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Watershed Talk

Volume XV
Issue 12

A weekly Aboriginal fisheries newsletter for fisheries representatives and their organizations

Aquatic Invasive Species – a threat in the territory

By Michelle Walsh (Secwepemc Fisheries Commission, Tribal Fisheries Biologist)

Aquatic invasive fish species such as yellow perch, largemouth and smallmouth bass, and pumpkinseed sunfish can have devastating effects on BC's native freshwater fisheries. A $20,000 reward leading to the conviction of person(s) responsible for their introduction to the Thompson region is being offered. Please report any presence of invasive species or suspicious activities to 1-877-952-7277 and do not transport live fish. If you do catch an invasive species, please freeze it and call the number above.

Imagine this.....an alien, exotic fish has invaded your local waters and this fish is a voracious predator feeding on native juvenile salmon or trout, insects, and even fish eggs. Sound pretty bad? It gets worse. This exotic fish matures quickly and begins to lay eggs at a much earlier age (1-3 years) than salmon or trout...and not just a few eggs but up to 90,000 eggs per female! In comparison native trout, char and salmon mature at 3-6 years and produce an average of 3,500 eggs per female per year. Even more, these alien fish aggressively compete for food and habitat with native species and can cause the spread of bacteria and disease to other fish. Eventually, these alien fish can cause the native fish populations to dwindle or even disappear and the repercussions to the ecosystem, the economy, and the First Nation culture and livelihood are seen for generations.

Well...I hate to be the bearer of bad news but the presence of these fish in the waters of the Thompson-Shuswap drainage is a reality and not just a grim story!

The aquatic invasive species (AIS) of concern are the Yellow Perch, Smallmouth Bass, Largemouth Bass and Sunfish (Pumpkinseed).

1996 was the first year exotic fish species were confirmed in Secwepemc territory and since then 10 more lakes have been confirmed. Most disturbing is the finding of perch in Adams Lake at Squam Bay over the past few years, which is connected to the entire Thompson River watershed. If these invasive fish establish themselves in these larger systems the results could be catastrophic.

So who is to blame?

People of course; sometimes the introduction of invasive species is accidental (discarding pets into waterways; breaching of ponds), natural (migration), or intentional (trying to establish a fishing lake). Either way, transporting live fish, fish parts, aquatic plants or animals is illegal without a permit and carries strong penalties.

Other areas have these species, why is it such a problem here?

The problem here is that these invasive fish are only recently (over 10 years) known to be introduced to our waterways from other areas such as the Columbia or Okanagan...our native species of trout, char, and salmon have not had thousands of years to evolve with these alien species, thus giving these highly prolific alien species an unfair advantage, enabling them to cause devastating effects on native species and ecosystems.

What is being done to combat the threat of aquatic invasive species?

The Ministry of Environment (MOE) in the Thompson Nicola Region has been taking a multi-faceted approach which involves education (lake-side signage, rewards, and brochures), compliance and enforcement. All 9 of the infested lakes have been closed to angling as a disincentive for anglers to move fish out of these lakes to other lakes.

Rehabilitation of infested lakes (removal of perch) has been completed in Skmana, Little Skmana, Forrest, and Nellie lakes – 3 of 4 of these lakes had downstream connections to larger watersheds, and the rehabilitation of the 4th lake (Gardom Lake) is planned for October 2009. Fisheries in the rehabilitated lakes have since been reopened to fishing.

The Secwepemc Fisheries Commission (SFC) has been involved at a planning level with MOE and DFO over the past few years to develop a strategy to address the threat aquatic invasive species pose to salmon in the Shuswap drainage. Our approach involves coordinating activities related to the management of AIS in the Thompson drainage such as: lake and stream monitoring and detection studies to characterize the distribution of invasive species; education for Secwepemc communities (posters, brochures, briefing notes); and assisting with the rehabilitation of some of the lakes. SFC has also sought outside funding to tackle this issue.

Signage alerting the public to the threat of AIS and the associated reward for information.

