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Kootenay Lake Sustainable Boating Society Marine Pump-out Feasibility Study Columbia Basin Trust File #3987 Environmental Initiatives Program Executive Summary

A. Background and Project Description

This project was proposed and developed as a result of the common understanding by the boating industry of the need for sewage pump-out availability and the lack of such services on Kootenay Lake. The removal of barriers to environmental stewardship are known to help motivate appropriate choices for sustainable

Work Plan

1. Two independent contractors were selected of the several referred by the chair of the South Kootenay Lake Community Connections Society. Contractors were Branca Lewendowski who worked on the marina survey and Janice Cooper who initiated conversations with marina operators and submitted press releases. Consent of marina operators allowed KLSB to publish their data on the KLSB website. In-kind support was contributed by Lois Wakelin, KLSB director, and Cheryl Graham, KLSB director, who managed website development. Director Lois Wakelin assisted with research regarding number of potential boaters on the lake.
2. Boating organizations such as the Kootenay Lake Sailing Association and the Nelson Boaters Club were contacted.
3. Masse Environmental Consultants, Inc. was contracted to research physical and legal requirements, equipment manufacturers, estimated costs, and cost recovery analysis. Director Lois Wakelin provided additional research data related to equipment, boating capacity, cost recovery, and review. Ms. Wakelin also reviewed the consultant's report for fulfillment of project goals.
4. Feasible locations were determined based on surveys of marina operators and boater responses, and physical viewing.
5. Public/private partnership models were partially researched by contractor Janice Cooper, as well as director Lois Wakelin.

As part of the research and selection of sites for pump out locations boater surveys were distributed and representatives of docking facilities were interviewed. The results are included in this report reflect the view of the Kootenay Lake marine industry and lake recreation community.

The surveys and interviews also served to increase environmental awareness of the issue of boat discharge. The Kootenay Lake Sustainable Boating Society website www.KLSB.org includes the boater survey and other lake stewardship related information. Other awareness modes included in this project are press releases to most of the news publications and organizations in the community, as well as Regional District directors.

Potential number of boaters affected

Due to time constraints related to the lack of readily available data, the number of boaters on Kootenay Lake was extrapolated from data gathered on the marinas and physical numbers of docks noted on Google Maps. Independent moorage pins were not surveyed. Several boat clubs were contacted ,such as Kootenay Lake Sailing Association, however, their members were not counted due to the possibility of double counting via their boat slips. The possible number of visiting boats was also not included due to the potential for double-count.

1. **Raw data of the potential number of boats** included: 1. Interviews with public and private marina representatives, 2. Additional visual count via Google Earth on the West Arm, and Google Maps on North and South end of the lake of all other potential docking locations.

Number of boat docking capacity

	Marinas	Others	Total	% in Marinas
West Arm	374	390	764	49%
North End	232	150	382	60%
South End	402	168	570	70%
Total	1008	708	1716	59%

Average/Mean Marina Size

	Total # Marinas	Total Interviewed	Avg Size/Median Size
West Arm	10	7	42/25-30
North Arm	4	2	58/50
South Arm	8	5	50/75-80

List of 21 known marinas counted (*interviewed)

A survey of interviews with representatives of public and private marinas was completed. See attached survey. Number of marina interviews completed -14. Moorage slips in those marinas --744 .

West Arm

*Balfour Beach Inn, 20, Langs, 20, *Cedars Inn and Marina 29, *Red Dog 31, *Birch Bay RV 25, Kokanee Park Marine 70, Nasookin 20, *Prestige 80, *Kootenay Launch Club 79

North End

*Woodbury 50, Beachcomber Resort 80, Kaslo Boat Club 70, *Schroeder Creek 32

South End

*Riondel Boat Club 75, *Fishhawk 80, *Lakeview 18, East Shore Properties 20, *Mountain Shores 49, Bayshore 32, Twin Bays 32, *Kuskonook 96. Not included Pilot Bay Resort – seasonal

Summary of dockage capability

All marinas are considered to have less than 5% vacancy during the year. Wait lists are common. Eight of the 14 marinas interviewed allow public launching. Fuel services (directly on the lake) are scarce, in particular on the south arm. Marina operators and representatives, and boaters indicate that convenience is crucial to usage of pump-outs. The following locations have services available to the public:

	Location	# Slips	Fuel Services	Washrooms	Launch	Pump-Out
Nelson Prestige	West	80	X	--	--	X
Lakeside Park, Public	West	--	--	X	X	Unk
Balfour Beach Inn	West	20	--	X	X	X
Kuskanook	South	96	--	X	X	X
Lakeview	South	18	X(shore)	X	X	X
Fishhawke	South	80	private	--	--	X
Riondel	South	75	--	--	X	X
Woodbury	North	50	X	X	X	X
Kaslo Beachcomber	North	80	X	--	X	Unk
Langs	West	20	X	X	--	X

