



Weekly Update, June 6-14, 2016

Since May 4, LGL biologists and Cowichan Tribes (CT) fisheries technicians have been monitoring the Cowichan River and its side channels to assess the impact of flow reductions on fish spawning and rearing habitat and the incidence of fish stranding. The crew monitors four main river sections between Cowichan Lake and the lower river: 1) Lake Weir – Skutz Falls; 2) Skutz Falls – Sandy Pool; 3) Sandy Pool – Vimy; and 4) Vimy – Estuary. Previously identified Steelhead/Rainbow redd sites are re-visited to assess their wetted depth and distance to shore.

This update summarizes side channel monitoring, mainstem steelhead redd assessments and fry salvage efforts, by river section, from June 6–14. Average daily discharge of the Cowichan River measured near Lake Cowichan (Sta. 08HA002) ranged from 4.4 to 4.5 m³/s (mean = 4.5 m³/s) from June 6–14 (Figure 1).

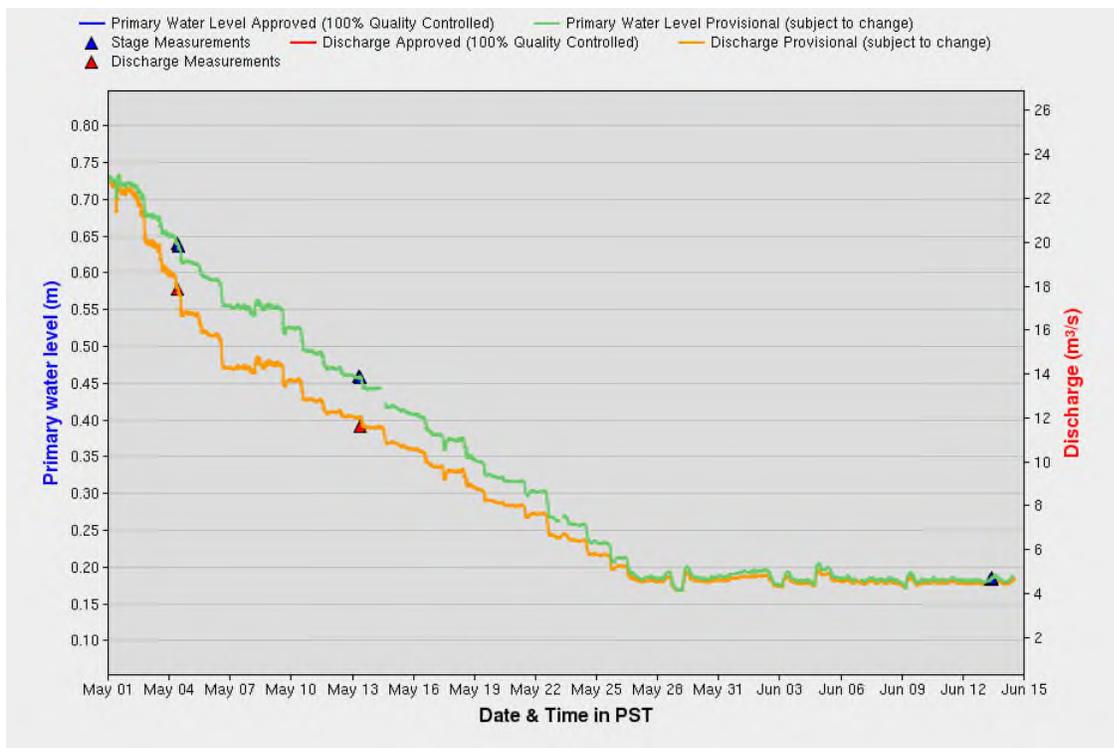


Figure 1. Cowichan River discharge and water level near Lake Cowichan, May-June 2016 (Sta. 08HA002).

Cowichan Lake Weir to Skutz Falls

The Greendale to Skutz Falls river section was surveyed on **June 9**:

- Most redds that were identified as "fresh" on May 7 were still wetted; fry were present in some.
- Quad Run S/C (rkm 39.9; 48.7976, -124.0013)
 - 3 isolated pools near the intake site that are maintained by cover, river water and groundwater seeping in from right bank. Temps in these pools were 14.0°C and there are 500-1000 fry present (50% CH, 40% ST, 10% CO). These should be fine.



