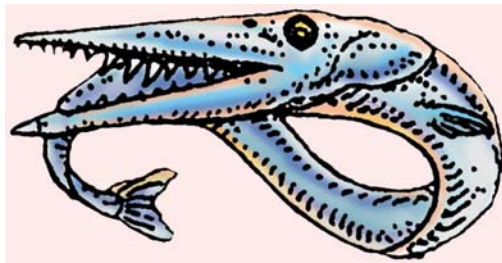


AF American Fisheries Society

Organized 1870 to Promote the Conservation and Wise Utilization of the Fisheries
Alaska Chapter organized in 1974

135th Annual Meeting of the American Fisheries Society in Anchorage.
September 11-15, 2005, Egan Center and Performing Arts Center.

BACKGROUND INFORMATION about SHARKS AND SKATES



Daggertooth by Ray Troll, used with permission

Jaws in Alaska

Salmon and halibut aren't the only fish in the sea. Alaskan waters are home to a myriad collection of sharks and skates. As fish stocks are depleted, more of these predators are being exploited for food. These unique fishes, called elasmobranchs by the scientists who study them, are the top predators in the ocean and help keep fish stocks healthy.

Many shark species are particularly vulnerable to exploitation because of their slow growth rates, late maturity, lengthy gestation periods and low reproductive rate. This combination results in slow population increase, and low resilience to fishing mortality.

Elasmobranch stocks that have been fished have usually collapsed within a few years. In addition some elasmobranchs taken as bycatch in fisheries have been driven to the brink of extinction. Several species are considered as threatened with extinction, and recently products of three shark species were outlawed in trade.

Skates are more common than sharks in Alaska and the far north Pacific Ocean. There are at least 11 species of skates and only 3 shark species commonly seen in Alaska waters. In contrast, sharks and rays are very diverse further south in the temperate zone of the North Pacific Ocean.

Sharks in Alaska

The common sharks in Alaska are the salmon shark, the spiny dogfish and the Pacific sleeper shark. Alaskan fishers, both recreational and commercial are probably most familiar with the spiny dogfish as an unwanted 'by-catch' when they are fishing for something else.

There is a perception by some that shark numbers are increasing in Alaskan waters and shark bycatch is considered a nuisance. However, there are no data to support an increase in shark abundance in Alaska waters. Consequently, pressure is increasing to open directed commercial fisheries targeting some shark species, particularly spiny dogfish.

Alaska Salmon Shark

Salmon sharks congregate in salmon migration corridors and in Prince William Sound bays near salmon spawning grounds during the summer months. The sharks disperse as salmon runs decline in late summer. Some continue to forage in PWS and the Gulf of Alaska through the autumn and winter months, while others move thousands of kilometers south toward the west coasts of Canada and the United States.

Salmon sharks are warm-blooded. They have counter-current heat exchangers allowing them to hold their body core temperature at 78 °F regardless of changes in water temperature.

A small number of charter boats that target salmon shark concentrate in Prince William Sound. Females made up 70-90% of the harvest. Most harvested sharks were 5-20 years old, 100-400 lb round weight, and six to eight-and-one half feet in length

Female salmon sharks in the eastern North Pacific become sexually mature at age six to nine years, while males are believed to become sexually mature at three to five years old. Salmon sharks in the eastern North Pacific mature at an earlier age and weigh more than their same-length counterparts in the western North Pacific.

Alaska Spiny dogfish

The long lived spiny dogfish is common from the Bering Sea to Baja California and northern Mexico. There is increased concern about the possibility of overfishing in the northeastern Pacific as a result of both bycatch and directed fishing effort. Historically, spiny dogfish are among the most exploited species. They supported commercial fisheries in the Pacific Ocean for over 100 years and have been declared overfished in the North Atlantic.

However, relatively little is known about dogfish in Alaska and their role in Alaskan ecosystems. Increasing numbers of dogfish are being landed as "bycatch" in many of the commercially valuable fisheries, such as the sablefish, salmon and halibut fisheries and large numbers are discarded at sea.

Are dogfish really everywhere in the Gulf of Alaska? Public perception of spiny dogfish predation on other popular fishery resources has increased. In 2004, the Alaska Board of Fisheries adopted a permit provision for a directed spiny dogfish fishery in lower Cook Inlet state waters and supported a cautious approach that incorporated a relatively low harvest quota (<50 metric tons).

Alaska pacific sleeper shark

Pacific sleeper sharks are a relatively deep-water species that likely employ a stealth and ambush hunting strategy. They make slow vertical migrations to search for prey, have camouflage coloration and may use the cover of darkness to sneak up on potential prey.

The most striking behavior of Pacific sleeper sharks in the northeast Pacific Ocean is their extensive, nearly continuous vertical movements. They systematically swim up and down an average of 3.7 miles a day. The longest period of continuous vertical movement (over 180 feet per hour) was 330 hours. They usually stay in 500 and 1700 feet deep, but ascents above the 300 foot depth are common. They stay deep and approach the surface at night. While most sleeper sharks stay within a 60 mile area, a few have been relocated 150-300 miles away.

Skates

Skates play significant role in food webs, consuming a variety of fish and invertebrates including commercially important species. Skates are distributed throughout the eastern North Pacific and are found from shallow inshore waters to very deep benthic habitats. Directed catch of skates is mostly large female big skates. Skates in the Eastern North Pacific are very vulnerable to over fishing. Given the paucity of life-history information, studies are currently underway to gather data on the age, growth and reproductive biology of eight species.

Alaska Skates

At least 11 species may inhabit the waters off Alaska. However, very little is known about migratory habits or population structure for any skates or rays in Alaska or off the northern Kuril Islands and southeastern Kamchatka.

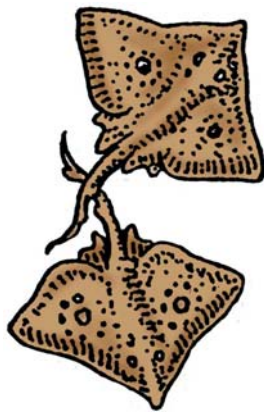
Nursery grounds for several Alaska skates were identified in the south eastern Bering Sea. The nursery sites are species specific and are relatively small in area, about 5 nautical miles square. Egg deposition cycles last an estimated nine months and egg hatching times may be greater than one year.

The shark symposium starts Monday at 1:20pm, Alaskan artist Ray Troll will give a scientific paper on sharks at 5:20pm, and the session will continue Tuesday morning until noon. Shark, skate and ray experts will be available in the Egan mezzanine conference room for press interviews after the Tuesday morning session (approximately noon) on September 13.

Approximately 2,300 fisheries scientists are expected to attend, including some of the world's foremost experts on fish and fisheries. The technical program includes 1,800 oral and poster presentations over four days.

The American Fisheries Society is the world's oldest and largest fisheries science society, with more than 9,000 members in 70 countries. Its mission is to improve the conservation and sustainability of fishery resources and aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals. The society publishes four journals, Fisheries magazine, and up to a dozen books every year.

For more information, visit our website at: <http://wdafs.org/Anchorage2005/media.htm> or contact Kate Wedemeyer at 929-3633.



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