

# Scientists make major gains in bowhead research

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*Sohio Alaska Petroleum Company*

Continuing biological research on the endangered bowhead whale, sponsored by government agencies and the petroleum industry, have brought out critical new findings in the last two years.

First, the numbers of bowheads moving through Alaskan waters has now been conservatively estimated at 4417, a much higher figure than believed several years ago when scientists thought the bowhead might be on the verge of extinction.

Second, the estimate of 4417 almost certainly is well under the actual figure. New underwater acoustics studies show there are many more bowheads than can be counted by present census methods, which rely on surface sightings.

Third, the "calf-to-adult" ratio, or the number of young bowheads among the population, is much higher than earlier believed, indicating good chances for survival and increasing overall numbers.

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# Whale research

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"It's clear that we know infinitely more about the bowhead whale now than we did 10 years ago," says Mark Fraker, Senior Environmental Scientist for Sohio Alaska Petroleum Co. and world authority on bowhead whales.

"There has been more research concentrated on the bowhead in the last 10 years than on any other whale species in the same period of time."

summer range. It was the first time such a survey was ever conducted. This project not only resulted in new population estimates, but also demonstrated the viability of aerial photography in whale census work. One of the most important things to come from these surveys was a better knowledge of calf numbers. Calves can be more easily identified from the air than by census techniques of counting from surface locations.

In 1982, '83 and '84, the industry surveys were followed up by similar overflights and photography sponsored by the U.S. National Marine Fisheries Service (NMFS), the federal agency responsible for marine mammal research and protection. The NMFS

way north to summer grounds in the Canadian Beaufort. Until aerial census methods were used, the only way populations could be estimated was by attempting a visual count of passing whales from observation camps on the icepack near Barrow.

The Eskimos suspected that many whales were passing unseen, resulting in unrealistically low population estimates. To supplement visual sightings at the surface an underwater acoustics was planned. The North Slope Borough, with the participation of NMFS and the oil industry, established a sophisticated underwater sound monitoring system to track any whales unseen at the surface. This

work demonstrated that whales were indeed passing unseen.

One other significant new development this year is the formation of a bowhead research committee within the Alaska Oil and Gas Association, the industry trade association.

Before, industry bowhead research was done on a more *ad hoc* basis, with one company taking the lead in a specific project and others joining in to share costs.

The grouping of bowhead research coordination under OAGA indicates an industry commitment to a more organized and sustained approach to answering important questions about this animal.

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*"The first indication of 'rough waters' was distribution by the NGOs of a white paper against raising the whaling quota..."*

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This year, petroleum companies in Alaska industry will spend well over \$1 million in bowhead research.

About half of that is taken up in 1985 aerial surveys of the bowhead summer range in Canada's central and eastern Beaufort Sea. This is the fourth year that such studies have been underway.

In 1981, Sohio led a group of 10 oil companies and the state of Alaska in a \$600,000 study which included an extensive aerial count over the whale's

surveys were to reinforce the optimistic outlook for bowhead calves.

Industry-sponsored surveys in 1985 were wider in scope, and designed to confirm NMFS and 1981 industry results with more intensive sampling.

## Underwater monitoring

Another key research project in recent years has been underwater acoustics tracking of whales passing ice camps near Point Barrow, where visual counting of animals on the surface was also taking place. Bowheads have to pass Point Barrow on their