There is general support for pump-outs by marina operators. Several indicated specifically that they would be interested in a pump-out at their location. Those include: Kuskanook, The Lakeview, and Jones Boys Marina (adjacent to Woodbury), and Langs. Marina operators as well as boaters indicated that boats generally do not have toilet holding tanks, but rather have porta-potties, or do not use the lake for long enough time to require porta-pottis. As there are no pump-outs available, **there was minimal awareness that pump-out porta-potties existed**. Locations with washrooms have septic capability.

2. Boat Launching Facilities

Public boat launches generally have no services. They include: Balfour Public Boat Launch, Crawford Bay, Boswell, Kokanee Creek Park, Kootenay Bay, Lakeside Park, and Sunshine Bay. There are some private launches available, some of which have services such as washrooms or fuel..

The key factor to boater usage at launch facilities is parking availability, and, while public launches have ample parking, they have no services. Private and quasi public launches such as Kuskanook Harbour may have washroom facilities.

No information is readily available regarding the numbers of out of area boaters launching their boats. However, Kootenay Lake is frequented heavily from Alberta, and is known in Washington, Idaho, and Montana. Most launch parking lots are full on all summer week-end holidays. Kuskanook Harbour at the south end, and a non-profit society, charges \$40 for yearly launching or \$5 per launch. They report income from approximately 150 boaters for yearly launches.

Summary of Potential number of boaters affected

Pump-out facilities at public launches are considered crucial to success to lake stewardship behaviour. The majority of boats operate on the West Arm due to proximity to population centers and there is more private dock space also on the West Arm. The South and North Arms have more marinas, making it highly probable that boaters there could use pump-out facilities at marinas.

Boater/Marina Awareness

1. Press releases for pump-out awareness

The following KLSB article was sent to: CBC Daybreak Kelowna, RDCK – all directors, Publications: Nelson Star, Pennywise, Creston Valley Advance, Kootenay News Advertise, Arrow Lakes News, East Shore Mainstreet, Local radio.

“Human, plant and animal life, and social development are all inconceivable without the presence of quality water and healthy aquatic ecosystems. Residents, vacationers, tourists, fishers, and boaters all recognize the inherent and unique beauty of Kootenay Lake and the West Arm. As an important habitat to dozens of species of animals and plant life, a source of drinking water for thousands, and a year-round recreation and tourism destination, Kootenay Lake is vital to life, well-being, and health.

When ecosystems break down, and water quality deteriorates, the benefits for the population are reduced accordingly. Water has no substitute. Without careful stewardship, Kootenay Lake is vulnerable to negative impacts of human activities, including boating.

Kootenay Lake Sustainable Boating Society (KLSB) is a non-profit citizens' group with a focus on protecting the marine environment in and around Kootenay Lake. We also provide Kootenay Lake boaters with timely information to help us safely and enjoyably use the lake. With the help of Columbia Basin Trust, the Society is currently conducting a feasibility study regarding building sewage pump-out stations on the Lake and the West Arm to prevent the discharge of boat sewage into the lake. Many other jurisdictions already have mandatory “no discharge” protocols in place in recognition of the importance of maintaining the health of their waterways. To date, the only no-discharge location on Kootenay Lake is Pilot Bay.

Increases in tourist visits and activity on the lake, and a trend to more and bigger boats can have a direct impact on its health. Some of these impacts may be controlled, regulated, or directed so that these possibly harmful effects can be avoided; where resource integrity is maintained or even enhanced, all users of the lake will benefit.

With support from RDCK, CBT, Kootenay Lake Sailing Association, and Kuskanook Harbour, a boaters' survey has been developed, and boaters are invited to visit www.klsb.org to complete the survey and add comments or questions.

April, 2012”

2. Boater Surveys

Boater Survey distribution: on KLSB website, Kootenay Lake Sailing Association, Marinas – Kuskanook via email, Prestige Yacht Club via email, Business Distribution Sites - 6, Gill&Gift Derby in early May, Osprey ferry. Survey brochure distributed – 250

Several marina operators agreed to send the survey to their members via email.

