Science Program at the lagoon with Jorge Urban Ramirez, a professor at the Universidad Autonoma de Baja California Sur.
Researchers census the lagoon's whales from February to April, building a photographic identification record. The lagoon is one of three Baja stopping places for the population. Others are Scammon's Lagoon and Magdalena Bay. On any given day, about 250 gray whales swam in the lagoon, "spy hopping" in the air to look at the small boats before approaching alongside or beneath. The daily count includes 20 pairs of mothers and nursing newborns only weeks old, which are the last to leave for the north in April.

"It's very important to see what's happening up there in the Arctic," said Swartz. "The gray whale's old prey fields are gone. I want to know where they can find food." If they can't find enough food, they can't make the arduous journey south to Baja California, Swartz said. "They get skinny and die."

It's happened before. In El Nino year of 1997, scientists recorded the warmest water temperatures ever in the eastern Bering Sea. A small phytoplankton replaced the normal summer phytoplankton, profoundly affecting the rest of the food chain, according to NOAA scientists. Zooplankton couldn't eat the smaller phytoplankton, and their numbers declined. As a result, seabirds starved and salmon runs declined.

Hundreds of gray whales stranded dead along beaches from Mexico to Alaska on the northern migration in 1999 and 2000. Whale scientists counted 200 dead in Mexico and observed that one in 10 looked emaciated. One theory is that the whales were in poor condition from the poor food supply when they came down to Baja to mate and give birth. Then, they just couldn't make the trip back to the Arctic food supply.

Other aspects of the Arctic - sea-ice extent, temperature fluxes - are well studied. Now several leading Arctic institutes, including the University of Alaska at Fairbanks, Woods Hole Oceanographic Institution, University of Maryland and other academies in the eight Arctic nations, have been asking that biological research be added to the long-conducted physical research. One suggestion is the creation of a collaborative network, called the Distributed Biological Observatory.

Research groups from the eight nations in the Arctic Council would set up environmental sampling stations throughout the Arctic and sub-Arctic. Whenever a research vessel was near a station, it would stop and gather biological information. That way, the gaps in seasonal information could be filled. Passing vessels could record such characteristics as abundance and distribution of phytoplankton all the way up to fish, marine mammals and seabirds. "That would give us a time-series and would allow us to better interpret what's changing and how fast it's changing," said Doug DeMaster, research science

dead humpback whale off the coast of California