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Campbell River Project Water Use Plan

Physical Works Terms of Reference

- **JHTWORKS-4 Sayward Canoe Route (Signage)**

January 2016

Campbell River Water Use Plan JHTWORKS-4 Sayward Canoe Route (Signage) Physical Works Terms of Reference

1.0 Introduction

The Campbell River Hydroelectric System is comprised of three major dams (John Hart, Ladore, and Strathcona) and two smaller diversion dams (Salmon River and Quinsam River). This system is managed according to the Campbell River Water Use Plan (WUP) that was created through a multi-stakeholder Consultative Committee (CC). The CC was comprised of various government agencies, First Nations, industry and other local stakeholders who met between September 1999 and March 2003. The CC recommended a number of operating constraints and non-operating programs for the Campbell River system to address a number of different objectives, including recreational activities.

One of the recreation activities offered in the area is the Sayward Forest Canoe Route. This 50 km route developed by the BC Ministry of Forests traverses portions of twelve lakes and several streams, connected by a series of portage trails (Figure 1). The approximately 6 km long section of the Sayward Canoe route from the Mainline Logging Bridge at the outlet of Brewster Lake to the northern most edge of Fry Lake is a mixture of lakes and rivers and is influenced, in part, by the BC Hydro controlled Salmon River Diversion Dam. This section of the route may not be safe for canoeists when the flows are greater than, approximately, 6 m³/s which is due mainly to rapid flows at bridges/trestles (with their associated logjams) that cross the river. Portage trails already exist along this section of the route; however, public safety signage needs to be improved to warn recreationists about hazards that can exist along this section.

This Terms of Reference is submitted in response to the Water Act Order issued by the Comptroller of Water Rights on November 21, 2012, Schedule F, Clause 4(a). The Order requires terms of reference for a project to “improve access and signage along portage routes on the Salmon River Diversion to reduce safety risks.”

2.0 Project Objectives

This Terms of Reference (TOR) describes the physical works project that will improve signage and safety advisories associated with the approximately 6 km long section of the Sayward Canoe route from Brewster Lake to Fry Lake. The objective of this physical work is to have well marked canoe portage trails around river obstacles that will improve public boater safety during high flows and create a safer route for paddlers through the Brewster to Fry Lake section of the Sayward Canoe Route. In addition, BC Hydro will have more operational certainty that Salmon River diversion flows will not increase the public safety risk for this section.

