conservation, which was published in 2014. In addition to setting forth a vision, goals, and prioritized actions, the strategy reviews sawfish biology, distribution, cultural value, history of exploitation, current threats, regional status accounts, and conservation policies.

In particular, the Strategy calls for complementing an existing international ban on commercial sawfish trade with national and regional actions to prohibit intentional killing of sawfish, minimize mortality of accidental catches, protect sawfish habitats, and ensure effective enforcement of such safeguards. The document also lays out specific objectives for strategic research, capacity building, effective communications, and responsible husbandry, as well as fundraising to ensure implementation.

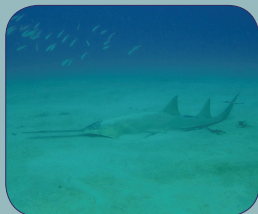
VISION: A world where sawfishes are restored – through understanding, respect, and conservation – to robust populations within thriving aquatic ecosystems

SAVING SAWFISH: PROGRESS SINCE 2012

The SSG Global Strategy for Sawfish Conservation is structured around two main goals:

Minimize threats through:

- fisheries management
- species protection
- habitat conservation
- trade limitation &
- strategic research.



© Kevin Morgan

Enable success through:

- education & outreach
- capacity building
- responsible husbandry
- communication &
- fundraising.



© The Deep

Regular evaluation of the Strategy is integral to its implementation. To that end, the SSG convened an expert workshop in November 2017 to review progress under the objectives, and update information related to population status.

Since its 2012 Sawfish Expert Workshop, the SSG has welcomed many advances that align with the Global Sawfish Strategy.

PROTECTION

• Domestic prohibitions:

- Bahrain (2012)
- Bangladesh (2012)
- EU (Mediterranean) (2015)
- Pakistan (2016)
- Costa Rica (2017)

• Improvements to existing national policies:

- Addition of 3 species (found outside the US) to the US Endangered Species List (2014)
- An Australian Multi-species Recovery Plan (2015)
- UAE ban on recreational landings of sawfish (& all other rays & sharks) (2016)

• Regional actions:

- Resolution by West Africa's Commission Sous-Régionale des Pêches to support listing sawfish under Convention on International Trade in Endangered Species (CITES) (2013)
- Workshops to facilitate implementation of CITES obligations for sawfishes & other listed rays & sharks
- Listing under Protocol for Specially Protected Areas & Wildlife in Wider Caribbean (2017)
- Protection Recommendation from the Shark Working Group of the Western Central Atlantic Fishery Commission (2017)

• Global commitments:

- Listing under CITES to ensure all sawfish are covered by Appendix I obligations (2013)
- Listing on Appendix I & II of the Convention on Migratory Species (2014)

OUTREACH

- SSG Sawfish Strategy presentations at conferences & workshops around the world
- International Symposium featuring 36 presentations representing 14 countries
- Inaugural International Sawfish Day (October 17), a global celebration of sawfishes
- Targeted educational campaigns aimed at American & Australian anglers

- Fisher, fisheries officer & scientist training in Brazil & India, & across the Arabian/Persian Gulf & Africa
- Educational video, "Saving Madagascar's Sawfish," in French (with English subtitles)
- Increased attention on social media

PUBLICATIONS

- A Strategy companion paper, "Ghosts of the coast: global extinction risk & conservation of sawfishes," published in Aquatic Conservation: Marine and Freshwater Ecosystems
- Nearly 70 scientific papers on sawfish ecology & distribution
- Translations of the Strategy into French & Portuguese
- Identification guides & data collection forms for use in regions across the globe
- Improved guidelines for safe release & a protocol manual for surveying & tagging
- A "King of the Fishes" picture book in English, French, Portuguese & Malagasy
- An updated elasmobranch husbandry manual

RESEARCH

- Ongoing, dedicated research into sawfish ecology & conservation in Australia & the US
- Surveys of historical knowledge & current status in nearly 30 countries
- An ongoing global effort to catalog & sample historic holdings of rostra
- Environmental DNA (eDNA) surveys to detect sawfish in regions of critical knowledge paucity
- Innovative proposals for monitoring/reducing bycatch in US & Australian trawl fisheries

