

## COLUMBIA VALLEY LOCAL CONSERVATION FUND (CVLCF)

### FINAL REPORT 2019

#### General Instructions

- Final reports must be submitted **by 4:00 pm MT January 31, 2020** to the Kootenay Conservation Program.  
Email final report to [info@kootenayconservation.ca](mailto:info@kootenayconservation.ca).
- All areas of the final report must be answered.

#### Section A – GENERAL INFORMATION

**1. Project Title** (as indicated in application): CLSS Water Quality, Quantity, Education and Communication Work

**2. Proponent**

- |                                 |   |
|---------------------------------|---|
| a) Legal Name:                  | Columbia Lake Stewardship Society             |
| b) Organization Registration #: | S-0062764                                     |
| c) Mailing Address:             | 4483 Pine Bay, Fairmont, Hot Springs, V0B 1L2 |
| d) Contact:                     | Nancy Wilson                                  |
| e) Telephone #:                 | 403-993-3131f)                                |
| g) Email:                       | columbialakess@shaw.ca                        |

**3. Partner** (*if applicable*)

- |                                 |  |
|---------------------------------|--|
| a) Legal Name:                  |  |
| b) Organization Registration #: |  |
| c) Mailing Address:             |  |
| d) Contact:                     |  |
| e) Telephone #:                 |  |
| g) Email:                       |  |

#### Section B – PROJECT INFORMATION

**1.** Project Location: Columbia Lake Watershed  
(ie: RDEK area, watershed, direction from major centre, etc)

**2.** Total Project Value 55,704

**3.** CVLCF Contribution: \$13,000

**4.** Non-CVLCF Contribution: 42,704

**5.** Single or multiple year project: This is a multi year project but the budget is only for 2019

## Section C – PROJECT SUMMARY

1. Please provide a single paragraph describing your project, its objective (goals) and the results. As this summary will be used in CVLCF communications, clearly state the issues addressed and avoid overly technical descriptions. Maximum 2000 characters (~290 words).

The 2019 projects continued the 3 related but overlapping objectives: water quality monitoring, water quantity monitoring and community engagement and education. We also broadened our understanding of water quality and quantity by commencing the study of small streams.

### Water Quality:

- Overall lake water quality is acceptable for the current uses of the lake. However, the 2019 results differ from those of the prior five years and suggest that the growth of phytoplankton, activity on the lake or uses of the surrounding lands are having a noticeable influence on the indicator parameters used by CLSS to monitor the lake's condition.
- Results from monitoring 4 small streams indicate that their water quality varies considerably.

### Water Quantity:

- Work in 2019 focussed on local inflow and groundwater contributions.
- The net outflow in October was measured as less than 2 cubic metres per second. Such a low flow has 2 implications;
  - There is not an unlimited supply of water to meet future demands
  - The upper limit for groundwater flow from the Kootenay river is not likely to exceed 2 cubic metres per second in winter.

### Community Engagement and Education Activities:

- The second annual Lake tour was run in 2019
- Development and delivery of a watershed education program including classroom and field trip
- Educating the public about invasive species detection and responsible boating at Community AGM's and at public events
- Engaging community members in shoreline clean ups and bird counts
- Developing, delivering and displaying signage and brochures at four lakeside areas.

2. OPTIONAL: If your project lends itself to sparking interest through a compelling sound bite (for potential use in CVLCF communications), please tell us what that would be. Maximum 1050 characters (~150 words).

The Columbia Lake Stewardship Society has made major strides in understanding the water balance and water quality of Columbia Lake. In 2019, we learned that

- 2019 monitoring results suggest that the growth of phytoplankton, activity on the lake or uses of the surrounding lands are having noticeable influence on the indicator parameters used by CLSS to monitor the lake's condition.
- The water quality of Columbia Lake is generally acceptable for current uses of the lake and ranges for water quality parameters have been established so we can observe any changes.
- There is not an unlimited supply of water to meet future demands

This information and continued science-based investigations will help local residents and leaders to make informed decisions about the health and viability of their lake.

