



## 2021 ANNUAL REPORT

[www.columbialakess.com](http://www.columbialakess.com)

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September 2021



*The Columbia Lake Stewardship Society envisions Columbia Lake becoming an example of the balance that can exist between nature and the needs of our communities.*

# Thank you to our funders and supporters



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Thank you also to:

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The Columbia Lake Stewardship Society acknowledges and appreciates that our water stewardship work is completed on the shared traditional and unceded territories of the Ktunaxa Secwepemc People, and the chosen home of the Columbia Valley Metis.

## EXECUTIVE SUMMARY

The Columbia Lake Stewardship Society has experienced a year of varied challenges, growth and major accomplishments. The ongoing pandemic and the impact of forest fires placed constraints on how our organization could conduct its work and fulfill its mandate. However, in spite of these challenges, CLSS was able to maintain its past programs and expand its outreach in some areas. In 2021, CLSS focused its work on developing and implementing our five guiding principles: Study our Lake, Share our Findings, Involve our Communities, Promote our Lake's Sustainability, Develop our Organization.

CLSS built and maintained partnerships with a variety of water stewardship organizations to improve both our programming and assist in theirs. We could not do what we do without the help and support of many volunteers. The volunteers that are part of CLSS come from all of the communities that surround Columbia Lake and are both year-round and part-time residents of the area. CLSS strives to work with all levels of government, First Nations, youth, community associations and other organizations that are interested in the health of the lake.

CLSS took a big step this year by first hiring a short-term program coordinator and then, later in the year, employing a long-term program coordinator whose functions greatly increase our capacity to fulfill our vision of preserving the ecological health and water supply of Columbia Lake for present and future generations through scientific investigation, collaboration and outreach.

We also applied for and received charitable status which will lead to greater fundraising opportunities.

Through the generous support of the Columbia Basin Trust, CLSS developed its first ever five-year plan, which helped us clarify our vision, mission, priorities and long-term plans.

This was our eighth year of monitoring the lake for water quality and quantity. In addition to these ongoing water monitoring activities, we added water quality and quantity monitoring of four of Columbia Lake's tributaries. We also completed our first fish survey of the lake and participated in the foreshore inventory monitoring program update.

CLSS also continued to engage our community members through our summer camps for kids, booths at local farmers' markets and articles in both the Columbia Valley Pioneer and the Canal Flats News. We also continued to gather input from lakeside residents and key stakeholders through an online survey, responses to social media posts and one-on-one conversations.

This report summarizes the highlights of the work CLSS completed between October 1st, 2020, and September 30th, 2021. More detailed reports about our water quantity and quality programs are available at our website: [www.columbialakess.com](http://www.columbialakess.com).

## MESSAGE FROM THE BOARD CHAIRPERSON

CLSS started out as a very small group of people who were interested in the health of Columbia Lake and has expanded over the past seven years to involve more people and more programs, but always with the same focus.

I have been involved with CLSS for over six years and have always been impressed with the dedication of the volunteers that work with CLSS and the depth and variety of commitments and skills they share.

I am very honoured to be part of this group and amazed at what we have been able to accomplish, especially during this unprecedented and difficult year. I have learned so much about Columbia Lake, its importance to the health and well-being of the upper Columbia Valley and realize that now, more than ever, monitoring and balancing the protection of the lake with the needs of communities is critical.

The work of CLSS has largely been accomplished by volunteers, but with the addition of a program coordinator, we will be able to have an even greater impact on protecting the critical resource of Columbia Lake. I look forward to working with Leah Downey as she takes on this challenging role.

**Nancy Wilson**

## MESSAGE FROM THE PROGRAM COORDINATOR

Over the past seven years the Columbia Lake Stewardship Society has evolved from a single person water monitoring operation to a well-developed environmental organization. With a group of highly qualified, motivated, and passionate volunteers, the organization has been very successful in developing a data base of information about the health of Columbia Lake.

I have returned to the Columbia Valley this year after successfully completing my diploma for Renewable Resource Management from Lethbridge College. Growing up in the valley has provided me with a deep appreciation for Columbia Lake and its surrounding communities. Combining my background in the study of environmental protection and my local knowledge, I look forward to assisting CLSS in its important work.

Since joining CLSS in May 2021 as the Program Coordinator, I have been greatly inspired by the level of passion and care for the health of Columbia Lake that is shared by the surrounding communities and our volunteers. Over the course of the summer season, I have had the opportunity to be involved with all our programs and the pleasure of working with an amazing group of volunteers and community members. I am extremely excited to move forward with the Columbia Lake Stewardship Society, raise its profile in the Columbia Valley, and continue the important work of protecting and preserving the health of Columbia Lake.

