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Experts say gaps in science will make it difficult to solve B.C. salmon collapse

VANCOUVER -- By now, this much is clear: millions of sockeye salmon that were expected to swim up British Columbia's iconic Fraser River this summer in what was to be a bumper year for fishermen never made it home.

That's about all anyone knows for sure, and some observers say years of poorly funded science that has yet to answer fundamental questions about the lives of salmon mean it could be a while yet before anyone figures out why so many fish appear to have died at sea.

"From a government perspective, it comes down to cutting and gutting their science and assessment departments," said Scott Hinch, whose research at the University of British Columbia focuses on salmon ecology.

"You could pick just about any aspect of the management cycle and the scientific assessment, and you can say, 'Well, we used to do this but we don't anymore.'"

This year was supposed to be a big one, with estimates predicting as many as 10.5 million fish would swim up the Fraser after spending two years in the open ocean.

But those estimates have since been dramatically reduced, now putting this year's Fraser sockeye run at just 1.37 million _ the lowest on record.

The collapse has effectively stopped the sockeye fishery on the Fraser, with recreational and commercial fisheries scrapped for the year and First Nations given access to only a small harvest earlier in the season.

Theories abound, ranging from warming water temperatures, new predators, changes to the food supply, sea lice from fish farms or, more likely, a combination of factors.

The Fisheries Department says it is gathering its own scientists and other experts to determine why the fish didn't make it back to the Fraser, but Hinch said much of the data that could help them simply doesn't exist.

For example, Hinch said it's not clear how changing water temperatures are affecting the salmon's food supply in the ocean, or what new predators could be either targeting the salmon or competing for food.

More importantly, says Hinch, little work has been done to track the salmon when they leave the lakes along Fraser or as they pass by controversial fish farms in the Georgia Strait.

And almost nothing is known about what happens after they've reached the ocean.

“Anything that goes on in the Fraser main-stem, anything that goes on along the coast, anything that goes on in the open ocean is in many regards a black box,” he said.

Researchers know how to design the experiments required to answer those questions, Hinch said, but they would cost money that no one seems prepared to spend.

Barry Rosenberger, area director for the Department of Fisheries and Oceans in Vancouver and chair of the Fraser Panel of the Pacific Salmon Commission, said work has already started to get to the bottom of this year's salmon numbers.

All theories are on the table, he said.

“We're bringing together a number of biologists and scientists that work on various projects _ not just salmon _ who's doing work that might be able to give us some kind of indication,” said Rosenberger.

Later this month, the commission, which is a joint Canada-U.S. body that tracks fish throughout the season and makes recommendations to regulators, will hold their annual post-season review, which this year will place special emphasis on the Fraser sockeye.

While Rosenberger insisted the commission and the Fisheries Department have access to the scientific information they need, he agreed there's a limit to what the government can pay for.

That means focusing on tracking salmon numbers during the season to properly manage the fishery, rather than creating expensive and lengthy projects to study the fish at sea.

“I'm not certain there's not enough (research work),” he said. “Would we like more? I think everybody would. But I think trying to do that within a finite budget, where's the best place to do that?”

The Fisheries Department said money for science-related salmon research and monitoring on Canada's West Coast has remained largely unchanged in recent years, although the department didn't have figures going back further than 2002.

Since 2002-2003, spending has hovered between \$16 million and \$18 million, which doesn't include the cost of using coast guard vessels.

Fisheries Minister Gail Shea was unavailable for comment.

Craig Orr of the Watershed Watch Salmon Society said the federal government started to bleed research funding at the Fisheries Department more than 20 years ago.

He said the cuts began after the closure of the department's Fisheries Research Board in the late 1970s and then after concerns in the 1980s and 1990s about how salmon would be affected by an Alcan dam project in Kitimat, B.C., which was later cancelled.

The events marked a change in philosophy within the department, said Orr, with political considerations trumping science.

“Our scientific capacity has eroded tremendously, along with Canada's reputation of being a leader in science around salmon,” said Orr.

Mike Lapointe, a biologist with the Pacific Salmon Commission, agreed there are large gaps in the research, but he said filling them would be expensive.

“We don't have information about very many parts of the life cycle other than the number of fish that spawn and the number of fish that come back,” said Lapointe.

“Research in the ocean is extremely difficult to conduct and very, very expensive. . . . We could spend more money and that might help us understand things better, but they (the government) have got to evaluate salmon research with all their other priorities.”