3. Biodiversity Targets (please list, maximum 90 words):

- Endangered and threatened species such as painted turtles, belted kingfishers
- Residential and Commercial development
- Climate Change
- Invasive and other problematic species
- Human intrusions and disturbance

**4. IUCN Threats to Target (please list, maximum 90 words):**

- The communities surrounding the lake may impact the health of the lake and its shoreline
- Climate change may alter lake levels and aquatic community composition
- Invasive and problematic species may be brought into Columbia Lake by recreational vehicles
- Human activity occurs both on the lake surface and in its watershed. Residential development and an active railway line also impact the lake

**Section D – PROJECT DELIVERABLES AND RESULTS**

- 1. Identify the deliverables outlined in your application in the table below (50 words/field) and list the results of each. Please include copies of any relevant communications products (brochures, posters, videos, websites, photos of signage, etc.) resulting from this project. Add an attachment if you need more room.**

<b>Deliverables</b>	<b>Results</b>
<ul style="list-style-type: none"><li>-Number of water quality and water quantity monitoring events (target = biweekly water quality stream measuring) 3X per summer lake water quality measuring,</li><li>-continuous in-situ water level measuring supplemented by quarterly manual measurements,</li><li>-3 events measuring stream</li><li>-profiles and volumes on the Kootenay at 4 sites – total 12 events.</li></ul>	<ul style="list-style-type: none"><li>-7 water quality monitoring events and 3 sets of water samples submitted for chemical analysis between May and September 2019, which met our target our ~biweekly water quality measuring.</li><li>-The 12 sites that were sampled in 2018 were revisited in July 2019 and samples were collected.</li><li>-The location of most streams was identified and 4 streams were sampled for water quality</li><li>Water quantity – 4 of the water stations installed during 2014 and 15 remained in operation and were continuously measured. 1 additional station was added.</li><li>-A small number of flow measurements were made to substantiate the rating curves established in 2019</li><li>-It was determined that stream profiles and possible inflow from the Kootenay would not provide useful data so they were not done.</li></ul>
Maintenance and expansion of surface water quality and quantity / level databases that will provide data to enable trends to be documented.	Both databases were updated with 2019 results. Having the trends from previous years enabled CLSS to identify measurements that were outside previous ranges. These measurements will be further investigated in 2020.
<ul style="list-style-type: none"><li>-Diversity and number of volunteers involved in water monitoring (target = three from each Community)</li><li>-Sustained involvement of core volunteers</li></ul>	<ul style="list-style-type: none"><li>-Two volunteers stepped forward and implemented the small streams project</li><li>-Twelve core volunteers participated in another summer of sampling.</li><li>-All the lakeside communities were represented in our volunteer contingent. There were 3 or more volunteers from each community.</li></ul>
Increase in community awareness about the monitoring program as measured by conversations between Columbia Lake Stewardship Society members and members of the community.	<ul style="list-style-type: none"><li>-CLSS conducted a half day lake tour to help participants understand more about the physical, biological and historical aspects of the lake. Local residents and experts presented.</li><li>-CLSS moved its AGM to June which increased attendance. It also attended community AGMs and village council meetings</li><li>-CLSS continued to use media (Facebook, local newspapers, mailing lists, our webpage) to provide information to interested members and the general public</li></ul>

Increased membership in the Columbia Lake Stewardship Society as a result of this program (target=10 new members).	Communication with our membership via eblasts, Canal Flats newsletter submissions, educational articles distributed at lake access points and posts to our website have increased awareness and interest in the CLSS.
Increased awareness among residents and visitors of the impacts of their activities on our watershed as measured through number and quality of interactions at community events, number of brochures picked up, and testimonials from the individuals we interact with.	The number of personal interactions, Inquiries on the website and attendance at the AGM all increased in 2019. The questions were generally more specific and detailed, suggesting that residents and visitors are becoming better informed on matters impacting the lake.

## Section E – PROJECT EFFECTIVENESS

1. Please evaluate the effectiveness of the project using objective standards, quantifiable criteria and/or quality control measures identified in your application/proposal. Maximum 2000 characters (~290 words).

### Water Quality

Using the baselines established with data collected from 2013-18, we were able to identify unusual data in 2019. We also identified a trend of increasing chloride from north to south along the lake. Additionally, we reconfirmed that, for the most part, the water quality meets the water quality objectives (WQO's) established for Lake Windermere.

