

Reuters

Oct 27, 2008

# Salmon Tracked on 2,500 Km Trip, Aids Conservation

OSLO—Hi-tech devices tracked two small salmon on a 2,500 km (1,550 mile) swim from the Rocky Mountains to Alaska in a step towards understanding fish migrations and protecting stocks, scientists said.

The two salmon, about 14 cm (5.5 inches) long and with almond-sized implants, swam down a tributary of the Columbia River in Idaho into the Pacific Ocean and north past a string of electronic listening devices during a three-month trip.

"We've demonstrated the ability to track animals about the size of a hot dog," Jim Bolger, executive director of the Pacific Ocean Shelf Tracking (POST) project, told Reuters. The fish swam the same distance as from Moscow to London.

"We're demonstrating the use of this array to see what's happening in the oceans. Previously we've been searching with a flashlight—now we feel we are turning on the lights."

Tags have been used on creatures such as sharks, whales, tuna or adult salmon but not before on such small fish, he said. POST has expanded from experiments in 2001-02.

Uncovering mysteries about where fish go and how many survive in the oceans can help conservation efforts.

"This will help answer the question of where fish die," said Jesse Ausubel of the Rockefeller University who is a member of POST's management board.

Tracking devices can indicate if fish die near dams, near fish farms where they might pick up parasites, on fishing grounds where trawlers operate or in areas away from people where predatory bigger fish are threats, he said.

## **Fresh and Salt**

"These results have global implications and will be of interest in Chile, Russia, Japan, India, Ireland—indeed every nation where fish migrate between fresh and salt water," said Victor Gallardo of Chile, a vice chair of the Census of Marine Life group that backs POST.

The two fish were among 1,000 juvenile chinook salmon tagged in the Columbia and Fraser Rivers in 2006. Many made it to the sea but only two as far as Alaska. The batteries in the implants give out after a few months.

As part of the study, scientists found that the young salmon in the Columbia River, which has eight hydropower dams, survived at least as well as fish in the un-dammed Fraser River.

The findings, in the journal Public Library of Science Biology, challenge widespread views that dams are bad for fish.

"Evidence does not yet suffice to tell whether the Fraser has a problem that cuts survival to that of a heavily dammed river, or whether factors other than dams play a larger, unsuspected role in salmon survival," a statement said.

Bolger said a system of arrays—expanding on a current partial coverage—from California to Alaska would cost \$5 million to set up and \$1.5-2.0 million a year to run.

New technology will allow arrays to operate beyond the existing 200 metre (650 ft) limit, enabling scientists to follow deeper dwellers such as halibut and black cod.