TNG FISHERIES

From the ocean to the spawning grounds: Collecting, monitoring, and analyzing in-season fisheries data

From late June to the end of September, TNG Fisheries conducts detailed collection, monitoring, and analysis of in-season fisheries information from the ocean to the spawning grounds. We report out on current information through our weekly in-season fisheries bulletins. We use a network of information from outside the Territory (figure 1) combined with information from assessment programs within the Territory (figure 2).

- The Pacific Salmon Commission collects data in the marine area on how many fish are returning from the ocean.
- Mixed-stock data (multiple fish populations migrating up the river together) is collected along the coast and up the Fraser.
- TNG collects data from the time salmon enter the Tŝilhqot'in Watershed until they reach their nursery grounds within the Territory (how many fish are returning, water temperature and flow, potential migration obstacles, etc.).

As we collect information closer and closer to a salmon's natal habitat in the Territory, it becomes more population-specific (i.e., not mixed with other populations like in the marine area and in the Fraser River). Information collected from the Territory's salmon nursery areas is critical — it tells the beginning and the end of the salmon story. We also collect critical information through the Tŝilhqot'in Aquatic Habitat Monitoring Program, which provides real time information on water quality and quantity in key natal systems.

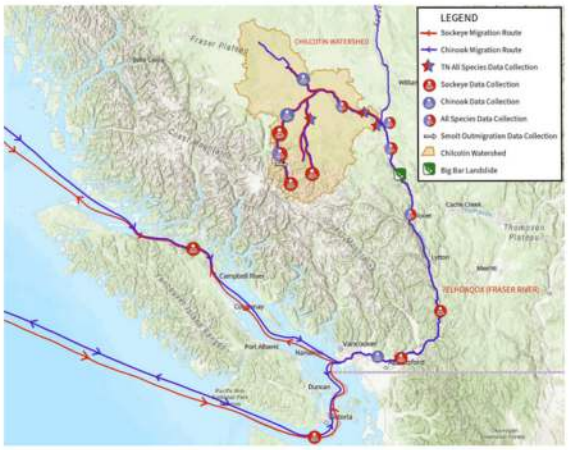

Figure 1. Migration pathways and data collection points for Ts'eman and Jaŝ from ocean to spawning grounds

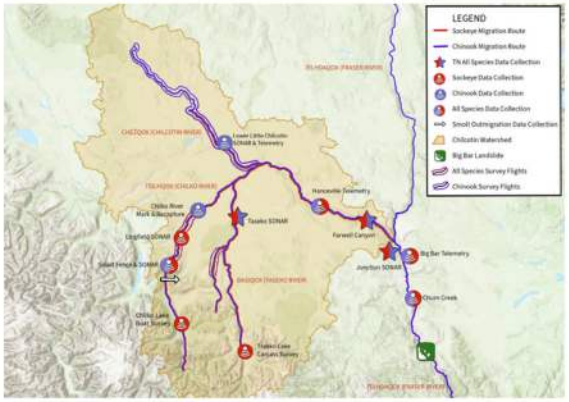

Figure 2. Focus on monitoring stations in Tŝilhqot'in Territory

TNG leads stock assessment and monitoring activities throughout Tŝilhqot'in Territory to inform stock-specific fisheries management to advance Nation-wide fisheries-related goals. Our expanding programs have resulted in one of the richest fisheries data sets in BC — a powerful technical basis that directly supports priority setting and Leadership decision-making on fisheries.

What are ocean test fisheries?

Test fishery crew contracted by the Pacific Salmon Commission counting sockeye as they leave the test fishery net.

Ocean test fisheries are conducted with specialized fishing boats by expert crews trained to catch and count returning Ts'eman without harming them. Crews collect scales and DNA samples from a small number of Ts'eman caught in large nets shaped like mesh bags called purse seines. A small opening (only large enough one fish) is made at the top of the net, and Ts'eman are counted as they swim out one by one. They are then free to continue their migration back to their spawning grounds. DNA samples are analyzed to identify which population (spawning area) each fish is from, and counts are verified through SONAR counts in the lower Fraser River.

Ocean test fisheries at the northeast corner of Vancouver Island and the southern tip of Vancouver Island provide an estimate of the ocean adult spawner return for Chilko and Taseko Ts'eman. The Tŝilhqot'in Ts'eman travel in groups stretched out over a long distance in the ocean for about a month; test fisheries operate several hours each day of the season, counting the entire run.