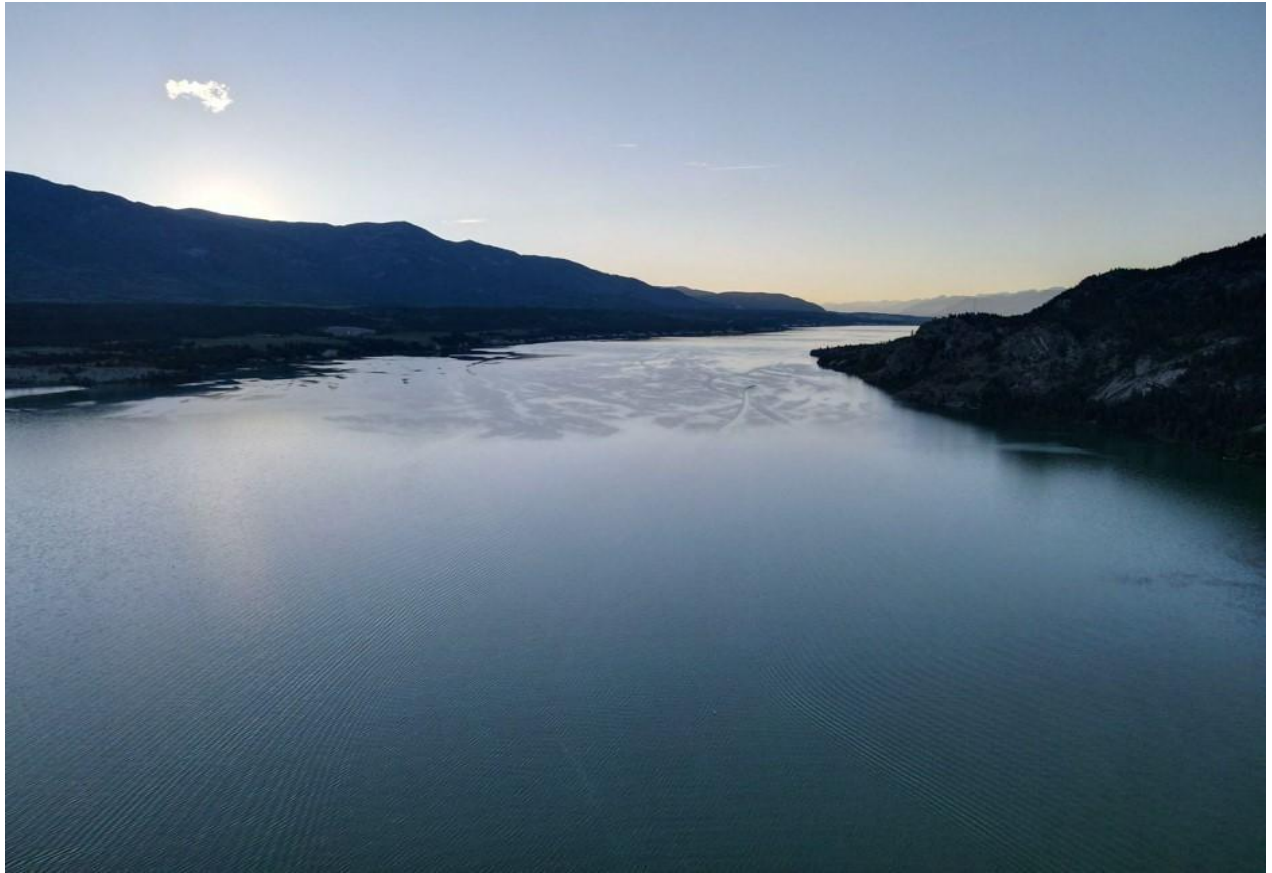




2024 Annual Report



Fairmont Hot Springs, BC

Prepared by: Caily Craig

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Thank you to our 2024 funders:



**TD Friends of the
Environment Foundation**

Bowman Employment Services



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.

