

Spiny Dogfish - *Squalus acanthias* (F0418)

Abundance, Life History, and Population Demographics of Spiny Dogfish

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What is a spiny dogfish?

While the name may conjure images of a mythological half-dog, half-fish creature, in fact the Spiny Dogfish is a shark species found in the cooler waters of the North Atlantic and Pacific Oceans. Adult Spiny Dogfish average two to four feet in length and they have a mildly venomous spine located in front of each dorsal fin. They tend to school in large numbers, hunt in groups as well as individually, and comprise a major portion of fish biomass in coastal Northeast Pacific waters.

Dogfish occur frequently as fisheries by-catch and are viewed as a pest in many areas because they must be discarded and often cause fishing gear damage. In some regions however, they support valuable fisheries. Interest for Spiny Dogfish is growing among fishermen who hope to develop targeted fisheries in Alaska.



Skipper Chris Ekstrom aboard the F/V Kingfisher holds a female spiny dogfish caught during sampling in July off Yakutat. Dogfish occur in high abundances in July and August in Yakutat Bay and vicinity.

Do we fish them?

To date, the Alaska Board of Fisheries has rejected proposals of dogfish fisheries because there is a lack of information about where they are found, how many there are, and other population demographics. While the Atlantic stocks of dogfish have been studied in depth, but little is known about the Alaskan spiny dogfish. Estimates of life history from the Atlantic stocks are not a reliable assessment of the Alaskan stock due to differing environmental conditions, population densities, and genetics. In addition, impacts to Alaskan commercial fisheries by dogfish by-catch and the impact of the species on the ecosystem need a thorough evaluation.



Pregnant females have two candles, one in the right uterus and one in left uterus. This candle nurtures 4 embryos.

The Research:

Research biologists are collecting size, maturity, age, growth rates, fertility, and dogfish abundance data in Yakutat Bay and the western Gulf of Alaska between Cordova and Kodiak. The goal of the project is to collect critical information on life history, ecology, and population dynamics for Alaskan spiny dogfish. State and federal agencies need information to improve by-catch management and evaluate the potential for fisheries in Alaska. Using the information, scientists will construct demographic, trophic (food web), and growth models as well as define seasonal changes in abundance and reproductive patterns to aid in effective fisheries management.