**Leah Downey**





## OUR TEAM



**Nancy Wilson, Chair**



**Pat Silver, Treasurer**



**Tom Symington,  
Secretary**



**Bill Thompson, Director**



**Tom Dance, Director**



**Leah Downey,  
Program Coordinator**



**Mitchell Aitken,  
Summer Student**

## VOLUNTEERS

Our team also includes a large number of devoted volunteers. Thank you to everyone for your interest and assistance. We wouldn't be able to do what we do without you.





# HIGHLIGHTS





## PROJECT WORK

This year, the Columbia Lake Stewardship Society focused on developing and implementing our five guiding principles: Study our Lake, Share our Findings, Involve our Communities, Promote our Lake's Sustainability, Develop our Organization. In each area, we were able to see success in our programs and meet our goals.

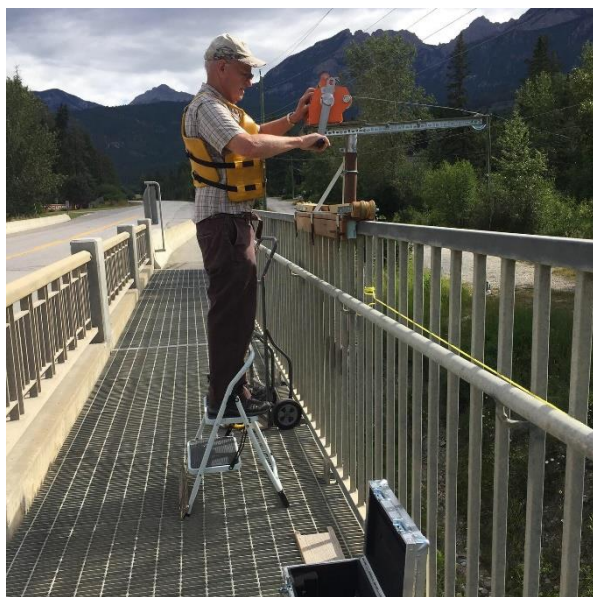
### Study Our Lake

In 2021, the Columbia Lake Stewardship Society continued to monitor and sample the water of Columbia Lake and its tributaries for the eighth consecutive year. This work has allowed us to establish baselines for water quality and quantity parameters.

The results and interpretations from our water quality and quantity monitoring programs this year will be documented in our 2021 reports. These reports will be completed in January 2022 and will be shared locally through presentations and community outreach activities, provided to stakeholder groups, and made available online on our website and social media platforms.

#### **Water Quantity Monitoring**

With the collection of weather data and various streamflow measurements, we have developed a water database, and estimated the water balance of Columbia Lake from the annual and seasonal changes in



streamflow for Dutch Creek, Canal Flats Creek and the Columbia River. This data is significant in understanding the changes and fluctuations in the water balance of Columbia Lake. This year, despite a few challenges created by COVID-19, our monitoring program continued with success. Beginning in early spring and continuing into late fall, we managed to complete four water quantity excursions to collect the streams' velocities, maintain and collect data from our data loggers, and take notes of any changes within the channels. To complement our streamflow data, weather information is collected throughout the year from various stations within the valley, which contributes to our data analysis and annual reports. To learn more, further information is included in our water

quantity reports found on our website [here](#).



### **Water Quality Monitoring**

We continued to monitor the lake for water quality parameters such as the dissolved oxygen levels, turbidity, pH, conductivity and the relative depth and temperature of the lake in various locations. Additionally, as part of our water quality program, we continue to gather samples for chemical analysis and measure the amounts of phosphorous, total metals, dissolved nutrients and chloride.

Our 2021 sampling season began on April 20, 2021 and continued through until September 2021. Beginning in April, our water monitoring events are a welcome activity, a chance to escape the office and enjoy the crisp mountain weather and water temperatures. We plan our water sampling schedule according to the weather and at a uniform time of day between 10 a.m. and 2 p.m. This year, we completed 15 excursions and included six citizen scientists in our water quality activities, following all social distancing requirements and recommendations. Our standard sampling regimes were developed based on common practices made by our water quality coordinators. These practices are reviewed by volunteers and staff prior to the field work to ensure all samples and data are collected with success and accuracy.