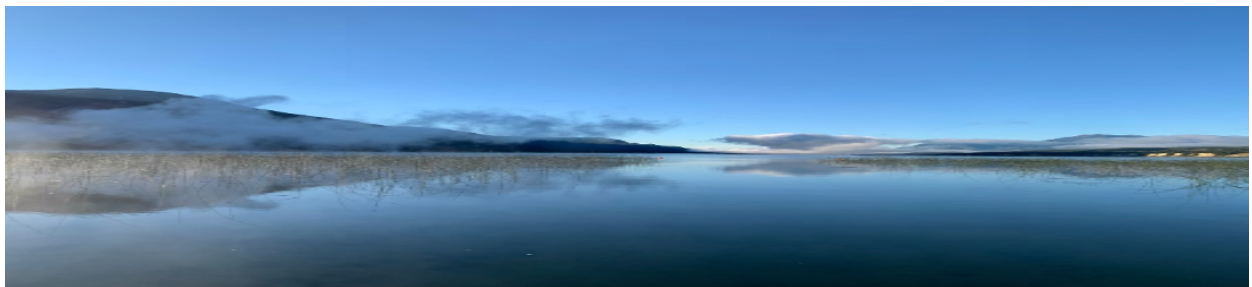
Vision

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

Guiding Principles

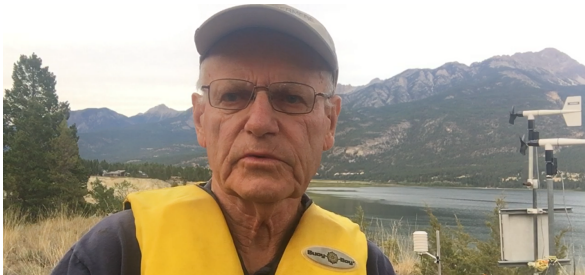
CLSS works toward its mission and vision by implementing five guiding principles:

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 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:



Bill Thompson,
Director of Water Quantity



Tom Dance
Director of Water Quality



Nancy Wilson, Chair



Pat Silver, Treasurer



Tom Syminton, Secretary



Cesar Fuertes, Director



Rachel Milner, Director



Caily Craig, Former ED

2024 Highlights



19



Water Quality
Excursions

64



Water Quantity
Excursions

1



CABIN
Excursion

15



Citizen Scientists
Trained



2



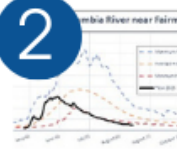
Outreach
Booths

7



Presentations at
community events

2



Annual Water
Reports Published



1



Knapweed
Pull

1



Cleanup

54



Kids attended
summer camps

44



Volunteers



5



Recruited swallow
volunteers

1



New Educational
Sign Installed

75



Brochures
Distributed



8



Collaborating
Organizations

1



CABIN Program
Manager
Certification

2



Fundraisers

Executive Summary

Throughout 2024, the Columbia Lake Stewardship Society continued to fulfill its mission by collecting and disseminating data, organizing stewardship initiatives, facilitating public outreach and education programs, and providing community citizen science and volunteer opportunities. The Columbia Lake Stewardship Society is pleased to present the highlights of our activities and accomplishments over the past year in this 2024 Annual Report.

Project Work

1.0 Studying Our Lake

Between May and September 2024, we continued to operate our water monitoring programs. We owe the success of these programs to our generous funders and dedicated volunteers who contributed countless hours to our programs.

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

1.1 Water Quality Monitoring

This year, we collected water quality data for Columbia Lake, three tributaries of Columbia Lake (Dutch Creek, Hardie Creek, and the Source of the Columbia), and the upper reaches of the Columbia River. This data contributes to our baseline inventory and allows us to detect ecological changes over time. In 2024, CLSS was fortunate to have the support of 15 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, including providing access to the lake by boat, participating in stream monitoring, and kayaking the river to conduct sampling.



Columbia Lake:

The 2024 monitoring season marked our tenth year of monitoring water quality at four sites on Columbia Lake (N1, S1, S3, and S4). Our 2024 sampling season began with participating in the Lake Windermere Ambassadors' first water quality monitoring excursion on April 16, 2024. Joining on this excursion allowed us to learn about their water quality program and compare our instruments.

This year's program aimed to conduct bi-weekly in situ field measurements on the lake collecting data on physical and chemical parameters and monthly collection of samples. Inclement weather, smoke conditions, and a limited number of volunteers impacted some of our excursions, leading to a few missed days. This season, we completed a total of six lake monitoring excursions during the summer, measuring parameters including temperature,



specific conductance, pH, dissolved oxygen, turbidity, and relative depth. Our approximately monthly sample collections were sent to CARO Analytics and were tested for parameters such as anions, nutrients, and total metals.

