

**Testimony of Dr. Glenn R. Parsons**

**Professor of Biology and Director of the Center for Biodiversity and Conservation  
Research; Department of Biology; The University of Mississippi**

**Before the Congressional House Water, Power, and Oceans Subcommittee**

**On**

**H.R. 5248, H.R. 1456**

**April 17, 2018**

**Introduction**

Thank you Chairman Lamborn and subcommittee members. First, I would like to express my deep appreciation to the many Republican and Democratic legislators for supporting the Shark Fin Sales Elimination Act (H.R. 1456). It is very gratifying to see the bipartisan support that this legislation has enjoyed. I am honored and excited to be given the opportunity to provide my point of view. In this testimony, I hope to convey to you a sense of how important this legislation is to me personally and, no doubt, to many of your constituents.

My name is Glenn Parsons, a Professor of Biology at the University of Mississippi, where I teach, among other things, Conservation Biology and The Biology of Sharks. I am also Director of the University of Mississippi Center for Biodiversity and Conservation Biology. As director, I represent some 30 scientists who are committed to investigating means to help maintain the biodiversity of the planet, and all of whom support the Shark Fin Sales Elimination Act.

**Brief Credentials**

Regarding my academic credentials: my undergraduate degree is from the University of Alabama, Birmingham, my master's degree is from the University of South Alabama, and my doctoral degree is from the University of South Florida, School of Marine Science. I have been recognized and received awards for my marine and freshwater conservation research by the World Wildlife Fund, the Rolex Corporation, the Walton Foundation for Marine Research, the National Fish and Wildlife Foundation, two different governors of Mississippi (one a Democrat and the other a Republican), the National Marine Fisheries Service, The U.S. Army Corps of Engineers, the Mississippi Department of Wildlife and Fisheries, and various other organizations. I have directed to completion 18 master's and doctoral graduate students, many of them shark biologists. I have studied sharks for the past 40 years, published over 100 scientific papers, reports, books and popular articles on sharks and other fishes, and received millions of dollars of grant funds to investigate shark and fish biology.

## **Research Efforts**

Approximately 15 years ago, my research focus turned to the problem of bycatch in commercial and recreational fisheries. Bycatch refers to the unintended, unwanted capture of non-target species. An example of this is the non-target sharks captured during commercial tuna fishing. Unfortunately, the vast majority of those sharks do not survive the stress of capture. Bycatch is an enormous problem in many fisheries around the world, and new technology to reduce or eliminate bycatch is sorely needed. As a matter of fact, I received an award from the World Wildlife Fund for my work on bycatch. I have worked very closely with the National Marine Fisheries Service and with many members of the commercial fishing industry in the Gulf of Mexico and Atlantic to address the bycatch issue. Recently, we received research funding to investigate novel methods to allow sharks to escape after being hooked by fishers and to help sharks survive the rigors of capture. This work on shark bycatch has been some of the most rewarding and perhaps the most important of my professional career!

## **Sharks: A Personal View**

When I was invited to submit testimony in support of this legislation, I asked myself “What are my credentials for doing this?” My credentials for delivering this testimony are not my degrees, titles and scientific accomplishments. Not the classes I teach, the graduate students of shark biology I have directed, nor the amounts of grant money and awards I have received. My most important credential is my 40 years of personal experiences with sharks.

I have been slapped, slashed, and bitten by sharks. I’ve assisted with shark birth and was the first to document sharks being born on film. I have walked sharks around in shallow, tropical water for hours, trying to help them recover from capture stress. I have spent long hours in the laboratory, and countless hours at sea, investigating methods that might help sharks to survive the stress of capture. I have taught many students the wonders of shark biology. I have even written and recorded a song about sharks. For what it is worth, my friends and family affectionately refer to me as “Sharkman.” To say sharks occupy an important place in my psyche is clearly an understatement.

## **Sharks as Keystone Species, Shark Fisheries**

Sharks likewise occupy an important place in oceanic ecosystems. As a top predator, they play an important role in regulating the populations of their prey species. Reducing or eliminating these “keystone species” may result in unpredictable, deleterious, and potentially irreversible changes in marine community structure. A “cascade” of effects caused by declining large shark populations has already been scientifically documented. The decline in shark populations has been the result primarily of commercial and recreational fisheries and the demand for the most prized parts of their bodies – the fins.

In general, shark species are terrible candidates for supporting a fishery. Consider their biology; female sharks produce relatively few “pups,” some may require many years to mature, and some have a long lifespan that is necessary to produce the number of offspring to maintain their

populations against natural rates of attrition. Superimpose the added burden of many millions of sharks removed from the oceans by fishing and you have a recipe for disaster:

- 70 to 100 million sharks killed by commercial and recreational fishers each year, and some estimates have been as high as 270 million.
- Shark populations reduced by 50 to 90% over the last 10 years.
- Troubling declines in the “great” species of sharks in the world’s oceans.
- Sixty-eight of the approximate 500 species of sharks listed by the IUCN are Vulnerable, Endangered, or Critically Endangered.
- Sixty species listed as Data Deficient.
- Cascading ecosystem effects due to shark removal.

A 2013 study in the journal *Marine Policy* found that sharks continue to be captured at rates that far exceed their ability to replace themselves. This paints a very disturbing picture for a fishery and for attempts to manage that fishery. Management is possible for some of the smaller species, but for large species, carefully collected biological data is required, a difficult task in the face of limited management personnel and limited resources. Despite herculean efforts on the part of federal and state managers, we still lack critical data necessary for management of the vast majority of shark species. Compiling shark data for population modelling is difficult and complicated by the fact that different populations of the same shark species could have very different management needs depending on where they’re located. Mortality rates (and other biological data) estimated for the southern populations of a particular shark species may not be the same as in northern populations of the exact same species. This begs the question, how many shark populations are there in the world? We have no idea.

