

Field Report: River Habitats

Freshwater Superhighways We Share With Fish

Almost all of British Columbia's fish species are descended from ancestors that migrated here thousands of years ago, up ancient rivers that were created as the glaciers melted. BC still has mighty rivers like the Fraser, Skeena and Peace that are travelled by millions of fish each year. On our river field trips, we discovered how fish are competing for their place on waterways that are no longer wild.

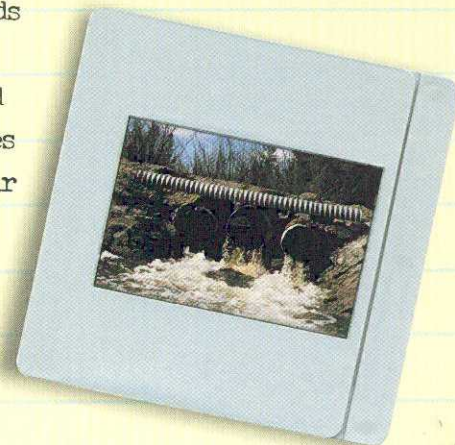
Rivers were British Columbia's first superhighways, and both people and fish still use them to get from one place to another. They are like arteries that carry the lifeblood of the province.

Each river has its own unique set of fish species. Which species live in a river depends on four things: the original species that migrated there after the last ice age; the physical environment (such as current and temperature); the chemical environment (such as oxygen, nutrient and pollution levels); and the biological environment (such as predators, prey and competitors found there). Human activities can impact three of those four factors.

As BC grew, more and more development occurred along our rivers and within their watersheds. We use our rivers for water for our homes and industries, as commercial shipping routes, for commercial and recreational fishing, and for log storage. We have dammed rivers for hydroelectric power and dumped our municipal, industrial and other wastes in them.

Meanwhile, fish still have to navigate these rivers in search of food, resting places and spawning sites. Sea-going fish need to travel out to the ocean and back to their inland spawning streams. But today, the hazards they face are increasing quickly.

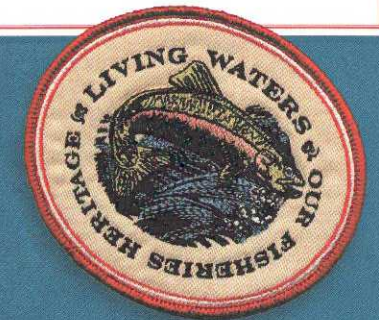
Even mighty rivers can be damaged by pollution and changes to their natural banks and flows. Those changes can have a big effect on fish habitat. The water in our rivers comes from the many tributaries found in their watersheds. The Fraser River, which is the world's greatest salmon-bearing river system, has a watershed that covers one-quarter of the province. Everything that happens in that watershed can have an impact on the river and the fish that use it.



How BC Fisheries is helping rivers

A main goal of BC Fisheries is to conserve the natural diversity of BC's fish and fish habitat. Fisheries staff conduct research, inventory, assessment and monitoring programs to determine how to best manage and protect BC's fish and their riverine habitat. Improving water flows for fish is a high priority activity. Research helps to develop guidelines and procedures for land use activities such as forestry and agriculture, determine methods for watershed restoration, and develop tools to improve our ability to manage fish populations.

Fisheries staff are also working with the public to conserve and sustain our fish and fisheries through education and restoration projects. The BC government has developed the BC Heritage Rivers program, legislation and regulations—including the Forest Practices Code and the Fish Protection Act—to improve protection of our rivers and fish populations. It's up to all of us to respect and protect all of BC's rivers so we can continue to share these major waterways with our native wild fish.



British Columbia Freshwater Fish
FIELD REPORT

Rivers



HABITAT
CONSERVATION
TRUST FUND

This project was funded by the Habitat Conservation Trust Fund. Contributions through licence surcharges and tax deductible donations fund projects for freshwater fish and fish habitat. For more information, contact the Habitat Conservation Trust Fund, P.O. Box 9354, STN PROV GOVT, Victoria, B.C. V8W 9M1
1-800-387-9853

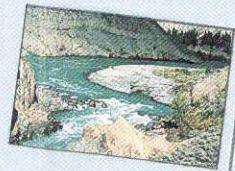
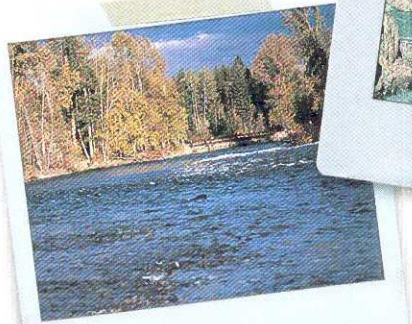


For more information about freshwater fish and fish habitat, contact your regional fisheries office.

Field Notes

Fraser River watershed is huge—232,000 square kilometres! That means run-off from hundreds of kilometres away is feeding the river! We'll only get to see a very small part of it.

