Tagging Sharks? No Problem. They're Big Bab

By JAMES GORMAN

When Ramon Bonfil fishes for great white sharks off the coast of South Africa, he does not take any chances with his tackle. Two hooks tied together and attached to a chain ensure that the shark will not break the hook or line. The chain is attached to a rope that is attached to an oversize buoy that quickly tires out the shark as it dives.

Dr. Bonfil, of the Wildlife Conservation Society, is not fishing for trophies. He wants to tag the sharks with transmitters so he can learn more about them. The tired sharks are towed by a small boat to a research vessel, where they are floated onto a custom-made sling and hoisted out of the water.

"That's when we all jump in and start taking care of the animal," Dr. Bonfil said in an interview.

Dr. Bonfil is tagging great whites with satellite transmitters to track their movements and migration patterns, working in concert with the marine and coastal management branch of the South African Department of Environmental Affairs and Tourism.

One reason that South Africa protects the great whites is that they bring the crowds. Divers who are looking for something more thrilling than surviving underwater breathing air from a tank can be submerged in a cage to view the sharks in their element.

In other waters, the sharks are not protected, and the goal of the research is to understand where and when they travel, to better protect them. The shark is currently listed as vulnerable on the red list of the International Union for Conservation of Nature and Natural Resources.

Dr. Bonfil has tagged seven sharks with satellite transmitters. Like any angler, he sometimes does not catch as many as the research plan calls for. On one tagging expedition, he hoped for 10, but tagged 4; on another, the goal was 16, and he tagged 3.

After a shark is in the sling, two veterinarians place a wet towel over its eyes and a hose with aerated water in its mouth. Dr. Bonfil said the sharks were surprisingly calm and docile in this situation. He and a colleague attach the satellite tag to a fin, and the veterinarians inject several drugs to speed the shark's recovery, including antibiotics and a drug to counteract the lactic acid that builds in its tissues during a struggle.

Photographs by Marine and Coastal Management

Above, Ramon Bonfil, left, Ryan Johnson and Michael Mayer put a radio transmitter on the dorsal fin of a great white shark. Right, Dr. Bonfil and Mr. Ryan are on board as a great white is captured off South Africa.

The last step is to remove the large hook, or two hooks. They are cut in two, with "really heavy-duty metal cutters," to remove them with the least damage to the shark's cartilaginous jaw.

Four of the seven tags still transmit, although it is far too early to reach any conclusions about the information, Dr. Bonfil said. The movements of four sharks from May to September — some of them have since stopped transmitting — can be seen online at netviewer.usc.edu/web/WCSsharkdemo.html.

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