COLUMBIA LAKE
STEWARDSHIP SOCIETY

2025 Annual Report

View of Columbia Lake from Columere Park, BC

Prepared by: Jess Graham

Template by: Caily Craig

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Thank You to Our 2025 Funders:

Regional District of East Kootenay

Village of Canal Flats

Columbia Valley Community Foundation

KCP Kootenay Conservation Program

BC Hydro

Columbia Basin trust

Watershed Security Fund

TD Friends of the Environment Foundation

Organization Overview

Mission

The Columbia Lake Stewardship Society (CLSS) is working to preserve the ecological health and water supply of Columbia Lake for present and future generations through scientific investigation, collaboration, and outreach.

Vision

We envision Columbia Lake becoming an example of the balance that can exist between nature and the needs of our communities.

Guiding Principles

CLSS works toward its mission and vision by implementing five guiding principles:

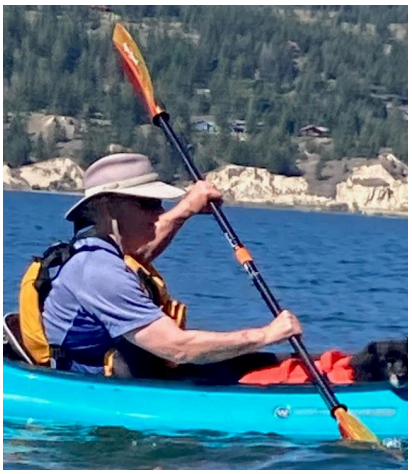
1. Study our lake
2. Share our findings
3. Involve our communities
4. Promote our lake's sustainability
5. Develop our organization

The Columbia Lake Stewardship Society respectfully acknowledges that our water stewardship work is conducted on the traditional lands of the Secwépemc and Ktunaxa First Nations, our local Indigenous communities the Akisq'nuk First Nation and the Shuswap Indian Band, and the chosen home of the Columbia Valley Métis. We recognize these communities as the original and ongoing stewards of Columbia Lake and its surrounding land.

Our Team

Pat Silver, Treasurer

Tom Syminton, Secretary



Tom Dance, Director

Rachel Milner, Director of Water Quality

Nancy Wilson, Chair

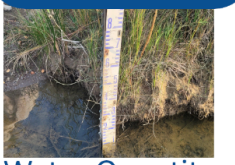
Bill Thompson, Director of Water Quantity

Jess Graham, Program Support

2025 Highlights

Study Our Lake


36 Water Quality Excursions

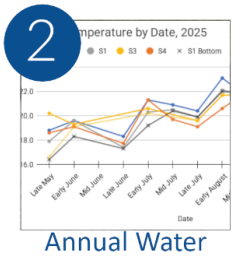

Continuous Water Quantity Monitoring


33 Boat Counts Conducted

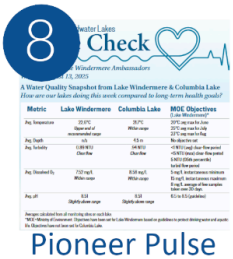
Share Our Findings


1 Outreach Booth


3 Presentations at Community Events



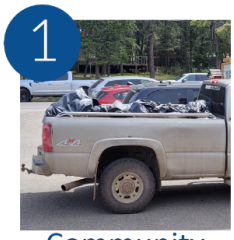
2 Annual Water Reports Published



8 Pioneer Pulse Checks

Involve Our Communities

3 Knapweed Pulls


1 Community Cleanup

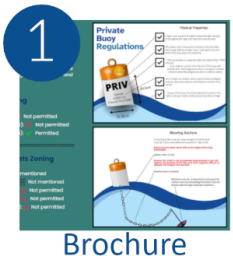

43 Kids Attended Summer Camps


49 Volunteers

Promote Our Lake's Sustainability


7 Bat & Swallow Volunteers


6 Educational Signs Installed

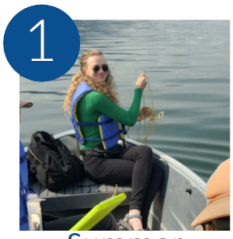


1 Brochure Produced

Develop Our Organization


7 Collaborating Organizations


5 Meetings With Potential Board Members


1 Summer Student Trained

Executive Summary

Throughout 2025, the Columbia Lake Stewardship Society continued to fulfill its mission following its guiding principles. We studied our lake, collecting data which will be shared publicly. We involved our communities in various stewardship initiatives, including community clean-ups and knapweed pulls. We promoted our lake's sustainability through public outreach and education programs, providing citizen science and volunteer opportunities to members of the community.