- One isolated pool near the outlet was in open and appears a herd of elk have been bathing/watering in it. Temps were 18.0°C and water stagnant. Salvaged 96 CH, 67 CO, 42 ST and 6 lamprey ammocetes. Cleaned 90+% of the pool out.
- The S/C outlet is still connected and has moderate flow into the mainstem. 1000's of fry are present here and should be fine unless river drops further and groundwater inflow stops.
- Sawdust S/C (rkm 36.2; 48.7866, -123.9744)
 - It is still both connected at the inlet and outlet, with very few fry present in the current wetted channel.
 - We visually counted 100-150 adult brown trout in the upper section; there were groups of 20 trout in some pools.
- Grandpa's S/C (rkm 34.8; 48.7797, -123.9622)
 - 6 isolated pools - the first 5 pools are well shaded and maintained by river water. Temps in these pools were 14.0°C vs. mainstem temps of 17.0 °C. The last pool just before the outlet is in the open and temps were 17.5°C (@ 10:15 am w/overcast). We classified this as mod-high risk, due to larger number of fry/pre-smolts and shallow pool. We salvaged 274 CH, 121 CO, 183 ST. There are ~200-500 fish remaining in the pool.

Skutz Falls to Sandy Pool

The Skutz Falls to Sandy Pool river section was surveyed on **June 6, 8 and 10**:

- Stoltz S/C (rkm 27)
 - **June 6**: Large, stagnant pool which is out in the open; pool temp was 23°C at noon, mainstem was 16°C. Salvaged 1000's fry/pre-smolt salvaged (80% CH, 15% CO, 5% ST); & handful brown trout. Other pools within Stoltz are deep, shaded, fine for now.
 - **June 8**: 438 CH, 579 ST, and 270 CO salvaged from critical pool.
 - **June 10**: 450 CH, 320 CO, 223 ST and 1 juv CT salvaged. Estimate ~500 fish remaining, they should be fine in the uncrowded pool.
- Davey Corner Pool, Unnamed S/C behind spawning platform #4, Bible Camp S/C all visited but considered low priority for salvaging; very few fry present.
- Washout Run (rkm 22.5) - 2 pools isolated from the mainstem
 - **June 8**: This site was a major steelhead redd area that we identified on the first assessments. The pools are open so at risk of warming up. DO's appeared to be low as there were good numbers of crayfish mortos in the pool. Salvaged 371 ST and 6 CO.
 - Truck/dirt bike tracks over top of redd area.
 - **June 10**: Salvaged 156 ST from 2 pools on left bank; cleaned out 90+% of pools.

Sandy Pool to Vimy

No survey or salvage effort was conducted in this river section from June 6-14.



Vimy to Estuary

Salvage effort in the **North Arm** was conducted on **June 10 and 14**.

- **June 10:** 4 four isolated pools identified below lower bifurcation with South Arm. In the lowermost (largest) pool, crews salvaged ~35 CH/CO smolts (70-120 mm) using a pole seine. Many more fish were observed, but a beach seine needed to salvage efficiently. Water levels were rising when on-site, pools 1-3 were being re-connected.
- **June 14:** Beach seine used to salvage 3500 CH smolts, 250 CO smolts, 1 adult CT (~35 cm), and 1 juvenile RB from the two largest pools (Pools 2 and 4; Figures 2 and 3).
- No further salvaging required in North Arm. All fish were released into the lower branch of the South Arm, just below the log jam at the lower bifurcation, which still had good flows.

Fry Salvage Efforts

No fry salvage efforts by groups other than the LGL/CT survey crew were reported during June 6-14.

Summary

No additional redd/side channel surveys or fry salvage effort is planned in the immediate future.



Figure 2. Large, isolated pool (Pool 4) in the North Arm where ~3750 fish were salvaged on June 14.



Figure 3. Four isolated pools in the North Arm of the lower Cowichan River and the South Arm release location for fish salvaged on June 14.