

REGION: Scientists seek rare basking shark sightings - Gentle, 33-foot-long fish listed as 'species of concern'

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Scientists are asking ocean-goers to report sightings of basking sharks in hopes of gathering information that could help the elusive filter-feeding species survive. (Photo courtesy of Gregory B. Skomal of the Massachusetts Marine Fisheries)

Scientists are asking ocean-goers to keep their eyes open for the basking shark ---- the world's second-largest fish ---- a gentle giant with a mouth like a cavern.

The researchers, with the National Oceanic and Atmospheric Administration and California State University, are gathering data on the elusive filter feeders, which can grow up to 33 feet long.

Once common off the California coast, basking sharks have declined because of fishing operations and eradication programs in the last century, and are now listed as a "species of concern" with the National Marine Fisheries Service. The term designates a creature that may be at risk, but for which there is too little information to justify a threatened or endangered listing.

Despite their size and global range, scientists know little about the sharks' life cycle, reproduction or population.

"Nobody knows where they are, or what they're doing or how many there are," said Owyn Snodgrass, a fisheries technician with the administration's La Jolla office who is working to track the animals.

Scientists marked one shark with a satellite tag last year and aim to tag at least two more animals this year in an effort to glean data on their movements and behavior. They're also asking anglers, whale-watchers and boaters to keep an eye out for the sharks, and to report any sightings, along with locations, times and photos.

That information, they hope, will help them devise plans to keep the species from declining further. By defining how many basking sharks remain, where they go, how long they live, and when they reproduce, scientists can determine what the creatures need to survive.

"We're trying to learn something about it before people say it's endangered," said Dave Ebert, program director of the Pacific Shark Research Center at California State University's Moss Landing Marine Laboratories on Monterey Bay.

Gaping maw

With a hulking body and gaping maw, the basking shark looks formidable, but makes its living by straining tiny crustaceans, called copepods, through gills that flare out from its head, making it look, said Ebert, "like a giant pollywog."

It can strain up to 2,000 gallons per hour of the plankton and seawater through a mouth large enough to swallow a human, he said.

"I don't know why anybody would want to, but you could swim into their mouth. It would probably be the last thing you do."

Although they are second in size only to tropical whale sharks, and share that species' passive feeding system, basking sharks are actually closely related to some of the ocean's most aggressive predators, including great whites and makos.

They're found in waters around the globe, and studies on Atlantic sharks showed that animals tracked in Massachusetts have migrated to Europe or south to Brazil, Ebert said.

"You basically have a large fish that uses the entire ocean basin in the Atlantic, and that's probably what we have here" in the Pacific, he said. "They may migrate to Japan, or to South America."

Although they're seen infrequently, they sometimes congregate in large groups, and have appeared by the hundreds in the Atlantic Ocean off Scandinavia and in the Pacific near Vancouver Island, researchers reported.

Seeking sightings

Despite such occasional mass sightings, the animals have grown scarce in recent decades. Researchers said thousands were killed in fishing and eradication programs in the 1900s, and the slow-growing species never recovered.

Heidi Dewar, a fisheries biologist with NOAA, said that between 1940 and 1970, Canadian fishermen killed the sharks using a device called a "razor-billed shark slasher" to prevent their entanglement in salmon gill nets.

"They designed a big knife that they would attach to the front of boats," she said. "It would ram the animals and cut them in half."

Between 1924 and 1950, Dewar said, American fishing fleets caught as many as a thousand of the sharks for their meat, skin, fins and livers. While Western nations no longer fish for the animals, there may still be an Asian market for the fins, which can fetch tens of thousands of dollars each, she said.

"In Asia, I wouldn't be surprised if they're targeted for their fins, because they're so valuable for shark fin soup," she said.

The loss of basking sharks in the last century may have caused a long-term population drop. Scientists believe the animals reproduce infrequently and bear few pups, leaving them ill-equipped to recover.

"They replace themselves very slowly, which means that you can't take many out ... without impacting the population," Dewar said.

The current population estimate for basking sharks is fewer than 10,000 worldwide, Dewar said. However, she said that's an educated guess based on a genetic analysis, and that there are no accurate surveys of the animal.

To fill those data gaps, the scientists seek to mark at least two more sharks and follow their migrations for a year or more through tags that transmit data to global positioning system satellites when the animal surfaces, and after the tag releases.

Finding the rare sharks is a challenge, so the scientists are asking members of the public to report any sightings that might lead them to sharks they can tag.

"If we can get some idea of when and where these things show up, we might be able to get in the water and get some observations on them," Ebert said.

The sightings themselves ---- along with records such as photos, location data and times and dates ---- will help flesh out the record on basking sharks, Ebert said.

Rod Melchert, captain and owner of San Diego Sportfish, said he volunteered to watch for the animals, and to take the researchers to locations where the sharks have been seen.

"They're just a really neat animal, and nobody really knows a lot about them, so it's just an opportunity to be on the forefront of the research," Melchert said.

Call staff writer Deborah Sullivan Brennan at 760-740-5420.

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Basking Sharks

Basking shark description: Up to 33 feet long, large dorsal fin, mottled dark gray to brown color, pointed snout and flared gill slits encircling the head

To report a basking shark sighting: email baskingshark@mlml.calstate.edu or call 858-334-2884

For information: visit <http://psrc.mlml.calstate.edu/current-research/basking-shark/>

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