The Columbia Lake Stewardship Society is pleased to present the highlights of our activities and accomplishments over the past year in this Annual Report for 2025.

Project Work

1.0 Studying Our Lake

As usual, from Spring to Fall, we operated our water monitoring programs. We owe the success of these programs to our generous funders and to dedicated volunteers who contributed many hours to our programs.

We operate two primary programs intended to contribute to our knowledge of the ecological health and water supply of Columbia Lake: Our water quality and water quantity programs.

1.1 Water Quality Program

This year, we collected water quality data for Columbia Lake, for three tributaries of Columbia Lake (Dutch Creek, Hardie Creek, and the creek which emerges at the south end of the lake from aquifers beneath Canal Flats), and for two locations along the upper reaches of the Columbia River.

This data contributes to our baseline inventory of knowledge and allows us to identify ecological changes over time. In 2025, CLSS was fortunate to have the support of six citizen scientists who assisted with our water quality monitoring program. Citizen scientists play a foundational role in our water monitoring program, contributing in various ways, such as providing access to the lake by boat.

The approach, rationale, and findings for our water quality testing program this summer (2025) (lake, river, and creeks) will be presented in our *Water Quality Report 2025*, which will be available early in the New Year (2026).

Columbia Lake

The 2025 monitoring season marked our twelfth year of monitoring water quality at four sites on Columbia Lake (N1, S1, S3, and S4).

In 2025, we started our water quality season on the lake earlier than usual because we joined the BC Lake Stewardship and Monitoring Program, Level 2. Participation in this program enables us to contribute to the MoE database and to share our knowledge of the water quality in Columbia Lake more widely. The program required us to begin measuring parameters on the lake within two weeks of ice-off, if possible, and so we began sampling towards the end of April at S1, and in late May at all four sites.

This year's lake water quality program was modified slightly, based on our historical database and on our evolving objectives, which reflect previous findings and new avenues for exploration. This year, we ensured bi-weekly field

measurements on the lake, collecting data on physical and chemical parameters directly, as well as bi-weekly collection of samples. The increased frequency of sampling and testing is important both for our participation in the BC Lake Stewardship and Monitoring Program and for our ability to detect changes in the lake's water quality during the summer.

This season, we completed a total of twelve lake monitoring excursions from April to September. We measured the usual parameters of water quality, including temperature, specific conductance, pH, dissolved oxygen (DO), turbidity, and lake depth. We also measured depth profiles for DO and specific conductance at S1 and S3. As noted above, this year we also conducted more frequent testing of water samples. Our samples were sent to CARO Analytics and were tested for chloride, total phosphorus, and suspended metals (arsenic and manganese). These parameters were selected as important to monitor based on their values in our previous years' testing programs.

Also, for the first time this year, we collected samples for analysis of chlorophyll (chlorophyll-a) in the lake water. The presence of chlorophyll in water can indicate the growth of algae and eutrophication of a lake with resultant disruption of the lake's ecosystem. Severe blooms can starve plants of sunlight and cause disease in fish and, potentially, in the recreational users of the lake.

Columbia Lake Tributaries

In 2020, CLSS began monitoring the tributaries of Columbia Lake and continued this program for the sixth consecutive year in 2025. We completed eleven stream monitoring excursions on each of three tributaries of Columbia Lake: Dutch Creek, Hardie Creek, and the 'Canal Flats Creek' which is known locally as the Source of the Columbia River. This creek emerges at the south end of the lake from aquifers beneath Canal Flats

Our 2025 creek sampling season began earlier than usual, with the tour that CLSS and the Lake Windermere Ambassadors (LWA) offered at the 2025 *Wings Over the Rockies* event. We included a sampling demonstration at the Canal Flats Creek location on the tour, which allowed us to demonstrate what we do to the tour participants, and helped us to explain the importance of our work on Columbia Lake.

