



SPINY DOGFISH (*Squalus suckleyi*)



Spiny Dogfish are fairly small, sleek looking sharks. They are light brown or grey on their top side and lighter underneath. They often have white spots on their back and sides. Spiny Dogfish have spines in front of each of their two dorsal fins which is a distinctive characteristic. The only other shark that has similar spines is the Horn Shark, which is brown with black spots and has a blunt head.

OVERVIEW

- **Oregon Conservation Strategy Species**
- **Size:** Up to about 51 inches long
- **Weight:** Up to about 20.7 pounds
- **Lifespan:** Up to 80 or possibly 100 years
- **Key Strategy Habitats:** Nearshore, Estuaries
- **Similar Species:** Other sharks.

RANGE AND DISTRIBUTION

In Oregon: Spiny Dogfish can be found throughout the state's marine waters and in estuaries.

Everywhere Else: Spiny Dogfish range from Korea up into the Chukchi Sea and Bering Sea and from Alaska down into the Gulf of California. Along the west coast of North America, they are common from Kodiak Island, Alaska to central Baja.

FUN FACTS

Favorite Food: Small schooling fish, crab, shrimp, and squid, but they will eat almost anything they can get.

- Spiny Dogfish skin was used by Native Americans as sandpaper.
- Spiny Dogfish can form massive schools anywhere from the surface to the bottom.
- Spiny Dogfish in the Pacific are the longest living, slowest maturing shark species in the world and they have the longest gestation time of any vertebrate.
- Although there are similar closely related species in other parts of the world, the Spiny Dogfish in the North Pacific is a distinct species found only here.
- Some Spiny Dogfish tagged off Washington and British Columbia moved all the way across the Pacific Ocean to be recovered off Japan, but most of the fish tagged in the Strait of Georgia stayed there.



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LIFE HISTORY AND ECOLOGY

Like all sharks Spiny Dogfish have skeletons made entirely of cartilage without any true bones, their tooth-like scales are rough to the touch, and they have internal fertilization. Although the timing of fertilization may vary somewhat throughout their extensive range, Spiny Dogfish mate from October to January in the Strait of Georgia where they have been studied most extensively. Spiny Dogfish are the longest lived and latest maturing shark species. Spiny Dogfish start their lives as embryos that take up to 24 months to develop inside their mothers before they are born. This is the longest gestation period for any vertebrate. The embryos are nourished entirely from the egg yolk sac. Once they reach maturity females mate every other year, but males can mate every year. Females give birth to between 5 and 15 live young that are about 8 to 12 inches long. Larger females bear more pups than smaller females. These young sharks are pelagic. Based on studies in the Strait of Georgia and Puget Sound, the juvenile pelagic stage can last for 15 to 20 years. Spiny Dogfish move to the bottom after their pelagic phase where they mature. About half of all females mature by 35.5 years of age. Males mature earlier than females with about half mature by 19 years of age. Spiny Dogfish can live to be to at least 80 years old and may live to be 100. Females grow to be larger than males. Spiny Dogfish grow slower in the northern part of their range but reach greater sizes in the north. These fish are quite mobile and can move extensively, but do not always do so. Spiny Dogfish tagged off Washington and Canada have been recovered off Japan. One fish tagged off Vancouver Island was recovered in Mexico. Most of the fish tagged in the Strait of Georgia appeared to stay close to their release site in a study conducted there, but at least one made extensive migrations covering over 4,300 miles. Spiny Dogfish prefer water temperatures from 41° F to 59° F. They can and do move as water temperature changes seasonally. Movements both north and south have been documented as well as changes in depth. Spiny Dogfish are known to form very large schools anywhere in the water column from the surface to the bottom.

Known predators of Spiny Dogfish include several species of larger sharks, Lingcod, Sablefish, seals and sea lions, and killer whales. Humans prey on Spiny Dogfish too. Native Americans utilized their skins for sandpaper. They also used oil extracted from the liver and flesh and sold this oil to settlers and miners for lighting and lubrication. Native Americans may also have used Spiny Dogfish for food. Commercial fisheries for Spiny Dogfish were developed for the oil and later as a source for Vitamin A from the liver with the highest catch of over 37 million pounds in 1944. The Vitamin A fishery for Spiny Dogfish ended in 1950 when less expensive synthetic vitamins became available. Spiny Dogfish were later taken in commercial fisheries and exported primarily to Great Britain for fish and chips. This species is no longer a target of commercial fisheries but is still captured primarily as bycatch in commercial fisheries targeting other species.

DIET AND FORAGING

Spiny Dogfish are opportunistic feeders. They eat small schooling fish such as Pacific Herring. They also eat crabs, shrimp, and squid. But they can and do eat many other things as well.



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HABITAT CHARACTERISTICS

Spiny Dogfish live in marine and sometimes in estuarine waters. They can be found throughout the water column and on or near the bottom. They are found from intertidal areas down to depths of over 4,000 feet, but most are found in waters less than about 820 feet.

CONSERVATION AND MANAGEMENT

Threats: Spiny Dogfish are vulnerable to overfishing because their slow growth rate, late maturity, and low reproductive output would mean long recovery times for the population. Toxic chemicals and disease can also pose threats.

Conservation and management: Spiny Dogfish along the coast of Washington, Oregon, and California are included in the federal Pacific Coast Groundfish Fishery Management Plan administered by the Pacific Fishery Management Council (PFMC). The Oregon Department of Fish and Wildlife works in concert with PFMC to manage fisheries that catch Spiny Dogfish and land in Oregon. Most Spiny Dogfish are discarded at sea. The Spiny Dogfish stock along the west coast of the U.S. is periodically assessed for management purposes and the assessments are published by the PFMC and posted on their website.

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