3. Discharge awareness on the KLSB website:

Boater Survey, Clean guide, Eva Schindler report on The Nutrient Restoration Program, LakeAmbassador (Windemere) best practices guide,

4. East Shore Kootenay Lake Chamber brochure advertisement

B. CBT Environmental Strategic Plan Goal 3 objectives

1. Technical support and expertise is provided by Masse Environmental Consultants, Inc. Data in their report included the surveys of marinas and launches, the boater surveys, and information from equipment manufacturers, as well as Regional, Provincial and Federal requirements.
2. The information in this pump-out study can be employed in the Kootenay Lake Stewardship Partnership, as well as local ecological programs. The study may also be used to acquire further funding.

C. The Pump-out Feasibility Project Goals and Objectives

1. While all lakes are technically considered “**no-discharge**” zones, this study is a practical element to achieve actuality. Costs for pump-outs were gathered, and costs are considered feasible relative to cost/benefit.
2. **Public knowledge and awareness** of the impacts of boat, marina and trades environmental impacts were increased via the boater survey distribution, marina survey and interviews, and postings on the KLSB website of the report by Eva Schindler, as well as “green boating” impacts. Marina information is included on the KLSB website with resultant information study information. See
3. **the most feasible pump out sites** were analyzed and consensus arrived at for the most possible/immediately feasible sites on the lake, including two on the South end, one on the North end, and two on the West Arm

Criteria for selection included:

1. Convenience for boaters and numbers of potential boater use,
2. Additional services available to the boater
3. Access to sewage disposal and cost, and
4. Availability of the property for its use.

Those sites include: **West Arm:** Prestige Hotel in Nelson, (possibly to be facilitated by Nelson as part of their buy-in to the Lake Stewardship Plan), and Lang’s in Balfour. **North** end sites include: Jones Boys Marina at Woodbury Resort Woodbury Resort... **South** end sites include: Kuskanook Harbour, and Lakeview Marina in Gray Creek at the mouth of Crawford Bay. A site in Kaslo has not been identified.

4. A public/private partnership business model was studied that included equipment costs and cost recovery methods.

It is crucial that as many boaters as possible use the pump-out system. Small boat owners without toilets should be encouraged to use porta-potties. There are pumpable porta-potties, as well as wand

attachments at the pump-outs for porta-potties. A possible solution is a rebate offered for an upgrade to a pumpable portable toilet. Cost of upgrade - \$150: Rebate = \$50 X 1000 boaters (total marina count) = \$50,000. Funding for this rebate has not been researched. Boater membership in a boater lake stewardship organization is also an option that would allow for multiple pump-outs during the year.

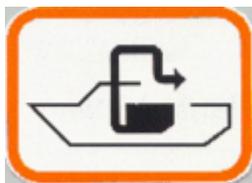
1. **Ontario regulations** indicate that portable toilets are legal only if they are well fastened to the boat with permanent pump-out enabling. Fixed toilets must have holding tanks that do not allow discharge overboard. Fixed toilets would preclude the need for on-shore clean out stations, but would limit boater options and perhaps dissuade boaters from acquiring *any* portable toilets. A recommendation for legislation

2. **The three pump-out systems** and the clean-out station each have some advantage, although the Peristaltic appears to suit most marinas and also requires no supervision. Special “wands” to clean portable toilets is considered essential as a practical measure to achieve complete “no discharge”.

3. **Complete cost recovery** that includes all equipment, maintenance, disposal, and real estate equity is not possible to estimate due to the need to include the future cost of today’s inaction on lake stewardship. Only equipment and maintenance costs were included in the report by Masse Environmental Consultants. See feasibility analysis (page 3). Analysis was made for the West Arm with the most boaters. The South Arm has potentially 75% of the West Arm, while the North Arm 50% capacity as the West Arm. The Masse report estimates a much longer payback for the North Arm at 50 years for the Peristaltic pump. Two fees were analyzed - \$10 and \$60, with cost recovery ranges from a low of 3.1 years at \$10 for the portable toilet Clean-out station, to 25.6 years for the Peristaltic system at \$6 per pump-out.

The value of the land is not included in the cost analysis, but is considered to be the contribution of the various locations where the pump-out sites will be located. It is also *not* feasible for individual marina locations to purchase equipment. Pumps should be placed on private property using government and non-governmental agency grants as the intent is for the “greater good”. Benefits to the private property is acknowledge as generating additional income by increase use of other services at the sites, or direct benefit to marina members. Income from pump-out fees will be expected to fully pay for disposal.

The Masse report includes recommendations that include, but are not limited to, 1. implementation of a public awareness program, 2. a rebate program for toilet upgrades, and 3. proposed RDCK regulation that all toilets be pumped out at private or public onshore pump-out facilities. These three recommendations allow for the most practical way of achieving complete boater “no discharge” conformity on Kootenay Lake.



Let's pump it out!

(international symbol)