



Lake Windermere Groyne, Invermere, B.C.

Appendix A - Proposed Installation of Marker Piles and Summary of Background

This document provides an update on the status of the Lake Windermere Groyne (LWG), and provides detailed information about the proposed installation of marker piles along the groyne.

Background

As part of PSPC's Wharf and Marine Structures Disposal Program between 2008 and 2011, the department held consultations to pursue the divestiture of the Lake Windermere Groyne (LWG). Contact was made with other federal departments, the Province, local governments, and First Nations to gauge their interest in taking responsibility for the structure. No organization was identified or came forward to take ownership of the LWG.

After it was determined that no organization would be taking ownership of the LWG, PSPC looked at options to remove the groyne or keep the status quo and leave the LWG in place. These options were reviewed with regulatory agencies. Environmental consultations identified concerns that removal would affect the lake's habitat. Leaving the groyne in place would include removal of debris and obsolete signage around the LWG, as well as the installation of year-round navigational markers along the LWG. Under environmental regulations, both options would require that the fish habitat be protected.

PSPC decided to leave the LWG in place and proceed with marking, but funding was not available at that time to proceed with the planned work. Therefore, minor work was conducted as required from 2013 -2018. This included reviewing draft plans and environmental assessments and routine visual inspections every one to two years to confirm no significant changes to the groyne structure. Preparatory work for marking was completed by mid-2018 and funds were made available in early 2019 to allow PSPC to proceed with tendering, which included the contract award to mark the LWG.

Work on this project has since been halted to allow for more engagement on the proposed marking project.

Proposed Work - Marking of the LWG

Marking of the LWG is proposed in response to concerns that the LWG is a potential navigation hazard for boats in the area where the north end of Lake Windermere becomes shallow and narrows into the Columbia River.

Over the years, a number of local groups have on their own initiative marked the LWG. These markings have included floating markers (buoys) held in place by some type of anchors, and signs on metal posts. PSPC understands that each of these methods requires re-installation or maintenance efforts each spring as water levels rise and the boating season begins.

Options and Considerations:

- Marker buoys (a string of red cylindrical buoys anchored in place), marker posts, or marker piles could be placed along the LWG to show its extent. Any of these would have to be designed to withstand the full range of wind, waves, and ice movement at the LWG throughout the year; or, to a standard adequate for the navigation season (early spring through late fall) but removed and re-installed annually.

- Evaluation of these options identified that buoys or marker posts would require removal and re-installation annually. Single marker piles would withstand conditions expected throughout the year without annual removal and re-installation.
- While the initial cost of installing marker piles is higher than installing buoys or marker posts, the annual removal and re-installation cost of those options make them significantly more expensive than marker piles on a life-cycle basis.
- Marker buoys or posts would require in-water work which would need to be carried out during the environmentally sensitive early-spring and late-fall periods. Marker piles may be installed during mid-July to end of August, which is the least risk window, and they do not require annual in-water work after installation.

Proposed Design Details and Installation Requirements:

Detailed design, environmental assessment, and regulatory agency referrals were carried out for the marker pile option. The proposal to use marker piles to mark LWG was made to Transport Canada's Navigation Protection Program, to Water Sustainability Regulation of the province of B.C. and to Fisheries and Oceans Canada. The proposed marking was by a line of 13 single piles, spaced 20 m apart, with a navigation marker at the east end beside the navigation channel. Concurrences were obtained from these agencies and identified the least risk environmental window for the work to be carried out between July 15 and August 31.

Ongoing Responsibility:

While the LWG is under PSPC responsibility, the department has an obligation to monitor the asset condition and potential liability arising from changes in the structure, in usage of the area, and in regulatory requirements.

Engagement Process:

PSPC will be engaging with Indigenous groups in the area, the Regional District of East Kootenay, the District of Invermere, local community groups and individuals who have previously indicated an interest in LWG.