This past summer we experienced an extreme heat wave in the valley. While this hot weather allowed for exceptional mornings for water monitoring, it also amplified the importance of water conservation and environmental stewardship. Environmental extremes such as this summer's heat dome motivate us to continue to collect our data and help us to illustrate the importance of our findings and the need to share our knowledge and understanding of the lake with the communities we serve.

Water quality monitoring has been conducted on the lake for seven years. We started monitoring the water quality of several Columbia Lake tributaries in late 2020.

### **Lake Monitoring**

Since our start date in late May, CLSS staff and volunteers have been actively monitoring the lake and collecting water samples, completing seven successful lake monitoring events. These events are coordinated and conducted by our program coordinator and summer student who carry out the program's schedule of biweekly monitoring activities. The program includes the analysis of the lake's water quality parameters for our four sites at the middle and end of each month from May to August. We also collect water samples for further analysis of specific elements that may be present, alternating the collection of these samples at the end of May, the middle of July, and the end of August.

Aside from a few rough waves, this year's lake monitoring activities were successful and enjoyable. The data collected has allowed us to document any changes in the lake from the contributing impacts of environmental or anthropogenic activity and has provided us with the opportunity to share the information with other organizations, individuals and communities.



### **Creek (Tributary) Monitoring**

Four tributaries that flow into Columbia Lake were monitored monthly from April to September 2020 in a manner similar to the lake monitoring program. The creeks monitored were Dutch Creek, Hardie Creek, Marion Creek and Canal Flats Creek.

The purpose of monitoring the streams on Columbia Lake is to:

- Develop an understanding of the number and location of smaller streams that enter Columbia Lake;
- Understand the impact of these streams as a source of water for the south end of the lake as well as for riparian areas around the lake;
- Monitor the water quality of the streams;
- Estimate the flow of the various streams at several times through the seasons when they are flowing;
- Estimate the contribution of these streams to the water balance of the lake (although it will be relatively small); and
- Develop a database of stream information that can be used to note impacts from climate change or development around the lake.



The sampling protocol is the same as the one we use for the lake. In addition, we collected information on stream velocity. The data collected will be included in our water quality report.

### **Boat Counts**

In 2021, we continued our twice weekly counts of boats to monitor the type and volume of craft that use Columbia Lake. We counted the number of boats on the lake at about noon on a weekday and about noon on a weekend. This information is important to document because it allows us to recognize the recreational activity taking place on Columbia Lake and helps us to improve our educational programs and the information, we provide to lake users. The results of the boat count are on our website.

## **Share Our Findings**

### **Work with other Organizations**

Much of the work we do is not possible without the support and collaboration of other groups. We work with other groups both locally and at a provincial level. In 2021, CLSS continued to collaborate with other organizations to align programs, share information, coordinate responses, and maintain best practices.

We collaborated with other groups on some key projects including:

- Lake Windermere Ambassadors - CLSS and LWA collaborated on community outreach programs and water monitoring programs on the Columbia Headwater Lakes as well as the fish survey;



- Data sharing agreement with Living Lakes Canada - We signed an agreement with LLC to share our data through their Data Hub;
- East Kootenay Invasive Species Council - providing both educational opportunities and assistance with maintaining the lakeshore's ecological health;
- Fairmont Community Association - CLSS provided informational brochures to recreationists who are using the upper reaches of the Columbia River;
- BC Lake Stewardship Society - provided guidance for our water quality and quantity monitoring protocols, as well as report writing;
- Columbia Wetlands Stewardship Partners – CLSS is represented on the board of CWSP and will be working with them to monitor the newly installed resting logs and create public awareness about the turtles in Armstrong Bay and ensure the turtle habitat is protected;
- Worked with RDEK in finalizing and advertising the installation of the 10 km/h speed limit buoys in ecologically sensitive areas of Columbia Lake.

### **Foreshore Inventory Management Planning Update**

Working collaboratively with Living Lakes Canada, Columbia Lake's Foreshore Inventory Management Planning (FIMP) was updated in September 2021. This project is an assessment of the shoreline and will be used as a guidance document for future management strategies to help protect and conserve Columbia Lake's diverse ecosystems. Further information can be found on the Living Lakes Canada website.