Beginning in July, the Youth Climate Corps (YCC) BC began to aid us, performing monitoring excursions on these tributaries in our stead. YCC is a non-profit organisation that aims to develop youth leadership and actuate environmental programs such as ours. We are grateful for the help they provided to our water quality monitoring program and we are glad to have enabled their participation in meaningful environmental stewardship work.

Each creek sampling excursion consisted of regular measures of the quality of the creek water (such as pH, dissolved oxygen, conductivity, and turbidity). We

also collected samples that were sent to CARO Analytics for analysis of chloride and nitrate concentrations.

Our creek monitoring program provides valuable data about the quality of water entering Columbia Lake. This data contributes to our baseline stream inventory and is made available to inform effective decision-making on and around Columbia Lake.

Columbia River

In 2025, we completed our third year of water quality monitoring at two sites on the Columbia River. This year, CLSS initiated river testing in May and concluded it in September. This work is part of an ongoing project to obtain baseline data on water quality in the Columbia River near its origin from Columbia Lake.

Our river work is part of an ongoing and extensive collaboration with our sister organization on Lake Windermere, the Lake Windermere Ambassadors. Lake Windermere and Columbia Lake are connected directly via the Columbia River as it flows through the wetlands near Fairmont Hot Springs. Both lakes are essentially widened rivers which comprise the headwaters of the Columbia River.

Public Beach Monitoring

An important aspect of water quality monitoring is to ensure that public beaches are safe for the public to enjoy. BC Interior Health offers a public beach sample testing program to ensure safe recreation for the public.

CLSS has participated for a number of years in microbiological sampling at Tilley Memorial Park's swimming area, on behalf of the Village of Canal Flats. In the summer of 2025, we continued our involvement in this program. On six dates between July and August, we collected water samples at the Tilley Memorial Park beach and they were sent for testing for the presence of *E. coli*.

The sample concentrations were within acceptable limits and publicized on the Interior Health Drinking Water Sample Results page.

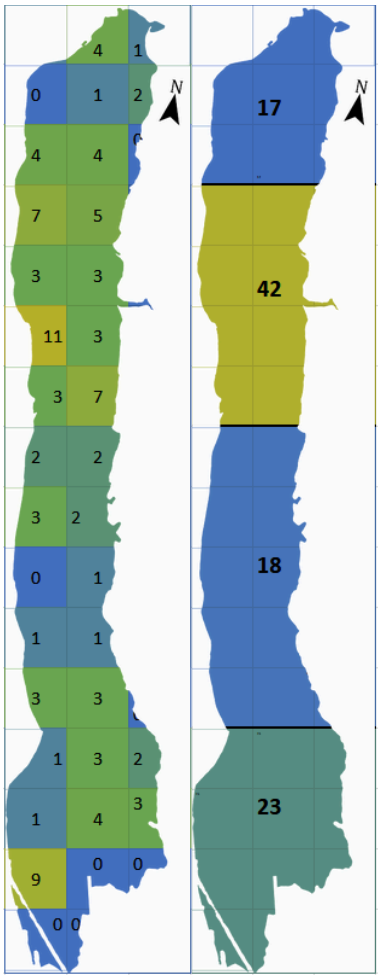
1.2 Water Quantity Monitoring

Monitoring of water levels continued during 2025 on the major streams flowing into and out of Columbia Lake and in the Lake itself. This is a continuation of monitoring activities started in 2014 aimed at understanding lake behaviour. As a result of this monitoring, we discovered that the annual rise of the lake is due

to inflow from Dutch Creek. There may also be as yet undiscovered links to lake health and aquatic species. In short, Dutch Creek plays an important role in determining the behaviour and health of the lake.