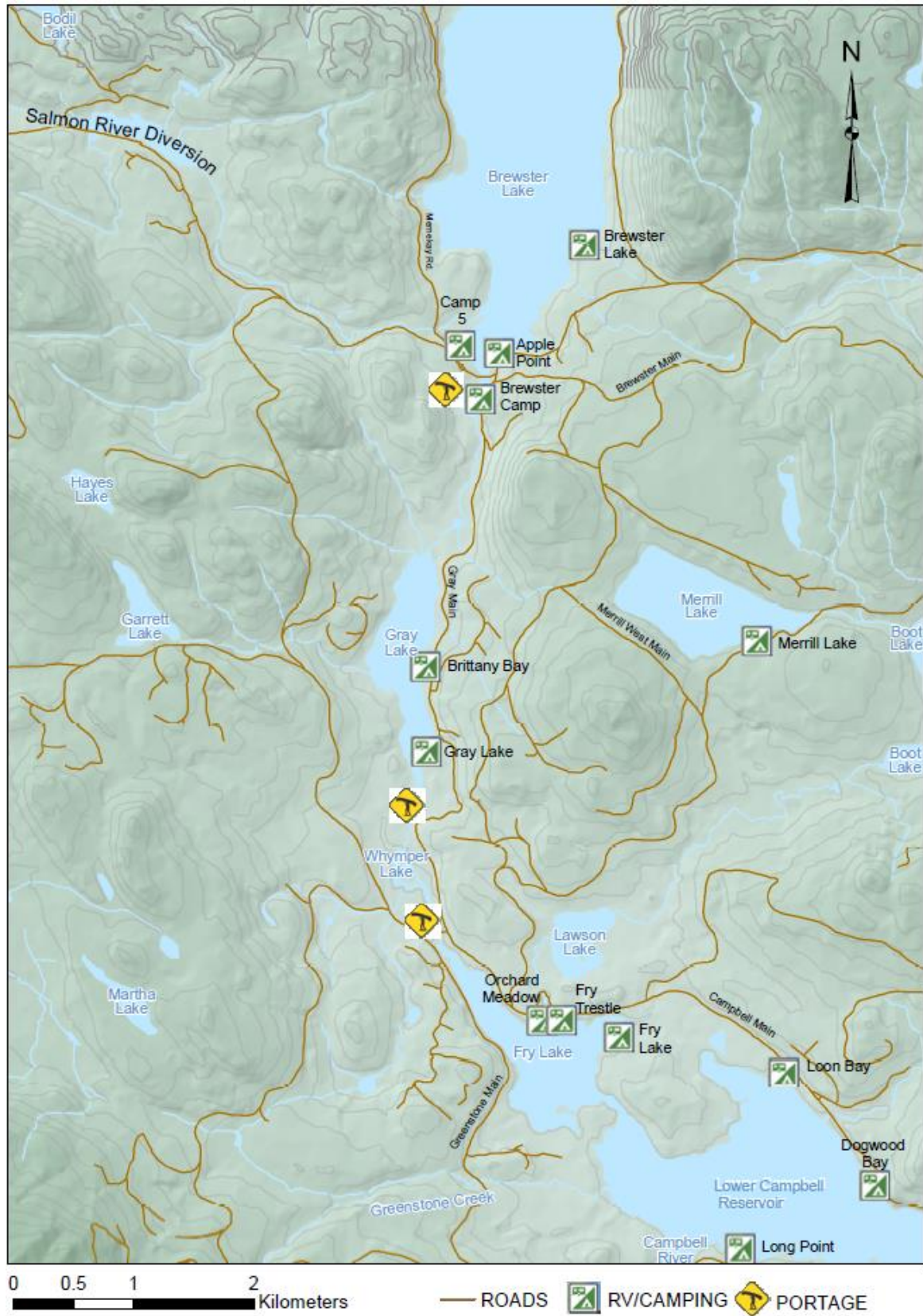


Figure 1: Sayward Canoe Route from Brewster Lake to Lower Campbell Reservoir

3.0 Background

3.1 Salmon River Diversion Dam

The Salmon River Diversion Dam can divert up to 42.48 m³/s of water from the Salmon River to the Campbell River System for power generation and other purposes. The Salmon River Diversion Dam is a rock-filled timber crib dam 89 m long with a crest elevation of 224 m and is situated west of Brewster Lake. The diversion carries water along a canal and then through a flume over Paterson Creek to Brewster Lake, where the water flows through the Sayward Canoe Route and, eventually, into the Lower Campbell Lake Reservoir.

Under the current water licence, BC Hydro is permitted to divert up to a maximum of 43 m³/s from January 1 to March 31 and a maximum diversion of 15.0 m³/s from April 1 to December 31. The reduced maximum flow from April 1 to December 31 is to allow for the safe operation of a fish screen at the Diversion Dam.

However, during the WUP process the Consultative Committee (CC) recommended improvements to the fish screen that will allow for maximum flows of 30 m³/s to be diverted to the outlet end of Brewster Lake. In conjunction with this recommendation, and to address public safety issues, the CC recommended canoeist signage and portage trail enhancements to be undertaken on the sections of the Fry Creek downstream of Brewster Lake. The signage and portage trail enhancements are to improve canoeist safety during periods of high flow in this section of the river. Therefore, in accordance with the Campbell River WUP, the Comptroller of Water Rights issued the Order to BC Hydro to submit a Terms of Reference for improving access and signage along the portage routes on the Salmon River Diversion to reduce public safety risks (as stated in Schedule F, dated November 12, 2012).

Based on assessments of the condition of the Salmon River diversion facility, upgrades are being undertaken to ensure the long-term integrity of the structure. A re-assessment completed in 2015 of the benefit versus cost of the upgrade options has concluded that the maximum diversion capacity be no more than 15.0 m³/s from April 1 to December 31 (when the upgraded fish screen is operating) and potentially a maximum of 20.0 m³/s January 1 to March 31 (when the fish screen is not operating).

3.2 Portage Routes and Safety Signage

Since the completion of the CC report in 2004, Recreation Sites and Trails BC¹ built and/or upgraded the portage trails along the Brewster to Fry Lake portion of the Sayward Canoe Route. These three portages are approximately 1 km in total combined distance and they were constructed so that paddlers could portage around logjams and/or rapids. A meeting on October 1, 2015 with representatives from BC Hydro, Strathcona Park Lodge and Recreation Sites and Trails BC has confirmed that these portages are functioning as intended and that additional portage routes will not reduce the public safety hazards along this stretch of the canoe route any further. Recreation Sites and Trails BC maintain these trails.

¹ Recreation Sites and Trails BC are the Ministry of Forests, Lands and Natural Resource Operations department that manage the Forest Recreation sites throughout British Columbia.

However, the safety signage for the Brewster to Fry Lake portion still needs to be improved. Currently, no safety signs exist that warn paddlers of the river environment from Brewster to Fry Lake or that this portion of the Canoe Route may be subject to altered flows from the Salmon River Diversion Dam. This TOR provides for the design and installation of public safety signage along the Sayward Canoe Route, including a cost estimate and tentative schedule for the work. The signs will warn canoeists of upcoming dangerous sections and provide direction for getting out of the river and onto portage trails.

4.0 Project Plan

4.1 Scope of Work

Included in this scope of the work is the installation of public safety signs that advise paddlers of hazards, and access/egress points along the Brewster to Fry Lake portion of the Sayward Canoe Route.

4.2 Deliverables

The expected result is to have signage installed to guide canoeists to safe egress/ingress points on the river, to indicate portage trail routes, and to warn paddlers about the dangers of fluctuating river flows due to the presence of the upstream Diversion Dam. The signage, where applicable, will be to the same standard and look that is presently in place and will be designed with the input of local paddling knowledge and Recreation Sites and Trails BC.

Once the designs for the signs are agreed upon, BC Hydro will be responsible for the manufacturing and installation of all signs. The agency responsible for the ongoing maintenance of these signs will depend on the type of sign installed. For example, the ongoing maintenance of any portage signs will be the responsibility of Recreation Sites and Trails BC as this is the proper stewardship group for the Canoe Route recreation resource. BC Hydro will be responsible for any signs that warn recreationists about fluctuating water levels.

4.3 Schedule

Once BC Hydro receives the leave to commence for this Terms of Reference the following schedule of deliverables is recommended, but may change depending on the level of input from interested stakeholders.

- Approval of this Terms of Reference from the Comptroller of Water Rights – February 29, 2016.
- Development of sign plan and sign content – April 15, 2016.
- Sign installation – May 13, 2016

5.0 Budget

Total Program Cost: \$25,300.

6.0 References

Order of the Comptroller of Water Rights, dated November 21, 2012.

Campbell River System Water Use Plan, Revised for Acceptance by the Comptroller of Water Rights dated November 21, 2012.

Consultative Committee Report for the Campbell River Water Use Plan dated March 2004.