



PRBO

Studying the Farallon white shark population: videotaping an individual.

## Does what we learn about these animals justify our disturbance to them?

mation. Our Western Sandpiper studies show that radiomarked birds have high survivorship during northward passage from wintering grounds in California to breeding grounds in Alaska. We typically detect over 80% of the Westerns that we radiomark in California at the Copper River Delta in Alaska, over 3,000 km (2,400 miles) away. Given that we miss some birds, and that some have their radios fall off or fail, survivorship of birds is apparently high during this period.

Does handling cause longer-term effects? Here, we look to data for Pacific Golden-Plovers radiomarked in Hawaii and tracked to breeding grounds in Alaska (a study in which I participated with lead researcher Dr. Wally Johnson of Montana State University). Since these plovers were also color-banded, we could see how many previously radiotagged individuals came back to their wintering sites in Hawaii the following fall. Of the 20 birds marked, only one bird failed to return, suggesting that there was no long-term effect on these birds.

We need to be aware that we can and do impact our study species—and be ever creative in evaluating and negating any such effects. However, results such as the above help assure us that we are not unintentionally harming the very species that we are trying to protect.

## White Sharks

### *Peter Pyle*

Just 20 years ago a fisherman killed four large sharks at Southeast Farallon Island (SEFI) in a single day and was glorified as a hero by the local media. Following this event we began a long campaign to change the image of the white shark in the human eye, using PRBO's shark research project at SEFI as a platform to help people understand and respect, rather than fear and castigate, this important keystone predator in the marine ecosystem. Through documentaries we conveyed our message to the public, and through petitioning we instigated a successful effort to legally protect the white shark in California waters. We were thus delighted when, recently, we were asked to review the effects of our own research on the behavior and well-being of the sharks—surely a sign that our campaign has succeeded, and beyond our wildest dreams at that.

We have always taken a “hands-off” (literally and otherwise!) approach with white sharks—refusing to use bait and attempting to alter their behavior as little as possible by our presence. When we have affected them—e.g., through the restricted (less than one hour per day) use of decoys to lure them to the surface, to identify individuals; by our proximity to feeding events to obtain video identifications; or through deployment of satellite transmitters (the equivalent of a mosquito bite in the turbulent life of a white

shark)—we have constantly asked the question: Does what we learn from and about these animals justify our disturbance to them? Due to our very cautious observational approach and the increased public compassion and legal protection that have resulted from our research on this previously maligned animal, we feel strongly that the answer is “yes.”

Nonetheless, we always welcome outside review of our own research behavior and want what is best for the sharks. Indeed, we have recently submitted recommendations for a complete ban on the use of chum (bait) and decoys, and a 50-meter limit for the approach of boats to feeding sharks; we want these regulations to apply to all vessels, commercial and research alike. Although this may reduce our ability to collect certain data, we are more than willing to make the sacrifice to benefit the sharks.

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