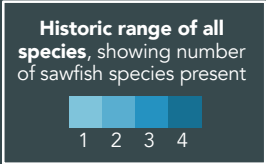
HABITAT CONSERVATION

- Efforts to identify & protect essential sawfish habitats in:
 - Australia
 - United States
 - Brazil
 - Mozambique
 - Costa Rica
 - India

HUSBANDRY

- Conservation messaging to boost interest in the 66 sawfish in public aquariums
- Flagship species status under the Association of Zoos & Aquariums (AZA) Saving Animals from Extinction (SAFE) program (2015)
- AZA species survival & breeding programs aimed at ensuring genetic diversity & self-sustaining populations (2017)

WHERE ARE SAWFISH STILL FOUND? WHERE ARE THEY PROTECTED?



Current range is outlined in white

- Parties to the Convention on Migratory Species (CMS) where sawfish may well still be found. These countries, through 2014 CMS listings, are obligated to strictly protect sawfishes and work regionally toward conservation.
- Countries with legal protections for sawfish.
- CMS Party Range States that have met their obligation to legally protect sawfish.

- Possibly Extinct
- Conservation Emergency
- Lifeboat
- Beacon of Hope

5 species of sawfish are found around the world, with a maximum of 4 species per region.

Largetooth Sawfish (*Pristis pristis*)

Sawfishes were historically present in 78 countries...



Since 2012, Smalltooth sawfish have been reported and even tagged in the Bahamas. Strict protections for sawfish and mangroves are needed.

While Largetooth Sawfish are gone from the US, the Smalltooth Sawfish population appears to be growing. Progress is attributed to legal protections, gillnet bans, education, research & focused recovery planning. Outreach, stricter enforcement, bycatch reduction, habitat protection & increased funding are still needed.

In 2016, a Smalltooth Sawfish was caught off Mexico for the first time in 10 years, sparking research to determine if a population still exists or the individual was a vagrant.

Captures of sawfish in the former stronghold of West Africa are now rare & sporadic.

Sawfish are still found in East Africa, but need for attention and assistance is urgent.

Green Sawfish have been reported in Sudan, Qatar, Iran, UAE, Oman & Bahrain in the last 5 years.

AMAZON DELTA

Spotlight on Brazil

Brazil's population of Largetooth Sawfish, likely South America's largest, is threatened not only by habitat loss, but also bycatch & demand for parts. Amazon Estuary net fisheries targeting a variety of species, including catfish destined for the US & EU, catch sawfish incidentally. Sales to tourists & exports out of South America are down since the CITES listings, but meat is often mislabeled as shark, while rostral teeth – prized as spurs for cockfighting – are smuggled into neighboring countries that lack sawfish protections.

PRIORITY ACTIONS:

- Enhanced enforcement of all Brazilian sawfish protections
- Bycatch reduction, possibly through market-based initiatives
- Dockside genetic testing to detect mislabeled meat
- Projects to discourage rostral teeth use for cockfighting in neighboring countries
- Outreach to boost Brazil's concern for its sawfish population.

Smalltooth Sawfish have not been seen in Costa Rica for 15 years, but recent records of Largetooth Sawfish provide hope that a population remains in Lake Nicaragua.

Largetooth Sawfish were thought to be extinct in the eastern tropical Pacific, but new records from Peru & Ecuador show they persist, albeit in low numbers.

Cuba has sawfish in suitable habitat. Regional treaties and positions Cuba advance sawfish conservation, including for its

A REGIONAL APPROACH

The US and Australia have protected sawfish populations and their habitat relatively well, and serve as "lifeboats" for the species. The Caribbean, Western Indian Ocean, Australasia and the Amazon Delta harbor significant yet under-protected populations. If conservation action is taken soon, these regions could represent "beacons of hope" for the species.

Workshop participants tailored regional approaches to focus sawfish conservation efforts while accounting for varying threats and capacity.

