



Kootenay Lake Angler Incentive Program

August 05, 2020

This bulletin provides an update to the current actions being implemented on the main body of Kootenay Lake in order to recover kokanee populations, and provides some additional information to anglers fishing on Kootenay Lake:

- Kootenay Lake Angler Incentive Program
- Kootenay Lake Regulation changes
- Kokanee bycatch
- Parasites

Kootenay Lake Angler Incentive Program

Since 2014, adult kokanee populations in Kootenay Lake have been at unprecedented and sustained low numbers both in-lake and returning to spawn. Recent data show improvements (e.g., 2019 spawner numbers doubled from 2018, and are projected to rise even higher in fall 2020); however, survival estimates for the youngest kokanee (fry to one-year olds) in the lake remain low. This poor survival is due to a high ratio of predators (rainbow trout and bull trout) relative to kokanee and is preventing kokanee recovery.

We modeled the effectiveness of several different actions to restore kokanee populations in Kootenay Lake and found that increasing the harvest rate of rainbow trout and bull trout would have the highest positive effect on kokanee survival. Using data available from monitoring of the fish populations and from voluntary angler catch information submitted by those who annually purchase a Kootenay Lake Rainbow Trout Conservation Surcharge tag, we are able to estimate how many fish an angler incentive program may be able to remove, relative to the total population in the lake. Specifically, the minimum target of the program is to increase rainbow trout and bull trout harvest in Kootenay Lake from the 2015-2019 average harvest of 50% of fish captured to 90% harvest, and to increase fishing effort by a modest 10%. These actions could yield increases of an additional ~1,400 bull trout and ~3,100 rainbow trout harvested in one year. These are notable increases from the ~1,900 bull trout and ~4,000 rainbow trout harvested annually by anglers in 2017-2019 in Kootenay Lake. This level of estimated additional harvest will save ~6.5 tonnes of kokanee from being consumed and ultimately translate into faster recovery as more kokanee will escape predation to spawn, providing more kokanee eggs for the next generation.

These numbers are minimum targets to alleviate predation pressure on kokanee. Additional harvest above these minimum targets have little risk to rainbow trout and bull trout conservation. The Kootenay Lake Action Plan

(http://www.env.gov.bc.ca/kootenay/fsh/main/pdf/KLAP%20Kootenay%20Lake%20Action%20Plan%20final%209_May_2016.pdf) has identified conservation thresholds for Rainbow Trout and Bull Trout and their populations are currently far above those thresholds. Although estimating the total population size of Rainbow Trout and Bull Trout in the lake is difficult, data suggests that there are between 50,000 and 100,000 rainbow trout in the lake of catchable size, and about 30,000 bull trout, and spawner numbers continue to fully seed spawning and rearing habitat. It takes far fewer numbers of either species to saturate spawning and rearing habitat (i.e., there are usually more spawners in any given year than needed to fully seed the juvenile habitat), and therefore, there is a large safety margin for harvesting these populations without affecting the next generation of fish. We closely monitor the number of spawners for both species, as well as the total number of fish submitted through the Angler Incentive Program and will be able to respond quickly to any conservation risks.

Regulations changes

In order to allow for increased harvest on Kootenay Lake rainbow trout and bull trout, we have adjusted fishing regulations. The recent changes are:

- Barbed hooks permitted
- Bull trout daily quota = 3
- Rainbow trout daily quota = 5 (only 2 over 50 cm)
- Rainbow trout over 50 cm: annual quota = 10
- Removal of the requirement to release rainbow trout, February 1 to June 10, north of a line between fishing boundary signs posted at Lost Ledge Creek and Salisbury Creek.

These regulations were in place prior to the Angler Incentive Program, in order to allow anglers more opportunity to land and harvest rainbow trout and bull trout and not restrict participation in the program.

Kokanee bycatch

The daily quota for kokanee retention remains 0, as every kokanee is valuable for recovery at this stage; unlike rainbow and bull trout, kokanee spawners are not fully seeding their spawning habitat. Even when targeting rainbow trout and bull trout, you may occasionally catch kokanee as well. It is important to release all kokanee, and we encourage you to avoid using gear that will readily catch kokanee. You can usually avoid kokanee bycatch when targeting rainbow trout and bull trout by trolling faster (over 2 mph or 3.5 km/hr), and using larger gear (plugs, crankbaits, flies etc. over 3") with larger hook sizes (generally 1/0 and above). If you do happen to catch a kokanee, do not play the fish excessively, do not remove it from the water, and release it gently to improve its chance for survival. For more information on releasing fish, see page 11 of the current BC Freshwater Fishing Regulations Synopsis:

https://www2.gov.bc.ca/assets/gov/sports-recreation-arts-and-culture/outdoor-recreation/fishing-and-hunting/freshwater-fishing/fishing_synopsis.pdf

For a reference on how to tell the difference between Rainbow Trout and kokanee, see our previous bulletin here:

<http://www.env.gov.bc.ca/kootenay/fsh/main/docs/Rainbow%20vs%20Kokanee%20ID%20-%20Kootenay.pdf>

Parasites

Natural fish parasites are, and always have been a relatively common sight in fish in Kootenay Lake, although the prevalence appears to go up and down between years. Various parasites occur in fish in Kootenay Lake; the only known human health concern is a type of tapeworm known as the “broad fish tapeworm.” We recommend preparing all fish for consumption following the guidelines below:

To protect yourself and others:

- **Cook your catch to an internal temperature of 70°C to kill the parasites.**
- **Freeze your catch to -20 °C for 7 days** or -35 °C for 15 hours
- Wash your hands well after handling fish.
- Clean and sanitize contact surfaces with hot soapy water, followed by a solution of 1-part bleach to 10 parts water.
- Do not feed infected raw fish to pets.

For more information on parasites in Kootenay Lake, see a prior bulletin here:

http://www.env.gov.bc.ca/kootenay/fsh/main/pdf/Kootenay_Lake_Sport_Fishing_Update-March_2008-final.pdf

For further information contact the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Resource Management at 250-354-6333.