During the 2024-25 water year, the lake level fluctuated from near record low levels in the spring to slightly above normal at season's end. The stage was set for low water levels in 2024 by drought conditions that depleted groundwater reserves. The situation was made worse by a low mountain snowpack and further worsened by a cool spring that delayed and extended the runoff period. By mid-May, the rate of annual rise fell off, leading to some concern about the ability of the lake to reach levels suitable to maintain recreational activities, supply drinking water, and sustain a suitable habitat for fish and other aquatic species. The threat was alleviated in mid-June when the weather turned wet. The lake peaked later than usual (June 13) and at a level below normal. The rainfall continued into July, bringing sufficient additional runoff to restore the lake to above normal levels for the rest of the season.

The CLSS plans to continue its monitoring program into 2026.



1.3 Watercraft Counts

This year, CLSS carried out regular counts of the boats on Columbia Lake for the fifth year. Twice weekly, from May to September, we counted the number and types of boats on the lake. We expanded this program in 2025, to include the location the boat was spotted in and its activity. Dividing the lake into 40 square segments, each one kilometer across, allowed us to pin-point the areas of the lake most used by boat traffic. This kind of data is represented visually in a 'heat map' (pictured left, with data from the busiest day on the lake, June 29th, 2025).

This program allows us to understand how many people regularly use the lake, and for what purposes.

Based on the LWA's recent carrying capacity study as well as studies conducted on other lakes, there is growing evidence that motorized watercraft can cause significant sediment disturbances in shallow,

soft-bottomed lakes, and the wakes produced by fast moving boats that reach the shore can disrupt nesting areas of aquatic birds and have other impacts on many species of animal living in the riparian zone. Columbia Lake is particularly sensitive to these kinds of impacts because it is extremely shallow and the lake bed is entirely soft, easily disturbed sediment. For this reason, CLSS has established a watercraft monitoring program on Columbia Lake.

The numbers of watercraft observed on the lake during our counts have risen each year since we began the program in 2020.

2.0 Sharing Our Findings

In 2025, CLSS continued to share its scientific findings through its education and outreach programs. Disseminating our findings is an essential aspect of our work, as we make our data readily available to the public to facilitate informed, effective decision-making and planning around Columbia Lake. Furthermore, we aim to inspire others to join us in our mission as stewards of Columbia Lake.

2.1 Data Reporting & Sharing on Public Databases

Each year, we share our findings from the previous year in our annual Water Quality and Water Quantity reports. Our 2024 Water Quality and Water Quantity Reports were published in March 2025. These reports are distributed directly to various relevant conservation organizations, funders, Government representatives, and First Nations groups. They are also accessible to the public on our website.

As in previous years, we will be sharing our data with Living Lakes Canada's publicly accessible Columbia Basin Water Hub, contributing to an extensive water monitoring database which includes data from much of the East Kootenay region. This year, we have also shared our lake data at the provincial level, with the BC Ministry of Environment and Parks, through our participation in the BC Lake Stewardship and Monitoring Program, Level 2.

2.2 Presentations and Community Events

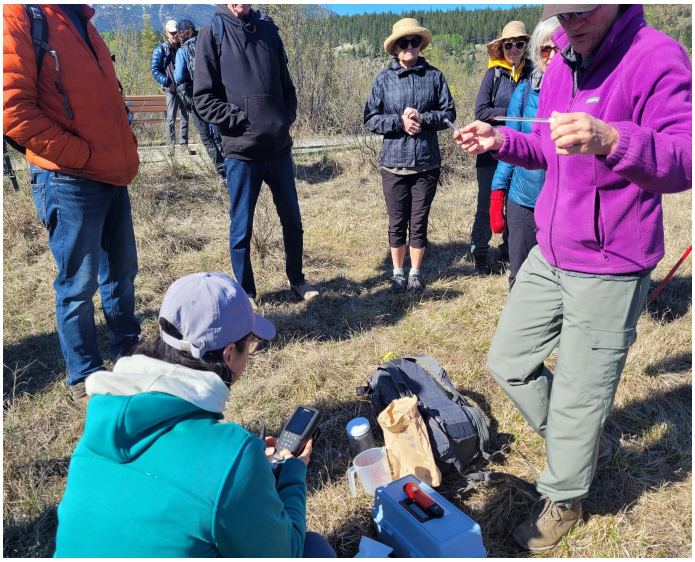
In addition to the production and sharing of our annual reports, efforts are made to share our work directly. CLSS staff and volunteers actively participated in various meetings, gatherings, and events to engage with other organizations and members of the public, to exchange information and offer insight.