Monitored marine traffic passing near the river mouth. Saw ships being loaded with cargo (three waiting to come into the harbour), a tugboat towing a log boom, some commercial fish boats, sailboats, a couple of flashy power boats, and lots of small sport fishing runabouts—also one float plane landed. Hiked along the river bank through an industrial area of the city—lots of equipment, buildings, log booms, and



piles of stuff we had to walk around. Not much left of the natural river bank here. Counted inlets and pipes where water dumps into the river and took some samples to check water quality—back to the lab!

Got a map from the municipality showing sewer pipes and hiked in the pouring rain from a storm sewer outlet at the river back to a street grate. Water went down the storm drain from puddles on the street that had oil in them—could see the rainbow colours on the surface of the puddles. There must be a lot of stuff on the sidewalks and pavement that gets washed into the river every time it rains—pesticides and fertilizers from our yards too!



Saw some of those yellow fish that kids have painted beside storm drains to remind everyone not to pour toxic stuff down there—the water flows right into fish streams. Our school could do that!

Checked out some stewardship projects. Lots of community groups getting involved! They're doing things like monitoring water quality, restoring habitat, protecting and replanting vegetation and much more.

Visited a fish ladder. We were all joking about salmon and steelhead climbing ladders, but it was actually amazing to see how they got up the river! These fish are sure dedicated to getting home!

Toured a treatment facility and saw the two different stages sewage goes through before it ends up in the river. There's a third stage they could do, but no one seems to want to pay for it.

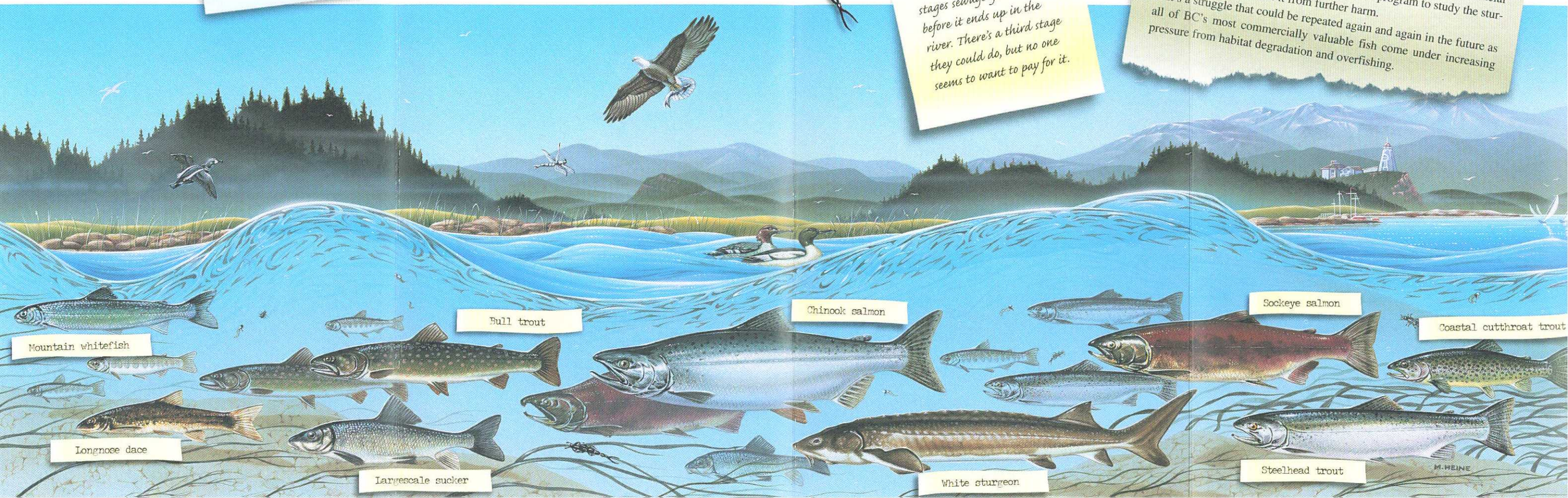
Struggle to Save Sturgeon

FRASER RIVER, B.C. — Fisheries biologists are waging a desperate battle to save the remnants of what was once BC's largest population of Canada's biggest freshwater fish.

A century ago, Fraser River white sturgeon generated fame and fortune as a prime source of caviar that graced tables around the world. Fish measuring up to 6.1 metres in length and weighing up to 600 kg were regularly hauled from the river at the turn of the century. But so popular and lucrative was the fishery that by 1910, overharvesting caused the sturgeon population in the Fraser to collapse. It has never recovered.

This underwater giant is now on BC's list of species at risk, threatened by habitat deterioration. But provincial and federal agencies, native peoples and anglers are cooperating to rebuild and conserve populations. Since 1994, any sturgeon caught must be released. Yet lack of information on the biology of this fish and its habitat requirements have made progress frustratingly slow.

As the fate of Fraser River sturgeon hangs in the balance, provincial fisheries biologists have launched a research program to study the sturgeon and how to protect it from further harm. It's a struggle that could be repeated again and again in the future as all of BC's most commercially valuable fish come under increasing pressure from habitat degradation and overfishing.



Mountain whitefish

Longnose dace

Largescale sucker

Bull trout

Chinook salmon

White sturgeon

Sockeye salmon

Steelhead trout

Coastal cutthroat trout

M. HEINE