### **Columbia Lake and Lake Windermere Fish Study**

In August of 2021, the Columbia Lake Stewardship Society partnered with the Lake Windermere Ambassadors to complete a fish study on the Columbia Headwaters. The work was completed by Lotic Environmental, an aquatic consultant, and over the course of six days, the two lakes were successfully surveyed using various capturing techniques. This project will provide our organizations with a baseline of the species of fish present and estimates of the populations within the headwaters of the Columbia. We will use this information, along with the FIMP, as a guideline for managing activity on and around Lake Windermere and Columbia Lake, and to further improve the Columbia Headwaters' sensitive ecosystems. The results of this study will be available in late 2021 or early 2022.

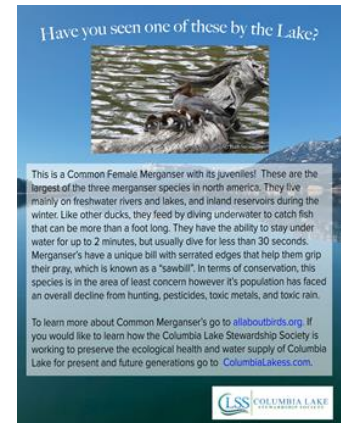
### **Columbia Valley Swallow Project**

During the past 40 years, Canada has witnessed an approximate 98% decline in its Bank Swallow population. Rachel Darvill is the Program Biologist for the Columbia Valley Swallow Project. This is a conservation project which aims to gather information about the local swallow populations, raise awareness about it in the surrounding communities, and improve nesting habitat. The Columbia Lake Stewardship Society is proud to be involved in this project by helping to raise awareness and educate people to conserve the swallow nesting habitat around Columbia Lake and raise awareness of it in the surrounding communities. We are actively working to involve and open up opportunities for interested individuals to become citizen scientists to assist with monitoring. If you would like more information on

the project visit [here](#), or if you would like to become involved in 2022 initiatives contact us for volunteer opportunities.

### **Educational Articles and Pulse Checks**

This year, inspired by the Lake Windermere Ambassadors' weekly pulse checks in the local paper, the Columbia Lake Stewardship Society submitted its own water quality data to the Columbia Valley Pioneer on a regular basis. This allowed readers to compare the health of the two lakes, gain an understanding of their differences and allow individuals to be aware of their current environmental conditions. We also submitted articles to the Canal Flats Newsletter about the flora, fauna and physical setting of Columbia Lake as well as other articles to provide community members with a broader connection to the lake, important updates and volunteer opportunities. The Columbia Lake Stewardship Society is grateful for the opportunity to share information through these local news outlets, and we will continue to maintain a greater presence in our communities through their print media.



### **Farmers' Markets and AGMs**

Throughout the summer of 2021, Columbia Lake Stewardship Society members and staff successfully connected with 160 community members at the Invermere and Canal Flats farmers' markets, community AGMs and meetings, and various community outreach events.

Our program coordinator and summer student joined the Lake Windermere Ambassadors at the Invermere Farmers' Market where we connected with community members from up and down the Columbia Valley and shared our passion for water stewardship. In 2021, we made our first appearance at the Canal Flats Farmers' Market. While embracing our warm welcome there, the Columbia Lake Stewardship Society successfully connected with community members, sharing important information, and discussing their questions and concerns.

Aside from markets, staff and members supported Columbia Lakes communities by raising awareness of the Society's current and future environmental activity by presenting at community AGMs and connecting with council members.



### **Social Media**

In light of the Covid-19 pandemic, the Columbia Lake Stewardship Society embraced social distancing, and used social media as a means to connect and share information with communities, individuals, and other organizations. This year we successfully reached over 3,400 individuals through our social media platforms. This allowed us to share information more efficiently and provide our followers with important updates and volunteer opportunities.

### **Involve Our Communities**

Even though CLSS carefully followed the Provincial Health Officer's restrictions and recommendation for social distancing, members and volunteers agreed that many activities are more enjoyable when completed together. This year, the Columbia Lake Stewardship Society worked to include as many partners in our projects as possible, while respecting all of the public health constraints.

Early in the year, the Columbia Lake Stewardship Society called upon its volunteers to assist with the direct management of invasive knapweed, which plagues many properties and consumes habitat along the shoreline. Annually, CLSS members and volunteers coordinate with the East Kootenay Invasive Species Council (EKISC) to educate communities and individuals about the destructive and relentless effects of invasive species. With a combined effort, four CLSS members and three volunteers managed to collect and dispose of 13 large garbage bags of knapweed from the shoreline stretching from Spirits Reach to Columbia Ridge. Our mission was not to eliminate the presence of the invasive species, but rather to prevent the future spread of knapweed and to assist with the management of small knapweed populations, as well as help educate volunteers and the public about invasive knapweed. Over time and with continued support and increased awareness of this cause, we will see a reduction in the communities of knapweed which thrive today.