Over the past several years the Secwepemc community Little Shuswap Band has been partnering with DFO in conducting systematic surveys of littoral areas within the Adams/Shuswap drainage, employing various fish traps including: fyke nets (pictured on the right), gillnets, minnow traps (e.g., Gee traps), beach seines, pole seines, and box traps.
(Continued on next page)

Little Shuswap Band technicians emptying a fyke net trap in Adams Lake (left: Pete Arnouse, right: Keith Finlay).

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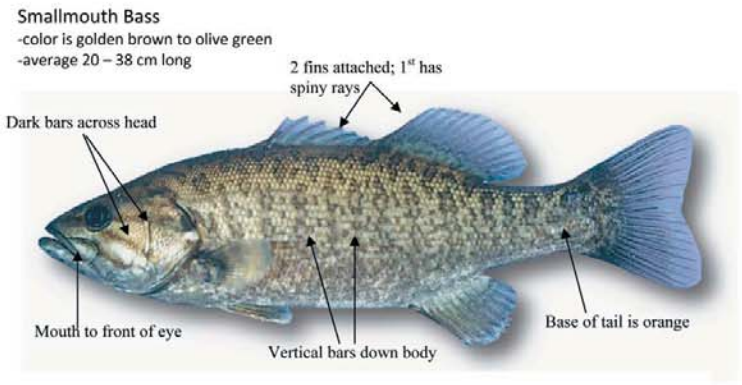
In 2008, 5 yellow perch were caught in Adams Lake in shallow waters in September (FL: 75mm-161mm). In 2009, 5 male yellow perch (FL: 92mm – 115mm) were captured in Adams Lake in shallow waters between May 21st - June 26th in water temperatures of 7°C to 18°C. Most alarming was that these males were in spawning condition. It is believed that yellow perch in Adams Lake came from a connected lake that is a known source population of yellow perch. Crews also discovered that Adams Lake reached temperatures up to 18 °C, very warm considering that it is typically known as a cold bodied lake, unfortunately these temperatures might be preferable to yellow perch.

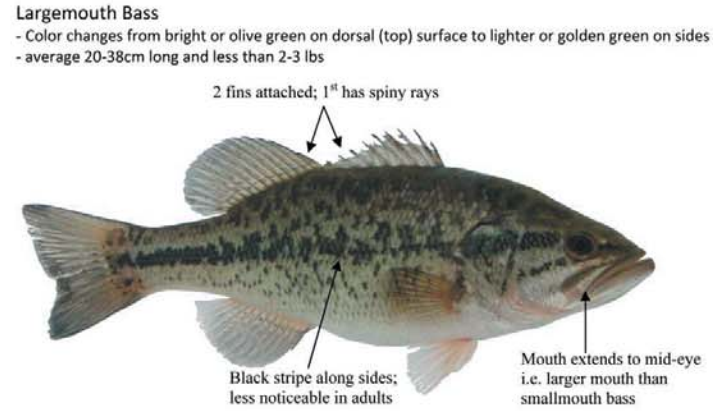
Kingfisher Environmental Interpretive Center near Enderby has also produced educational DVDs, games, brochures, and presentations for school curricula in the Thompson/North Okanagan regions. They too have conducted lake and stream inventories in the Lower Shuswap River/Shuswap Lake region in partnership with Splatsin. The good news is that no invasive fish species were found during their field surveys however it did confirm a much larger population of gold fish than expected in both the Salmon Arm and Sicamous Arm of Shuswap Lake: from June to mid July, a total of 336 were captured, and a maximum catch of 90. The waters were usually around 21°C but reached up to 26°C on rare occasions. Goldfish are an introduced species but are not considered invasive.

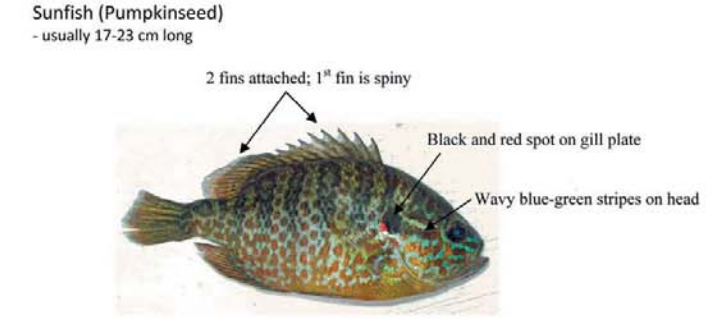
Thompson Rivers University has been researching the feeding ecology, via gut content analysis, of a) yellow perch in 1 infested lake and b) yellow perch, smallmouth bass in another infested lake. Preliminary results has shown that even the smallest yellow perch were out-competing native rainbow trout for food (cladocerans such as Daphnia aka water fleas), and the trout were forced to eat land-based insects. So far there has been no evidence of yellow perch eating rainbow trout.

