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Testimony for Marshall Islands Senate Committee on Resources and Development  
Public Hearing on Shark Protections  
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Pew Environment Group  
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On behalf of the Pew Environment Group, I thank you for the opportunity to provide this testimony.

Sharks have played an essential role in the world's oceans for more than 400 million years. They have survived multiple mass extinctions, but they are not equipped to withstand the threats now posed by humans. Their life history characteristics, such as slow growth, late maturation and production of few offspring, make them vulnerable to overfishing and slow to recover once depleted. As a result, shark populations are in trouble globally.

The demand for shark fins, meat, liver oil and other products has driven numerous shark populations to the brink of extinction. The growing demand for the Asian delicacy, shark fin soup, has led to the killing of up to 73 million sharks a year. Too often, fishermen slice off the valuable fins of a shark and discard the bodies at sea. This wasteful practice known as shark finning utilizes only 2 to 5 percent of a shark and is a leading threat to healthy shark populations.

The International Union for Conservation of Nature (IUCN) Red List of Threatened Species has assessed that 30 percent of shark and ray species around the world are Threatened or Near Threatened with extinction. According to the Food and Agriculture Organization of the United Nations, more than 50 percent of highly migratory shark species are either overexploited or depleted. The status of 35 percent of shark species is unknown.

Sharks are critical apex predators at the top of the food web and play a key role in maintaining the structure and function of the ecosystem. They regulate the variety and abundance of the species below them in the food web, including commercially important habitats and fish species. The removal of sharks can cause dramatic shifts in the population sizes of other species, which can cascade throughout the food web, disrupting the balance of the ecosystem.

Studies show that thriving coral reefs are associated with healthy shark populations. In the Pacific, scientists compared the conditions of coral reefs in relatively pristine, less populated areas with reefs that were heavily impacted by human activities, such as overfishing and habitat destruction. In the pristine locations dominated by sharks and other large predators, scientists found more stable, healthy coral reef ecosystems with a high abundance of sea life. In areas dominated by human activity where sharks have been overfished, changes were seen throughout the marine environment, including negative impacts on corals.

Similar studies in the Caribbean Sea found that many corals depend on herbivorous fish, like parrotfish, to eat algae and allow new coral the opportunity to settle and grow. When sharks are removed, the larger fish, which feed on herbivorous fish, increase in abundance, without the smaller fish to eat the algae, coral organisms have trouble competing. As populations of these fish declined, they were no longer able to keep algae growth in check, and coral organisms had trouble growing on the reef. As a result, the reef shifted to an algae-dominated ecosystem which lacked the diversity of marine species found in healthy coral reefs. These findings indicate that fish abundance and thriving coral reefs are associated with healthy shark populations. A healthy reef plays an important role and provides resilience to environmental impacts associated with increased sea level rise and pollution run-off.

The Hawaiian coral reef ecosystem provides another example of the unpredictable consequences that the removal of sharks may have on the disruption of the ecosystem balance and how such a removal spreads through the food web in complex ways. When tiger sharks were removed from the system, seabirds, along with other prey species, increased in abundance. Without the predatory control of sharks, seabird populations were relatively unchecked feeding more on the tuna and jacks, which caused an unexpected crash of these economically important fish populations. While these results are based on a scientific model, comparisons of the northwestern Hawaiian islands and the main Hawaiian islands have shown jacks are present when sharks exist in the system, and jacks are relatively absent with the disappearance of sharks.

Changes in shark abundance can impact ecosystems in significant ways with broad and negative outcomes, including the degradation of marine habitats and collapse of commercial fisheries. Sharks need protection before the ecosystem effects of their decline become irreversible. The effects of losing sharks are complex and often hard to quantify but, similar to land species such as lions and tigers, the loss or severe depletion of an apex predator can have far-reaching ecological and economic consequences across the ecosystem.

Several nations have taken steps to protect global shark populations, starting with the Republic of Palau, which created the world's first national shark sanctuary in 2009. Since then, the Maldives, Honduras, and most recently The Bahamas, have also created national shark sanctuaries.

A shark sanctuary is the strongest measure a nation can take to protect sharks. These first shark sanctuaries were implemented by various mechanisms (presidential decree, fisheries regulations, and legislative action), but they all have three basic components that define them as shark sanctuaries.

**First, a shark sanctuary is an area that bans the commercial fishing of sharks.** The nations that have implemented shark sanctuaries have emphatically stated that they do not want their sharks targeted by commercial fishing vessels. Palau and The Bahamas did not have a targeted shark fishery before they announced their shark sanctuaries, but the Maldives and Honduras did. Due to their unique biology, sharks are not able to sustain their populations when subjected to commercial fishing. shark fisheries generally experience cycles of boom and bust, where initial high catches of sharks are followed by a precipitous crash.

**Second, a shark sanctuary is a place that permits zero retention of sharks and shark fins.** Many fishermen point out that it is difficult to fish for tuna without also catching sharks as bycatch. Many times shark are caught alive and can be released back into the water, but other times they do die on the line. The other shark sanctuary countries decided that allowing sharks caught as “by-catch” would unfortunately provide a major loophole and incentive that would allow for sharks to be targeted and kept. Distinguishing between shark fins that were caught as bycatch, or purposely targeted would be near impossible and extremely difficult and costly to enforce, therefore they decided that the only policy that would make sense to ensure healthy shark populations was one that permits zero retention of sharks and shark fins.

A shark sanctuary that does not require the return of all shark bycatch to the sea will be ineffective.

**Finally, a shark sanctuary is a place where the sale, trade and possession of shark is banned.** This characteristic of a shark sanctuary is analogous to the trade bans that were implemented on ivory tusks in order to protect elephants. While sharks are killed for their meat, skin and livers, it is their fins that fuels their overfishing. Putting an end to the shark fin trade is an important component of protecting shark species from extinction.

The Republic of the Marshall Islands is on the brink of becoming the fifth place in the world to create a national shark sanctuary. Pew congratulates and thanks this body for considering such important legislation. Pew also congratulates and thanks Senator Tony DeBrum for introducing this legislation; the Marshall Islands Association of Mayors for passing a resolution in support of atoll-level protections for sharks, the first of its kind in the Pacific; President Jurelang Zedkaia for signing onto the Micronesia Regional Shark Sanctuary agreement, also the first of its kind in the Pacific; the Marshall Islands Marine Resources Authority and its director, Glenn Joseph, for implementing a shark fishing moratorium and working to make the moratorium permanent; and to the Marshall Island Conservation Society and its director, Albon Ishoda, for undertaking important work with the community to educate them on the importance of shark conservation.

If the Marshall Islands were to decide to move forward in creating a shark sanctuary with protections in line with what the peoples of Palau, Maldives, Honduras and Bahamas have implemented, Pew would be interested in working with you on (1) educational, (2) enforcement and (3) research needs. We have been talking to the Marshall Islands Conservation Society at the national level and the Micronesia Conservation Trust at the regional level on how we might be of help in these areas.

Thank you.