### **Volunteers**

The Columbia Lake Stewardship Society has a remarkable team of volunteers who donate their time and boats to our work in protecting and conserving Columbia Lake's ecosystem. While volunteering their time to the organization, these individuals have become valued stewards of the lake. This year we were grateful to our 15 volunteers who managed to promote and respect safe social distancing protocols. We hope to increase participation in 2022 by providing more volunteer opportunities for community members to become lake stewards.



### **Free Summer Camps for Kids**

This was the second year that the Columbia Lake Stewardship Society was involved in hosting free summer camps for kids. This year, we had the opportunity to collaborate with the Lake Windermere Ambassadors and co-host camps on both Columbia Lake and Lake Windermere. These camps included educational activities regarding the ecology of the lakes, and actively involved the kids with hands-on



learning experiences. We also had the opportunity to connect and deliver educational camps to the Columere Park Community and the Little Badger Early Learning and Nature School. CLSS was also fortunate enough to team up with Wildsafe BC and offer knowledge about the wildlife around Columbia Lake and provide kids with the opportunity to become Wildsafe rangers! We had over 115 kids participate over the entire summer of 2021, some of those being repeat attendees in multiple camps. Provided we have the capacity in 2022, we will continue to offer these camps

and will continue to increase the availability and opportunity to learn for more children.

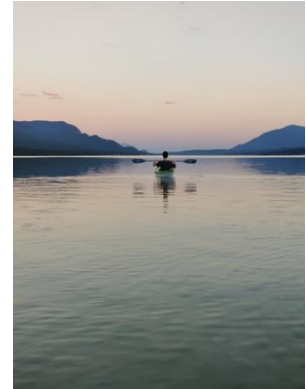
### **Community Engagement/Outreach Survey**

As part of our planning process to develop our five-year plan, the Columbia Lake Stewardship Society reached out to community members to ask for their ideas with regard to the future scope of the Society and the role it should play in the ecological management of Columbia Lake. We posted an online survey that was open from the beginning of June to the end of August to gather as many opinions and as much information as possible. The survey was either filled out online or answered through in-person discussions with our Program Coordinator. Broad questions regarding the organization were asked. The majority of individuals were not aware of what the Columbia Lake Stewardship Society does (its vision and mission), while others who were aware of CLSS commended our water quality and quantity programs. A summary of the results of the survey will be on our website by year end.



## **Promote Our Lake's Sustainability**

We monitor all development applications that could possibly impact the lake and we will always ask if the lake's health is being taken into consideration. During all of our educational sessions we promote information about the lake's sustainability and good lake stewardship.



### **Columbia Lake Management Plan Update**

CLSS participated in surveys for the Columbia Lake Management Plan update, presented our information and data to the technical committee in 2020 and has since monitored the [engage.rdek.ca](https://engage.rdek.ca) website updates and announcements about its draft plan. When the final draft document for the updated plan is released, we will review it and propose amendments if necessary.

## **Develop Our Organization**

### **Program Coordinator**



In 2021, CLSS took the significant step of hiring Georgia Peck as our first short-term Program Coordinator. Georgia outlined the next steps required for establishing our goals, gathering resources to pursue our goals and, finally, achieving some short-term goals. In May of 2021, we welcomed Leah Downey as our first long-term program coordinator.

The primary responsibilities of the Program Coordinator are to be the face of our organization, take on administrative tasks, find unique and secure funding opportunities, receive guidance from the Board of Directors, provide guidance to volunteers and assistants, assist in the collection of water quality and quantity samples and measurements, provide educational materials to community members and tourists through community outreach, and promote our initiatives at various community events.

Having a long-term Program Coordinator will assist our organization's capacity and ability to interact with communities, provide stewardship opportunities and deliver our educational programs.

### **Charitable Status/Endowment Fund**

In February 2021, the Columbia Lake Stewardship Society applied to the Canada Revenue Agency's Charities Directorate for Charitable Status. Our goal was achieved in August of this year. This will greatly increase the number of grants that CLSS will be able to apply for and will enable CLSS to provide tax receipts to donors. The Columbia Lake Stewardship Society is now listed on Canada Helps

(canadahelps.org). We are also in the process of setting up an endowment fund with the Columbia Valley Community Foundation (valleyfoundation.ca).