### Water Quantity

Water quantity monitoring helped us examine the water balance and levels of the lake. Lake levels impact the local economy and preserve the habitat necessary for wildlife and aquatic species to survive. Hydrometric data collected to date has shown that the annual rise and fall of Columbia Lake is attributable to waters entering the lake from Dutch Creek during spring runoff.

2019 work focussed on local inflow and outflow, which helped establish a minimum fall flow.

### Community Education and Engagement

The 2nd annual Lake tour engaged and educated community members both as participants and as experts sharing their knowledge. CLSS described the health of the lake and those measures that will aid in protecting the lake's water quality at the AGM's of lakeside communities. We provided educational signage and brochures at the four lakeside areas. Also, in-class sessions and on-the lake sessions were conducted with an elementary school from a local community. We also moved our AGM to June and coupled it with demonstrations of the various activities that CLSS undertakes each year.

### Volunteers

The work of CLSS is largely done by volunteers. One of the major objectives of CLSS is to educate and engage volunteers. Twenty-five volunteers helped: monitor water quality and quantity on the lake, locate and monitor streams, with the Lake tour, with the lakeside spring clean up, present at AGM's to the local communities and provided advice at boat launch sites on measures to protect the lake health.

What are the top 3 lessons learned from the project that would be important to communicate to others doing similar work throughout the RDEK? Maximum 1050 characters (~150 words).

- Volunteers are very important to conducting a successful program.
- Following scientific procedures and reliable methods is critical to collecting useable data
- Engaging and including lakeside communities, as well as networking with other organizations is key.

## Section F – FURTHER COMMENTS

1. Please provide any further comments including recommendations for future conservation efforts. If your project produced a narrative or scientific report or additional project products (e.g. maps, photos), attach them as an Appendix (maximum 90 words).

CLSS continues to expand its sphere of engagement by participating with other organizations that are concerned with the health of the Columbia Valley watershed whenever possible. These engagements ranged from one-on one communication through to workshops and conferences. Through them, CLSS is becoming increasingly aware that the health of the Columbia valley rests in how well the various groups work together, sharing data, ideas and knowledge. CLSS is committed to be an active participant in promoting and maintaining strong relationships amongst the groups and thereby promoting the health of the Columbia Valley watershed. While it is important to engage with organizations, it is equally as important to engage with individuals and volunteers, which CLSS is also committed to doing. Reports on water quality, water quantity and groundwater will be sent to you shortly. If you have any questions or require clarification, contact Nancy Wilson.

## Section G – FINANCIAL REPORT

1. Please submit a financial report for the project outlining revenue and expenditures with a comparison to the budget submitted with your CVLCF application. **Use the Final Budget Reporting form provided.** Details on any discrepancies from the budgeted amounts or items are required (maximum 90 words).



Columbia Valley Local Conservation Fund (CVLCF) Final Reporting Budget
Proponent:
Project Title:

**Proponent:**

**Project Title:**

Please include both cash and in-kind amounts, and itemize all projected revenues and expenditures, confirmed and pending (including in-kind contributions). Please ensure revenues and expenses balance.

Be sure to identify the specific component(s) of the project allocated to the Columbia Valley Local Conservation Fund. Record them in the "CVLCF Funding" column. Please remove all green text upon completion of this Budget Form.

REVENUES:					
Funders	APPLICATION		FINAL REPORTING		Additional Comments
	Estimated Cash Amount	In-kind Amount	Actual Funds Received	Actual In-kind	