Events we organized this year include:

Information Session

On Saturday May 31st, we hosted an information session at the Fairmont Lion's Den: A Spring Update on the Health of Columbia Lake. We summarized our knowledge of the health of Columbia Lake, and discussed our future plans for monitoring the lake. We also viewed a video of the presentation for the Carrying Capacity Study on Lake Windermere. We also provided space for questions and discussion.

Wings over the Rockies



For the Wings Over the Rockies Festival 2025, Monday May 5th, CLSS conducted a two-part educational tour of Columbia Lake with Lake Windermere Ambassadors.

In the morning, we explored the Source of the Columbia River Trail in the Village of Canal Flats, and in the afternoon we explored the northern shores of the lake in Columbia Lake Provincial Park where the lake exits to become the Columbia River. We talked about the ecological health and water supply of Columbia Lake, and the critical role this lake plays in the region's ecosystem. We also demonstrated our water monitoring program and talked about conservation efforts dedicated to preserving this vital resource.

Events we attended or participated in this year include:

- Fairmont Friday Shopping, CV Chamber of Commerce - December 13th 2024
- Wildsight: Flowing It Forward - Sunday March 30th
- Columere Community AGM - Sunday May 18th
- Spirit's Reach Community Association AGM - Sunday May 18th
- Lake Windermere Ambassadors Carrying Capacity Study - Online
- Fairmont Community Association AGM - Saturday October 25th

2.3 Articles & Educational Materials

Newsletters

Throughout the year, we share news and stories on our website. We also produce a newsletter summarizing our ongoing work and any important issues and events relevant to our members. This year we produced newsletters in April, June, and September.

Pulse Check in The Pioneer

Beginning in May, we collaborated with the Lake Windermere Ambassadors to make a weekly 'pulse check' for The Pioneer newspaper in Invermere. In this weekly article, we shared recent data and observations about Columbia Lake and Lake Windermere. These articles provided the public with regular updates on the health and condition of their lakes.

Brochure on Docks and Buoys Regulations

Early in 2025, CLSS produced and published a brochure on the regulations surrounding docks and buoys on Columbia Lake. These regulations are confusing and unclear, with regulations at federal, provincial, regional, and municipal levels, so CLSS produced this brochure to outline and summarize the regulations clearly and in one place. We produced the brochure in printed form and published it on our website.

Stories and Articles in The Pioneer

- CLSS wrote an article for The Pioneer's annual Community Year in Review in December, 2024.
- In 2025, CLSS contributed to an article in The Pioneer which reported the substantial fish kill that occurred in Columbia Lake in 2024.
- In late August CLSS also wrote an article for The Pioneer's Not-for-Profit Section (p12)

3.0 Involving Our Communities

Each year, as part of our work to preserve the ecological health and water supply of Columbia Lake, we collaborate with local communities, providing opportunities for community members to participate in our stewardship initiatives. In 2025, we engaged our communities through various initiatives, including citizen science opportunities within our water monitoring program, invasive weed pulls, community cleanups, and free summer camps for kids.

Volunteers with our Water Monitoring Program

Our water monitoring program is supported actively and enthusiastically by a number of residents in communities along Columbia Lake who volunteer their time and their boats to take us out onto the lake. Columbia Lake has a large surface area, and we have four sampling sites on it. While we *can* kayak to three of those sites, our water sampling is made much easier and a lot more efficient when our volunteers take us out. We cannot thank you enough for your love of Columbia Lake and your commitment to helping us meet our goals.

Invasive Weed Pulls

Knapweed inhibits the growth of native vegetation by releasing chemicals, outcompeting other plants, and destabilizing the soil. The shores of Columbia Lake are home to this invasive plant and weed pulls are organized every year to help address this problem.