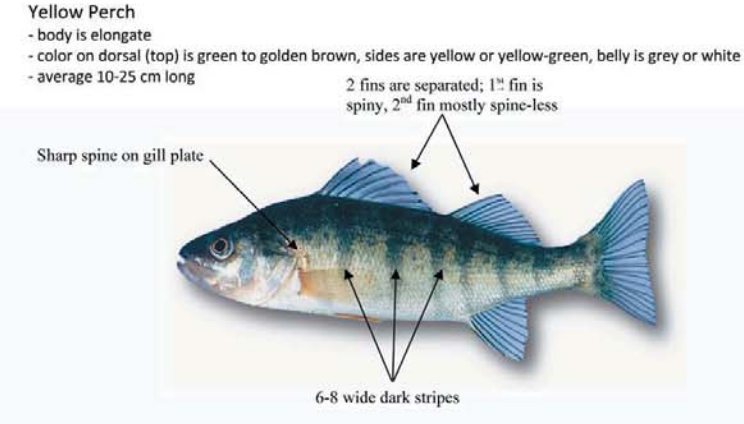
SFC and Secwepemc communities are very concerned about the threat of AIS to traditional food fisheries and the ecosystem. Juvenile sockeye salmon from Adams, Scotch and Seymour and many other small streams rear in Shuswap and Adams lakes; chinook and coho salmon rear and migrate throughout the Shuswap system. These larger lakes are also productive areas for resident species like rainbow trout and char (lake trout).

Canada has no law to address the threat of invasive exotic species and the regulatory approach to prevent their introduction is fragmented in that it consists of a number of federal departments using a variety of different regulations (Boyd Unnatural Law 2003). A federal policy (not law) is in the makings which will hopefully be an effective decision guide to combat invasive species. Although the province has a Wildlife Act, revisions to the Act are not focused on aquatic invasive fish species, rather lethal animals. Furthermore, the province (MOE) has an Introduced Fish Policy however provincial coordination is minimal and funding is a main limitation. Overall, the public and our politicians must be made aware of the consequences of AIS becoming an established population within the Thompson-Shuswap and more resources must be dedicated to combat this threat.









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LEND A HAND!

- Never transport live fish, fish parts, aquatic plants, or animals without a permit – it is illegal and carries strong penalties – prevention is the key
- Wash your boat and fishing gear to avoid accidental movements of invasive species
- Report suspicious activity to the RAPP line 1-877-952-7277 since information on incidents of AIS contamination is reliant on public reporting
- If you think you caught one, keep it, freeze it, and phone the above number
- Tell others about this serious threat
- Keep this info handy (in your vehicle) and store the cut-out box below in your wallet

Help Combat the Threat of Aquatic Invasive Fish Species in your area!

Look out for:
Yellow Perch • Smallmouth Bass
Largemouth Bass • Sunfish (Pumpkinseed)

If you think you may have caught one, keep it, freeze it, and call 1-877-952-7277, or #7277 on your Telus cell phone, or contact your local fisheries authority

Humankind has not woven the web of life.
We are but one thread within it.
Whatever we do to the web, we do to ourselves.
All things are bound together.
All things connect.
- Chief Seattle 1854

Upcoming Meetings

OCTOBER 27, 2009

Fraser Watershed Joint Technical Forum (FWJTF)

Best Western Rainbow Country Inn
Chilliwack, BC

OCTOBER 28-30, 2009

First Nations Fisheries Council Fall 2009 Assembly

Chehalis Indian Band, Harrison BC

Day 1: Tier 1 (First Nations only)
DFO and other groups are invited to join the assembly on Days 2 and 3

Registration forms and accommodation information available on the First Nations Fisheries Council website at www.fnfisheriescouncil.ca

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