



What are sixgill sharks?

Bluntnose sixgill sharks, or *Hexanchus griseus*, are members of the cowshark family. Most sharks have five gill slits, but sixgills are aptly named because they have six. At a mature length of about 14 feet, they are one of the top ten largest predatory sharks of the world – and they not only live in Puget Sound, they can often be found swimming directly below the Aquarium's Pier 59.

What is special about them?

The sixgill sharks of Elliott Bay and Puget Sound are not well understood due to a lack of information on their species and abundance. These reclusive creatures are generally found in very deep water, which makes them difficult to study. Their presence in the shallower waters of Puget Sound creates a unique opportunity to discover more about them.

The sixgill sharks represent a modern manifestation of what could be a very ancient animal. Sharks very similar to the sixgill are thought to have been present on earth as far back as the Jurassic era. An ecological implication is that these sharks may have occupied a unique niche at the ocean bottom that may have been present as a stable habitat since that era. Their continued success shows the potential that no more modern sharks have any selective advantage that would make them more successful in this habitat.



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Research Partners:

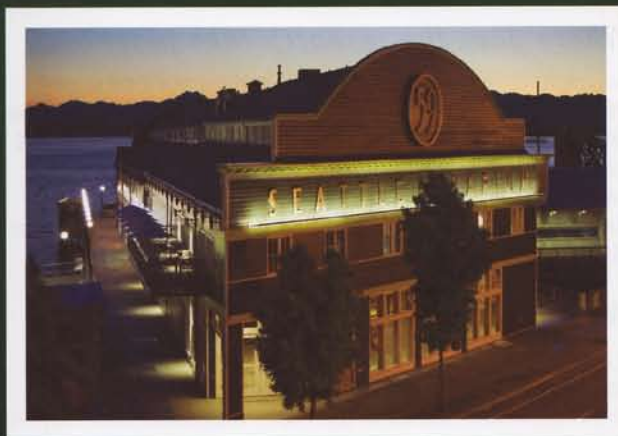
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Washington Department of Fish and Wildlife:
www.wdfw.wa.gov

University of Washington: www.washington.edu

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**Mysterious, 14-foot long sharks
live right here in Puget Sound**

GET TO KNOW OUR PUGET SOUND SIXGILL SHARKS



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What kind of shark research is the Seattle Aquarium doing?

With our research partners biologists at the Seattle Aquarium are examining the sixgills' patterns of movement, home ranges, gender, local abundance, return rate and population boundaries. This data is being obtained through interwoven programs of genetics research, visual marker tagging, and acoustic tracking – and it is being shared with the scientific community as well as the general public.

What has the research discovered so far?

A few highlights:

- » There may be far more sixgill sharks in the local waters than we thought. Population estimates from genetic diversity show a potentially large number of adults contributing to the local population.
- » Puget Sound may be an important nursery ground for sixgill sharks. We are working on determining the extent of its importance to this species. It is not yet known if this region is critical to local sixgill sharks, those of the eastern Pacific or to the species as a whole.
- » Sixgill sharks are present in the Sound year round. There may be seasonal differences in abundance or at least their numbers in relatively shallow waters may peak in the summer months.
- » Sixgill sharks are polyandrous, which means that females can carry pups from more than one male.

- » Many sixgills appear to spend a portion of their early life (up to nine feet in length) traveling together with other closely related sharks; full or half siblings. These are potentially sharks from the same litter.

Of the roughly 350 shark species worldwide, 79 are considered imperiled.

- » Although our local sixgill Shark population appears healthy, in other waters it's estimated that millions of sharks are caught every year, for food and shark fin soup. Sharks also are caught accidentally and die as "by-catch" of other fisheries.
- » The Seafood Watch Program recommends avoiding the consumption of any shark species.

Where does the research take place?

Aquarium divers are able to observe and tag our local sixgills from an underwater research station located below Pier 59. The original station, built in 2003, was demolished when the rotted pilings supporting the pier were replaced. The station has now been rebuilt and – supported with findings from the archival data collected from the previous station – Aquarium staffers are able to direct their research more efficiently.

Where do they live?

It is believed that sixgill sharks can be found worldwide in temperate ocean bottom locations but are rarely encountered in shallow waters outside of the Pacific Northwest. They may be the most widespread shark species in the world.

What do they eat?

The sixgill, like most sharks, is solely carnivorous. The animal is well adapted to maximize its efficiency as both a predator and a scavenger. Stomach content analyses from sixgills worldwide have shown representatives from items as small as crabs and shrimp, through all size and species of fish prey, up to and including marine mammals. Its body shape minimizes its energy expenditure for long distance swimming. Its eyes are specially adapted to see well at bioluminescent levels. High light levels appear to be one of the limiting factors keeping this shark out of shallow waters on a regular basis.

How big do they get?

At birth, sixgill sharks are about 27 inches long.

Fully grown male sixgills average 10 feet long and weigh over one thousand pounds. Females average 14 feet long and can weigh more than 1500 pounds. Weight in females varies widely with their reproductive cycle. While we know sharks mature slowly, no one knows how long it takes for sharks to become mature.

Are they edible? Can I fish for them in Puget Sound?

No, due to their high mercury content, there is neither sport or commercial fishing of the sixgills in Puget Sound. A permanent ban on sport fishing for sixgills was put in place by Washington Fish and Wildlife in May 2001.