This summer, CLSS organized three knapweed pulls, partnering with the East Kootenay Invasive Species Council. With the assistance of enthusiastic local participants, we successfully removed 18 bags of knapweed from the shoreline of Columbia Lake. Some of our members also participated in a knapweed pull organized by Wildsight, which was held on the east side of Columbia Lake.

Fairmont Community Cleanup

For the third year in a row, on Saturday May 10th, we joined forces with the Fairmont and District Lions Club and Fairmont Community Association to organize a community cleanup. More than 25 volunteers participated in collecting garbage from roadsides and ditches in and around Fairmont Hot Springs. Volunteers cleared garbage from north of Funtasia all the way to the Columbia Lake Viewpoint. Several truck loads of garbage bags were taken to the Fairmont garbage transfer station.

The Fairmont Community has a long-standing tradition of hosting annual cleanups, and we are grateful to be a part of it.

Summer Camps

In 2025, we collaborated with the Lake Windermere Ambassadors to host free educational "Junior Water Stewards" summer camps for kids in the Columbia Valley. These camps were held at Tilley Memorial Park in Canal Flats and James Chabot

Provincial Park in Invermere. We also hosted a camp at Windermere Beach in partnership with the Exploring Badgers Early Learning Centre's Day Camp, broadening our reach to youth in the community. The summer camps in 2025 included:

- July 10 @ James Chabot
- July 17 @ Tilley Memorial Park
- July 24 @ James Chabot
- July 31 @ Windermere Beach (with the Exploring Badgers summer camp)
- August 7 @ Tilley Memorial Park
- August 14 @ James Chabot Provincial Park
- August 28 @ James Chabot Provincial Park

4.0 Promoting the Sustainability of Our Lake

Each year, we remain committed to advancing the sustainability of our lake through active collaboration with various conservation initiatives in the area. In the past year, we contributed to sustainability through our participation in various conservation initiatives by Columbia Lake and along the Columbia River, including swallow counts, bat counts, knapweed pulls, and river access site maintenance.

Swallows

Bank swallows are a species at risk facing one of the fastest population declines for a species in Canada, with less than 10% of their population remaining in the country. The Upper Columbia Swallow Habitat Enhancement project is working to mitigate and reverse the decline of this species. In 2025, we continued supporting the Upper Columbia Swallow Habitat Enhancement Project by educating and recruiting volunteers to monitor swallow colonies around Columbia Lake.

Bats

Bats are ubiquitous throughout BC, with 15 different species in the province, but they are vulnerable to disease and habitat loss from human activity. This year we participated in bat counts conducted on behalf of the East Kootenay

Community Bat Project to monitor bat populations by Columbia Lake, in Lot 48. This contributes to an active and ongoing population count of bats in the province, which may allow quick responses to active threats to bats.

Signs

CLSS has created numerous signs over the years, which are displayed in various areas around Columbia Lake. These include maps of the lake and educational signs about species that inhabit it, such as fish and birds. You'll find these signs at lakeside communities and at Tilley Memorial Park beach. Each year these signs are stored over the winter and are returned in the Spring to inform residents and visitors.

Columbia River Access Points

In 2025, we continued collaboration with the Regional District of East Kootenay (RDEK), Fairmont Hot Springs Resort, and the Fairmont Community Association in maintaining the Columbia River access points in Fairmont. A study conducted by the Columbia Wetland Stewardship Partners on Human Use and Boating Traffic on the Upper Columbia River found that approximately 14,000 people used this stretch of the river in Fairmont during the summer of 2019.

The upstream river access point falls under the jurisdiction of the Ministry of Transportation and Infrastructure, and the downstream landowner is the Fairmont Hot Springs Resort. There are no permanent sanitation facilities or ongoing maintenance for these areas. This year, we once again assisted in site management by organizing installation and cleaning of portable toilet facilities at the downstream take-out area, from the May long-weekend to the September long weekend. In addition, we collaborated with the Fairmont Community Association, Fairmont Hot Springs Resort, and the Columbia Valley Airport Society to ensure that garbage containers were installed and emptied, and that recyclables were managed appropriately. We appreciate the generous support from Fairmont Hot Springs Resort in providing and regularly emptying the garbage container throughout the summer.

