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Fishing Industry and Misidentification Leading to Angel Sharks Decline

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An effort made to investigate angel shark populations before extinction strikes the Eastern Atlantic and Mediterranean Sea.

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By: Gretchen Spencer ***16 December 2020***

Seafood has become a staple in many diets worldwide, however the demand for targeted species has negatively impacted many organisms. Bycatch, or the unwanted fish and other marine organisms caught while targeting other species, are having tremendous population declines from inconsistencies between country's fishing guidelines.

Angel shark populations have been considerably diminished by the fishing industry in the Eastern Atlantic and Mediterranean. Angel sharks are bottom dwelling creatures that can grow to 1.8m long and have similar body structures to rays and monkfish. These sharks were historically caught as target species for their meat, skin, and liver, leading to early declines in their populations. Today the hunt for angel sharks has lessened, but they are generally caught in trawl and gill nets as bycatch.

Historical sightings of angel sharks are recorded as far south as Namibia, Africa, to as far north as the North Sea. This extensive range makes conservation difficult, as their habitat crosses many countries who differ in fishing regulations. Three angel shark species are currently categorized as critically endangered, however, data on population sizes and distributions are not up to date. The Angel Shark Project has stepped in to help fill these gaps.

The Angel Shark Project is a collaborative effort made up of educational institutes, non-governmental agencies, charities, and conservationists with one goal in mind: conserving angel sharks internationally. They held workshops that brought together fishermen, political officials, scientists, historians, and many other independent groups that helped create updated species-specific distribution maps and strategies for international conservation policies regarding angel sharks. The three angel shark species that were being investigated were Sawbacks, Smoothbacks, and Angelsharks.

In these workshops, researchers looked at historical fisheries data, food service records, sightings and landings data, and literature reviews on angel sharks. International, regional, and national protective measurements on angel shark species were also noted. Their compiled information was used to determine if each species of angel shark was today extant, possibly extinct, or presence uncertain in areas where they were previously listed as living.

A 50% loss of angel shark territory was found compared to previous distribution data. The only locations that all three angel sharks were found to be highly present were the Aegean Sea, the coast of Turkey, and the Mediterranean basin near Tunisia and Sicily. Fishing regulations and angel shark protective measurements have increased over the past 30 years, yet major population depletion is still shown in the data. The researchers believe the previous habitat distributions were made from misidentification and false landing data on angel sharks.

Moving forward, the Angel Shark Project wants to maximize time and money spent on protecting angel sharks across the Atlantic and Mediterranean. Therefore, more research must be conducted to comprehend what population issues are occurring and how to mitigate them at the governmental level. The Canary

Islands are one of few success stories in angel shark management. Spain banned all trawl fishing in 1986 and angel sharks began utilizing the untouched ecosystem for their breeding and feeding grounds. With little human interference, and strict policies in place, angel shark populations are making a comeback in these waters.

Angel sharks are on the brink of extinction but coordinated research and policy efforts between countries will be able to save these angel-like creatures from disaster.

Citation:

Lawson, J. M., Pollom, R. A., Gordon, C. A., Barker, J., Meyers, E. K. M., Zidowitz, H., Ellis, J. R., Bartolı´, A´., Morey, G., Fowler, S. L., Alvarado, D. J., Fordham, S. V, Sharp, R., Hood, A. R., and N. K. Dulvy. (2019). Extinction risk and conservation of critically endangered angel sharks in the Eastern Atlantic and Mediterranean Sea. *ICES Journal of Marine Science*, **77**: 12–29.