The message is clear; our understanding of shark population dynamics for most species is rudimentary at best and non-existent at worst, making the idea of a sustainable fishery for most shark species farcical at this point in time. To exemplify the above problem, when I first became involved in shark research in the late 1970s, there were only two reasonably sound estimates of shark natural mortality. Fast forward to 2018, over 40 years later, and there are maybe 5 species (out of 500!) whose natural mortality has been estimated with some reliability. It’s taken over 40 years and we don’t have much more information than we did when we started – and this is only one example of the lack of data for many shark stocks both in the United States and abroad.

## **Sharks and the Devastating Fin Trade**

The demand for shark fins is one of the main reasons for declines in shark populations around the world. Every year, up to 73 million sharks end up in the global fin trade. The demand for these fins fuels shark finning – the act of slicing the fins off a shark and dumping its body back at sea where it will drown, bleed to death, or be eaten alive by other fish. This shark fin trade is devastating. New studies have revealed that 91.3 percent of the fins in the global fin trade are from unsustainable sources, and fewer than 10 species in the Hong Kong fin trade have sustainably managed fisheries anywhere in their range.

The United States has stated that shark finning is abhorrent and against the law, yet we still import fins from countries that are actively finning, thereby creating economic incentives for the act to continue. Fins entering the United States have come from countries that have no regulations against finning, and those fins could have quite possibly been removed in a manner that is illegal in U.S. waters. Once a fin is in the United States, it is nearly impossible to tell if it came from an illegal or legal source.

To help make sure that no fins from finned sharks are being sold within their borders, 12 states (Hawaii, Oregon, Washington, California, Illinois, Maryland Delaware, New York, Massachusetts, Texas, Rhode Island, and Nevada) and all three Pacific territories have banned the sale and trade of shark fins.

In addition to states taking action, private companies are also refusing to ship or sell shark fin products, including Amazon, GrubHub, many hotels and major airlines, Hong Kong Disneyland and multiple shipping companies. Over 51 percent of international airlines, by seat capacity, have now banned shark fins. Worldwide, 17 of the 19 biggest shipping lines measured by container capacity have banned shark fins, impacting 71 percent of the global market. However, as companies and states close the door to the shark fin trade, other doors remain open, and the market shifts accordingly.

For example, after California and Illinois enacted their bans, shark fin trade activity in the United States shifted primarily to Texas. Now that Texas has implemented its own shark fin trade ban, the trade in shark fins has begun to move to Georgia. The United States is engaging in a game of whack-a-mole, as the shark fin trade shifts in response to a growing patchwork of fin trade bans. Additionally, even states that have bans, like California, are still importing fins because of enforcement issues with interstate commerce.

With previous legislation, the U.S. Congress has made its stance clear on the cruel and wasteful practice of shark finning. And yet, fins from finned sharks, even likely including fins from sharks that are threatened or endangered, are being bought and sold in the United States. Additionally, previous laws did not address the main problem: too many sharks are being killed, and one of the main factors for this is the demand for their fins – whether they are finned or taken to shore with their fins naturally attached. But this is a solvable problem. A national ban like the Shark Fin Sales Elimination Act (H.R. 1456) would solve many of these issues. To be clear, H.R. 1456 does not prohibit *shark fishing*, it merely prohibits the sale and trade of the shark's fins.

### **Sharks as Living Treasures**

The frequency at which sharks appear in literature, film, and television attests to their popularity among vast numbers of people in the U.S. It seems that folks have an almost unlimited capacity for anything shark-related. Go to any public aquarium and you will see patrons standing in rapt attention, absolutely captivated by the power and grace of sharks as they pass before them. I can describe the feeling of fascination that myself and many of your constituents receive from being in wild places, experiencing sharks in their natural habitat, and feeling that I am, at least for a time, connected to the natural world. The sensory biology of sharks, and the fact that they are capable of detecting the faintest electric fields, a sensory modality that we as humans cannot

begin to appreciate, is awe-inspiring. Not only are sharks valuable in an aesthetic sense, they represent a treasure-trove of valuable biological information. For example, recent findings indicate that compounds discovered in sharks have great potential as pharmaceuticals to treat various human diseases. The drug discoveries that shark biology is presently providing will no doubt alleviate much human suffering.

## **Conclusions**

We are losing wild places in the world and the species that inhabit them at an alarming rate. The species remaining are compressed into smaller and smaller areas, a serious problem called *habitat fragmentation*. Unless we start being smarter about how we treat the environment and the organisms found there, most biologists predict that we will see many extinctions in the very near future. While I have always been skeptical of gloom-and-doom predictions, I have seen the numbers and they do not look good. Habitat fragmentation and loss of biodiversity are the two biggest problems faced by conservation biologists today.

I have personally witnessed declines in populations of large sharks in the Gulf of Mexico. It is clear that a major factor driving shark population declines is the demand for shark fin soup. The fear among many scientists is that we will soon lose many of the largest shark species to extinction. Extinction is permanent. You do not get a do-over with extinction.

Finally, the foundations of the field of conservation biology began with the religious idea of man as a faithful steward of creation. Many of the religions of the world believe there is a connection between the natural and the spiritual world. Extinction breaks that connection and diminishes the earth. A short quote from my book “Sharks, Skates and Rays of the Gulf of Mexico”:

*“Extinction of an organism is like discovering ancient texts written in a language that we cannot yet decipher, and then destroying them all. Who knows what mysteries would have been solved, what questions could have been answered by the words written there?”*

Will we look back on this day and regret that we should have been better stewards? This is our moment to send a message to the world that the U.S. will no longer participate in the trade in shark fins. I hope that we will not miss our moment.

Glenn Parsons, PhD