The heavy use of this stretch of the Columbia River exemplifies the need for more permanent management and maintenance of the put-in and take-out sites. CLSS will continue to work with and support the RDEK and the Fairmont Community Association in these temporary management strategies until long-term solutions are implemented.

5.0 Developing Our Organization

Development of our organization is an ongoing process which occurs as we study our lake, share our findings, and involve our communities. Our strength and effectiveness as an organization also benefit greatly from active collaborations with other organizations and groups in our area.

In 2025, we collaborated with many other organizations and groups for various projects around Columbia Lake.

- Canal Flats Wilderness Club
- Columbia Wetland Stewardship Partners
- East Kootenay Community Bat Project
- East Kootenay Invasive Species Council
- Fairmont Hot Springs Resort
- Fairmont and District Lions Club
- Goldeneye Ecological Services
- Lake Windermere Ambassadors
- Living Lakes Canada
- Upper Columbia Swallow Habitat Enhancement Project
- Wildsight Invermere

Summer Student

In 2025, we hired a summer student, Jess Graham, to support our programs. She was present for every water quality excursion on the lake and river, performing measurements and collecting samples. She was responsible for the collection and delivery of water samples from Tilley Park for *E. coli* analysis. She led the boat count program, collecting and analyzing data throughout the summer. She was also the co-lead of the summer camps at Tilley Park and James Chabot, along with Julia from LWA.

Since we were unable to raise sufficient funds to hire an executive director, we were able to use our remaining funds to keep Jess in the fall. She has continued to be a significant contributor to report writing and data compilation.

Financials

The fiscal year for the Columbia Lake Stewardship Society runs from January 1 to December 31 each year. We invite you to review our summary financial statement online at columbialakess.com in our annual general meeting minutes or by request from our office at info@columbialakess.ca.

Conclusions

This past year marked our organization's 12th year of working towards preserving the ecological health and water supply of Columbia Lake. Our work was guided by our five principles: study our lake, share our findings, involve our communities, promote our lake's sustainability, and develop our organization.

In 2025, we were able to meet our goals in many of these areas and work towards our vision of Columbia Lake becoming an example of the balance that can exist between nature and the needs of our communities.

We remain committed to and motivated by our mission and vision. In 2026, we are determined to continue our water monitoring and education programs. Based on our experiences in 2025, we will adjust our programming slightly to increase our effectiveness. Once our Water Quality and Water Quantity Annual Reports are written, we will be able to respond to our findings and adjust those programs to optimize our data collection in 2026. We are also considering how we can most effectively meet our educational goals in 2026, and this may require some small changes in specific events or projects we undertake.

Thank you to our many funders, supporters, and collaborators for your efforts to preserve Columbia Lake's ecological health and water supply. Your contributions have been invaluable in advancing our mission.

Acknowledgements

The Columbia Lake Stewardship Society would like to acknowledge the ongoing and faithful support of our collaborators, partners, mentors, and volunteers who are listed below:
BC Lake Stewardship Society, Mentor
Canal Flats Wilderness Club, Collaborator
Columbia Basin Trust, Funder
Columbia Ridge Community Association, Donor
Columbia Wetlands Stewardship Partners, Partner
Columere Park Community Association, Donor
David Hubbard, Boat Volunteer
Diane Jeffers, Boat Volunteer
East Kootenay Community Bat Project
East Kootenay Invasive Species Council, Partner
Fairmont and District Lions Club, Collaborator
Fairmont Community Association, Collaborator
Fairmont Hot Springs Resort, Collaborator
Goldeneye Ecological Services, Collaborator
Hoodoo Mountain Resort, Donor
Kevin Stromquist, Boat Volunteer
Lake Windermere Ambassadors, Partner
Little Badgers Early Learning Centre
Living Lakes Canada, Partner
Mark Thomas, Boat Volunteer
MJ Reid, Contractor
Regional District of East Kootenay, Funder
Spirits Reach Strata Association, Donor
Village of Canal Flats, Funder
Wildsight Invermere, Collaborator
Youth Climate Corps BC, Collaborator