### **Five-Year Plan**

With the support of the Columbia Basin Trust's Non-profit Advisors Program and the guidance we received, CLSS developed its first ever five-year plan. We were able to achieve clarity and develop plans around our Core Values & Guiding Principles, engage in Community Outreach, develop a Five-Year Strategic Plan, and identify an organizational workplan. To accomplish this, we

- Completed a board engagement survey;
- Created Guiding Principles;
- Reworked our Vision and Mission Statements;
- Created Organizational Strategies & Objectives;
- Created and implemented a Community Engagement/Outreach Survey; and
- Developed an organizational workplan to determine the action steps for the years to come.

The five guiding principles we developed are: Study our Lake, Share our Findings, Involve our Communities, Promote our Lake's Sustainability, Develop our Organization. These will direct our focus and stewardship efforts. Highlights of the strategic plan are available on our website.

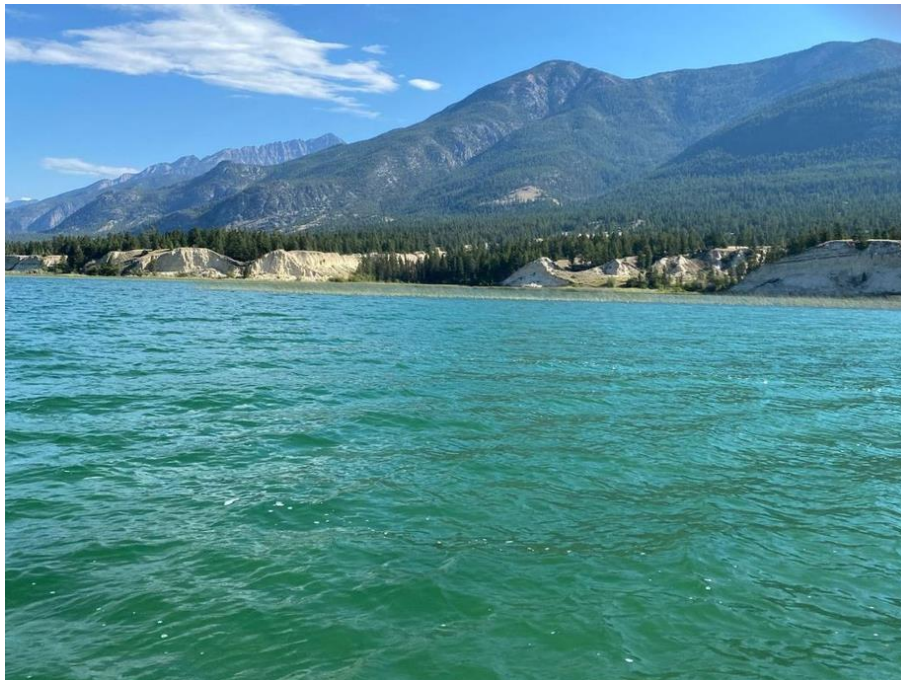


## FINANCIALS

The fiscal year for the Columbia Lake Stewardship Society runs from January 1<sup>st</sup> to December 31<sup>st</sup> each year. A summary financial statement will be available online at [Columbialakess.com](http://Columbialakess.com) in our annual general meeting minutes or can be requested from our office at [info@clss.ca](mailto:info@clss.ca).

## CONCLUSIONS

In spite of the ongoing complications of the Covid-19 Pandemic, 2021 was another successful year for the Columbia Lake Stewardship Society. We achieved many of our goals and, following our newly developed guiding principles, we have begun to cultivate new relationships and expand our environmental programs. While working to ensure that the health of Columbia Lake is protected, CLSS will continue in 2022 to help full- and part-time residents and the communities where they live to increase their environmental awareness and provide them with a range of stewardship opportunities around Columbia Lake.



## ACKNOWLEDGEMENTS

The Columbia Lake Stewardship Society would like to acknowledge the ongoing and faithful support of our collaborators, partners and mentors who are listed below:

Akisqnuq First Nations  
All of our donors and volunteers  
BC Lake Stewardship Society  
Canada Summer Jobs  
Columbia Basin Trust  
Columbia Basin Watershed Network  
Columbia Ridge Community Association  
Columbia Wetlands Stewardship Partners  
Columere Park Community Association  
East Kootenay Invasive Species Council  
Fairmont Community Association  
Lake Windermere Ambassadors  
Living Lakes Canada  
Regional District of East Kootenay  
Spirits Reach Strata Association  
Village of Canal Flats