CARIBBEAN

Candidate Champion Partners: US, Bahamas, Netherlands
Priority Countries for Research and/or Protection: Cuba, Colombia, Costa Rica

Priority Actions:

- National protection promotion through SPAW*, WECAFC** & CMS
- Habitat conservation promotion through SPAW & UN projects
- Largetooth Sawfish listing in SPAW Annex II
- Expanded membership by key countries in SPAW, WECAFC & CMS
- Surveys in Nicaragua, Panama & Honduras
- Assessment of regional fisheries' interactions with & use of sawfish

* Protocol Concerning Specially Protected Areas & Wildlife

** Western Central Atlantic Fishery Commission

IUCN: Critically Endangered

IUCN: Endangered



Smalltooth Sawfish
(*Pristis pectinata*)



Green Sawfish
(*Pristis zijsron*)



Dwarf Sawfish
(*Pristis clavata*)



Narrow Sawfish
(*Anoxypristis cuspidata*)

...yet are now
found only in 36...



...and protected
in just 19.

22%

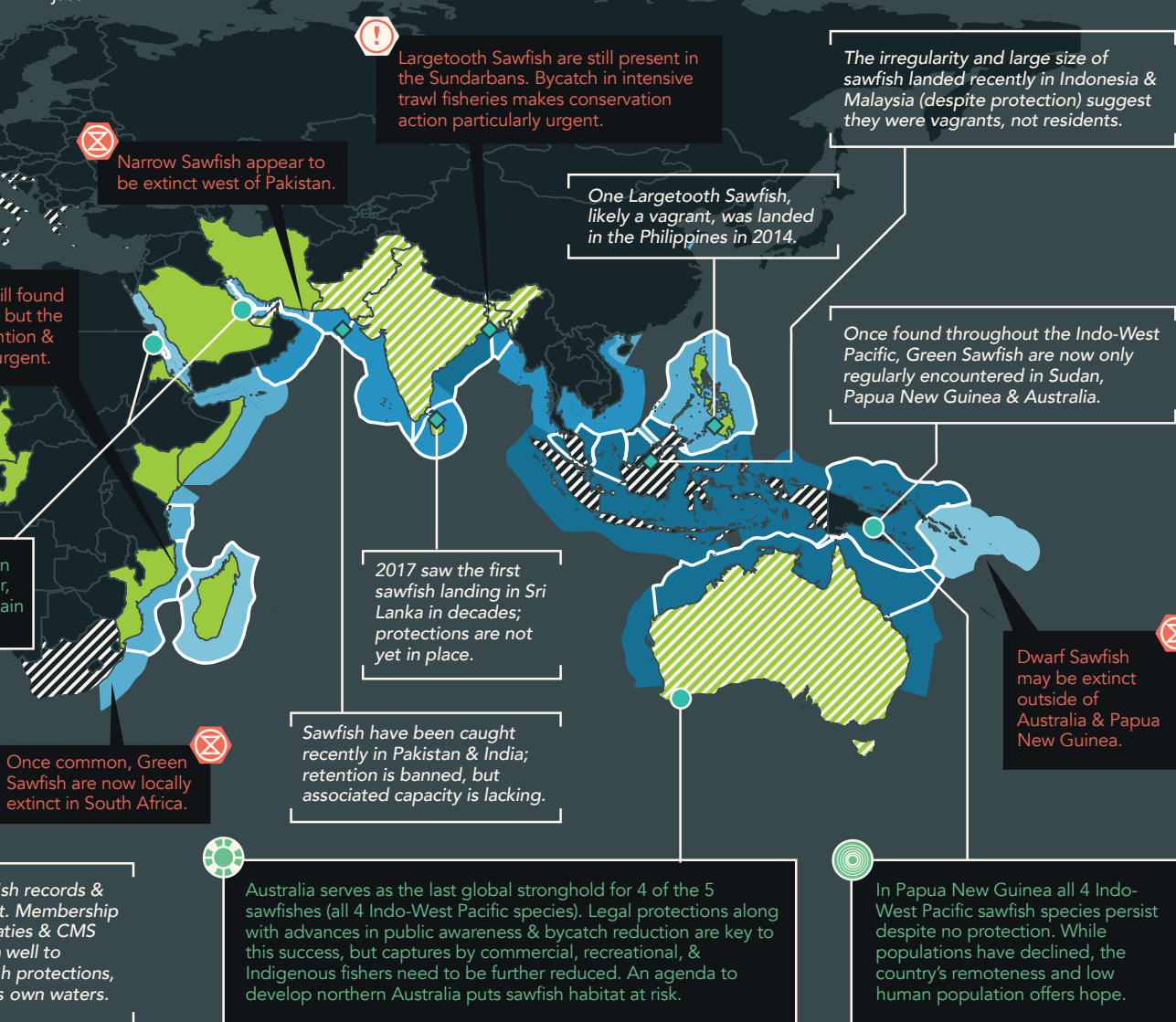
of fishers interviewed in
Mozambique had seen a
sawfish in the last 5 years.