Donor	Rundars	APPLICATION		FINAL REPORTING		Additional Comments
		Estimated Cash Amount	In-kind Amount	Actual Funds Received	Actual In-kind	
	CVLCF	\$14,050.00		\$13,000.00		
	Columbia Basin Trust	\$5,000.00		\$5,000.00		
	Columbia Valley Community Foundation	\$2,100.00		\$2,100.00		
	Lake Windermere Ambassadors		\$1,000.00		\$1,000.00	
	Columbia Wetlands Stewardship Partners		\$500.00		\$500.00	
	Living Lakes Canada		\$500.00		\$500.00	
	Bill Thompson		\$250.00		\$250.00	
	Project Mgmt Volunteers		\$18,000.00		\$18,000.00	
	Community Volunteers		\$6,750.00		\$6,750.00	
	Boat and Gas Donation		\$1,000.00		\$1,000.00	
	Donations (Community Associations, Businesses, Individuals etc.)	\$1,000.00		\$600.00		
	Summer Works Program	\$4,940.00		\$6,504.00		
	Office supplies, telephone, internet		\$500.00		\$500	
	Total Amounts	\$27,090.00	\$28,500.00	\$27,204.00	\$28,500.00	
	<b>TOTAL REVENUE</b>	<b>\$55,590.00</b>		<b>\$55,704.00</b>		

EXPENSES:		APPLICATION		FINAL REPORTING			
		Cash	locked	Total Budget	Actual cash spent	Actual total budget in-kind	Other CE Funding
Exosome Home	Details (if applicable)						

Expense Items		Details (if applicable)		APPLICATION		FINAL REPORTING		
		Cash	In-kind	Total Budget	CVLGF Funding	Actual cash spent	Actual in-kind	Actual total budget
<b>Water Quality</b>								
Laboratory Analysis (incl small streams)		\$2,200.00		\$2,200.00	\$2,200.00	\$ 1,366.00		\$ 1,366.00
Shipping		\$1,000.00		\$1,000.00	\$1,000.00	\$ -		\$ -
Misc Supplies		\$200.00		\$200.00	\$200.00	\$ 67.00		\$ 67.00
Water testing Equipment						\$ 2,799.00		\$ 2,799.00
Boat and Gas								
Community Volunteers				\$1,000.00				\$ 1,000.00
Project Management Volunteer				\$2,750.00				\$ 2,750.00
150 hours @ \$30 / hr				\$4,500.00				\$ 4,500.00
<b>Water Quantity (incl small streams)</b>								
Rain Gauge				\$250.00				\$ 250.00
Data Loggers		\$900.00		\$900.00	\$900.00	\$ 893.00		\$ 893.00
Stabilizer Pin		\$350.00		\$350.00	\$350.00	\$ 350.00		\$ 350.00
Highway Flagging		\$3,000.00		\$3,000.00	\$0.00			\$ 3,000.00
Community Volunteers				\$9,000.00				\$ 9,000.00
Project Management Volunteer								
<b>Education and Outreach</b>								
Wetlands Educational Signage		\$2,300.00		\$2,300.00		\$ 4,300.00		\$ 4,300.00
Organization and Execution of Lake Tour		\$400.00		\$400.00	\$400.00	\$ 766.00		\$ 766.00
Printing of Educational Materials		\$500.00		\$500.00	\$500.00	\$ 316.00		\$ 316.00
Project Management Volunteer				\$4,500.00				\$ 4,500.00
Community Volunteers				\$1,000.00				\$ 1,000.00
<b>Labor Related to all Projects</b>								
Summer Student		\$7,200.00		\$7,200.00	\$2,260.00	\$ 8,675.00		\$ 8,675.00
Misc Employee Expenses		\$300.00		\$300.00	\$300.00	\$ 234.00		\$ 234.00
Coordinator		\$4,800.00		\$4,800.00	\$4,800.00	\$ 3,800.00		\$ 3,800.00
Travel Expenses (gas, mileage)		\$140.00		\$140.00	\$140.00	\$ 121.00		\$ 121.00
<b>Program Development</b>								
Conference attendance and Travel		\$1,000.00		\$1,000.00	\$1,000.00	\$ 1,055.00		\$ 1,055.00
Professional Advice and Development				\$2,000.00				\$ 2,000.00
<b>Administrative Costs</b>								
Office: telephone, internet, printing etc		\$2,000.00		\$2,500.00		\$ 1,527.00		\$ 2,027.00
Insurance and memberships		\$800.00		\$800.00		\$ 935.00		\$ 935.00
Total Amounts		\$27,090.00	\$28,500.00	\$55,590.00	\$14,050.00	\$27,204.00	\$55,704.00	\$13,000.00