



A publication by:

NORTHWEST WILDLIFE PRESERVATION SOCIETY

Blue Shark

Prionace glauca



By Rowena Shi

The blue shark, is a large, pelagic, indigo-colored shark. It is a sleek shark with long, pointed fins, a pointed snout, and large eyes. Its tapered body makes it a graceful swimmer. Its elongated caudal fin (tail) provides swimming power as the tail moves side-to-side. Blue sharks inhabits deep waters in the world's temperate and tropical oceans. Preferring cooler waters, blue sharks migrate long distances, such as from New England to South America. Although generally lethargic, they can move very quickly.

Characteristics

Blue sharks are light-bodied with long pectoral fins. Like many other sharks, blue sharks are counter-shaded: the top of the body is deep blue, lighter on the sides, and the underside is white. The male blue shark commonly grows to 1.82 to 2.82 m (6.0 to 9.3 ft) at maturity, whereas the larger females commonly grow to 2.2 to 3.3 m (7.2 to 10.8 ft) at maturity. Large specimens can grow to 3.8 m (12 ft) long. The blue shark is fairly elongated and slender in build and typically weighs from 27 to 55 kg (60 to 121 lb) in males and from 93 to 182 kg (205 to 400 lb) in large females. Occasionally, a female in excess of 3 m (9.8 ft) will weigh over 204 kg (450 lb).

Life Cycle

NWPS Headquarters
720-1190 Melville Street
Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
RPO James Bay
Victoria, BC V8V 4X8

t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

Blue sharks are viviparous, with a yolk-sac placenta, delivering a large range of pups from as little as 4 to over 130. The pups are immediately left to take care of themselves once they are in the water and out of their mother's body.

The gestation period is between 9 and 12 months. Females mature at five to six years of age and males at four to five. Courtship is believed to involve biting by the male, as mature specimens can be accurately sexed according to the presence or absence of bite scarring. Female blue sharks have adapted to the rigorous mating ritual by developing skin three times thicker than male skin.

Some watching it may consider the male to be extremely aggressive. He will bite the female hard but it doesn't hurt her. The biting is done to allow the mating to be completed. It is a type of grip so the two don't separate before the sperm has been placed inside of the female.

Habitat

Blue shark is an oceanic and epipelagic shark found worldwide in deep temperate and tropical waters from the surface to about 350 meters. In temperate seas it may approach the shore where it can be observed by divers, while in tropical waters it inhabits greater depths. It lives as far north as Norway and as far south as Chile. Blue sharks are found off the coasts of every continent, except Antarctica. Its greatest Pacific concentrations occur between 20° and 50° north but with strong seasonal fluctuations. In the tropics it spreads evenly between 20° N and 20° S. It prefers waters with a temperature range of 7–16 °C (45–61 °F) but will tolerate temperatures of 21 °C (70 °F) or above. Records from the Atlantic show a regular clockwise migration within the prevailing currents.

Behaviour

Blue sharks tend to have quite a healthy appetite. Their favourite food is squid but it isn't always readily available. They will eat fish, mollusks, shrimp, lobster, small sharks, sea birds, and even unfortunately garbage they find floating around in the water. They are known to migrate thousands of kilometres in search of food and a mate.

This species of shark often isn't found alone. Instead, they form groups based on their gender and even on their size. They are often referred to as the 'Wolves of the Sea' due to the complex levels of hierarchy that they form within their groups.

Due to their territorial instincts and their aggressive behaviors, divers have to be very careful. It is important that they know where Blue Sharks are and that they avoid them. Many of the types of filming of these sharks have been done with the divers in cages for their own personal safety.

Threats

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NWPS Vancouver Island
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w www.northwestwildlife.com

Adult blue sharks do not suffer predation on a regular basis, except by orcas. Young and smaller individuals may get eaten by larger sharks such as the great white shark and the tiger shark. This shark may host several species of parasites. For example, the blue shark is the definite host of the tetraphyllidean tapeworm. It becomes infected by eating intermediate hosts, probably opah and/or longnose lancetfish.