84%

of fishers interviewed in
Papua New Guinea had seen
sawfish in the last 5 years.

47 OVER TWO
YEARS

Number of baby sawfish saved by
Traditional Owners from rapidly-
drying Australian billabongs.



WESTERN INDIAN OCEAN

Candidate Champion Partners: Kenya, Saudi Arabia, Pakistan
Priority Countries for Research & Protection: Sudan, Oman, Eritrea

Priority Actions:

- Increased capacity in all areas (data collection, safe release, enforcement, CITES)
- Research into current population range & critical habitats
- Alternative livelihood feasibility studies
- Assessment of fishing communities' constraints for releasing sawfish
- Pride campaigns across region modeled after Whale Shark festivals in India
- Sawfish focus through CMS & regional fora

AUSTRALASIA

Lead Champion: Australia
Priority for Research & Protection: Papua New Guinea

Priority Actions:

- Bi-lateral work to build capacity (assess, report, manage, enforce)
- Improved rate & technique for releasing bycatch, particularly from trawls
- Strict national protections
- Multi-level educational initiatives
- Protection of river & coastal habitats, and mitigation of mining effects
- Sawfish incorporated into existing regional conservation & research efforts.



© Anthony Planas

The first phase of the SSG Global Strategy for Sawfish Conservation has brought impressive progress. Although sawfishes remain in a dire state globally, the enthusiasm and activities sparked in recent years offer hope for a brighter future for these fascinating, iconic species.

Next Steps

The next stage of the Strategy is focused on developing regional approaches that account for differing cultures and opportunities across the remaining hope-spots.

Throughout the SSG Sawfish Network, members are expanding efforts to:

- inspire public appreciation
- inform sound conservation policies
- build capacity in developing countries
- develop & distribute educational materials
- investigate key aspects, such as:
 - o presence & abundance of populations
 - o life history, movements & critical habitats
 - o bycatch mitigation & post-release mortality
 - o risks from mineral mining, subsistence take & demand for parts
 - o alternative livelihoods & incentives for fostering stewardship
 - o historical knowledge in un-surveyed countries.

How You Can Help

Engagement from scientists, conservationists, government officials, fishers, divers, and the public is crucial to saving sawfish.

SPREAD THE WORD: Share information about the plight and needs of sawfishes with your friends, colleagues, and representatives.

REPORT SIGHTINGS: If you see a sawfish in the wild, or its parts for sale, ask questions and let the authorities know. Share the information on social media: [@IUCNShark](#)

BE AN ADVOCATE: Encourage government officials to prioritize protection of sawfish and their habitats through national actions and/or leadership in international fora.

CONDUCT A "RAPID ASSESSMENT": If you live in an area where sawfish presence is uncertain, you can gather important information through interviews with local people. (Go to [www.iucnssg.org](#) for details).

JOIN US: A key objective of the Sawfish Strategy is to grow our network of experts and regional leaders.

LEARN MORE: Explore these topics and more at [www.iucnssg.org](#)

The SSG is grateful to the Georgia Aquarium for hosting and helping to fund the 2017 Sawfish Workshop, and the Dallas World Aquarium for supporting travel of key participants. The Curtis & Edith Munson Foundation and the Disney Conservation Fund generously provided funding for production and distribution of this report.



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