Far and away the greatest threats to shark are humans. It is estimated that 10 to 20 million of these sharks are killed each year as a result of fishing. The flesh is edible, but not widely sought after; is consumed fresh, dried, smoked and salted and diverted for fishmeal. There is a report of high concentration of heavy metals (Hg, Pb) in the edible flesh. The skin is used for leather, the fins for shark-fin soup and the liver for oil. Blue sharks are occasionally sought as game fish for their beauty and speed.

Blue sharks rarely attack humans. From 1580 up until 2013 the blue shark has been implicated in only 13 attacks upon humans, four of which ended fatally.

Blue sharks, like most pelagic sharks, tend to fare poorly in captivity. Attempts at keeping them using circular tanks with long glide paths, and pools with 3 meters (9.8 ft) central depth gently ascending to zero depth have met with mixed results at best; most specimens last less than 30 days. As with other pelagic sharks, they seem to have trouble avoiding walls or other obstacles. In 1969 at Sea World San Diego, several blue sharks were put in circular tanks (15 m diameter, 2.1 m deep) for three months. The blue sharks did fairly well until bull sharks were added to the tank; the bull sharks ate the blue sharks. The captivity record for blue sharks as of 2008 was held by The New Jersey Aquarium for a specimen that lasted roughly 7 months before expiring of an apparent bacterial infection.

Blue sharks are rarely target commercial species but are a major by catch of long line and driftnet fisheries, particularly from nations with high-seas fleets. Much of this by catch is often unrecorded.

Blue shark catch rates reported from commercial long lining in the Atlantic Ocean range in average values from 2.9-100, while average catch rates as high as 145 have been recorded from research long lining. Stevens estimated a catch of 137,800 tons of blue shark from high-seas long line fleets, and 2,300 tons from high-seas purse seining, in the Pacific in 1994. Bonfil calculated that 21,152 tons of blue shark were taken by high-seas driftnet fleets in the Pacific during the 1989-90 period. The annual global catch of blue sharks is likely to exceed 20 million individuals.

What We Can Do To Help

The limited fishery assessments carried out to date have shown no evidence of a declining trend in catch rates of blue sharks with time in the Atlantic or Indian Oceans. However, a 20% decrease was evident in the north Pacific between the periods 1971-1982 to 1983-1993. No consistent decline in catch rates through the fishing season was evident for Japanese long liners fishing in Australian waters.

The 1995 Fisheries Management Plan for pelagic sharks in Atlantic Canada established precautionary catch levels of 250 t for Blue Shark in the target shark fishery. License limitation, a ban on fining, restrictions on gear, area and seasons, by catch limits and restrictions to recreational fishers permitting hook-and-release only were also implemented.

In 1991, Australia brought in legislation that prevented Japanese long liners fishing in the EEZ from landing shark fins unless they were accompanied by the carcass.

Since 1993, shark fisheries in Atlantic and Gulf of Mexico waters in the US have been managed under the Fishery Management Plan for Sharks of the Atlantic Ocean. The plan set commercial quotas for 10

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t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

species of pelagic sharks at 580 tons annually, with recreational bag limits also applied. Commercial fishers require an annual shark permit, and fining is prohibited. In Mexico, a high-seas long line fishery taking pelagic sharks was banned within the EEZ in 1990.

Other Interesting Facts

--- Blue sharks have electroreceptors concentrated in their heads. They can sense the electrical impulses of a heartbeat of another fish from several kilometres away. The organ is called the “ampullae of Lorenzini.”

--- They are among the few viviparous sharks in the ocean. Females give birth to live pups.

--- Blue sharks are seen jumping out of the sea in search of their prey.

--- Sharks as a group are ancient animals and have existed for over 400 million years.

Bibliography

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