Columbia Lake's Tributaries:

In 2020, CLSS began monitoring the tributaries of Columbia Lake and continued this program for the fifth consecutive year in 2024. We completed five stream monitoring excursions,



encompassing the monitoring of three tributaries of Columbia Lake: Dutch Creek, Hardie Creek and the Source of the Columbia Creek in Canal Flats. Each excursion consisted of conducting in situ field measurements of physical and chemical parameters. During two of these excursions we collected samples that were sent to CARO Analytics for analyses. 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 2024, we continued our second year of water quality monitoring at two sites on the Columbia River. CLSS initiated this program in May and concluded it in September successfully collecting the second year of baseline data. We aim to collaborate with the Lake Windermere Ambassadors to compare the data collected on the upper Columbia River with the data collected on our downstream neighbour, Lake Windermere. We are grateful to have conducted this sampling on the Columbia River with the help of three volunteer citizen scientists who sampled these sites monthly by kayak.



Canadian Aquatic Biomonitoring Network (CABiN):

A member of CLSS that is actively involved in our water monitoring program successfully completed their CABiN program manager certification in 2024. In CLSS, assisted the Lake Windermere Ambassadors in the collection of a benthic invertebrate sample using the CABiN protocol on Windermere Creek. The addition of biomonitoring to our creek sampling program allows us to assess the presence of benthic invertebrates in the stream, contributing to our understanding of the health of the streams flowing into Columbia Lake. While CLSS has not yet launched a CABiN program of its own, it has advanced its education in this area over the past few years and plans to conduct biomonitoring in the future.

Public Beach Monitoring:

Columbia Lake's public access points include Columbia Lake Provincial Park and Tilley Memorial Park in Canal Flats. BC Interior Health offers a public beach sampling program to ensure safe recreation for the public. In the summer of 2024, we conducted microbiological sampling at Tilley Memorial Park's swimming area as a part of BC Interior Health's beach sampling program. Between July and August, four samples were tested for the presence of E. coli. The sample concentrations were within acceptable limits and publicized on the [Drinking Water Sample Results page](#).



1.2 Water Quantity Monitoring

Through our collection of weather data and various streamflow measurements, we have established a comprehensive water database and estimated the



water balance of Columbia Lake based on annual and seasonal variations in streamflow from Dutch Creek, Canal Flats Creek and the Columbia River. This information is significant in comprehending the changes and fluctuations in Columbia Lake's water balance.

In 2024, we maintained three hydrometric stations, one lake-level monitoring station, two rain gauges, and a weather station. The water quantity program also conducts in the field streamflow measurements on Dutch Creek, the

Columbia River and the lake outlet, to complement the hydrometric station data. This year we added one new flow measurement on the Columbia River to our database.

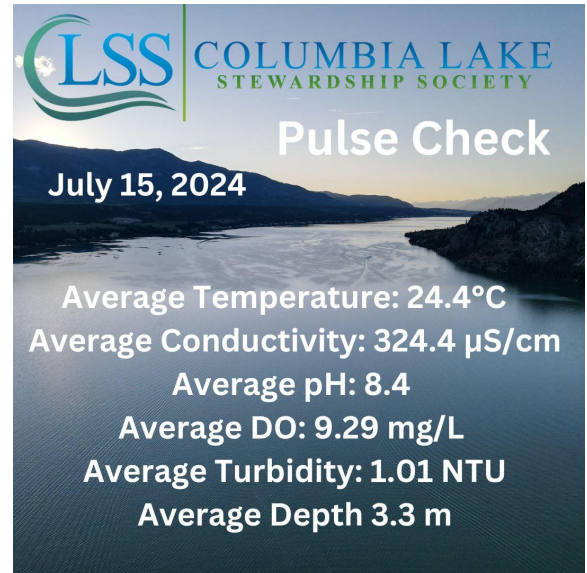
To complement our streamflow data, we continued to operate our weather station. In addition, we gathered weather data from other stations, including the Little Dragon Avalanche station near Panorama and the Fairmont Ski Hill weather station.

2.0 Sharing Our Findings

In 2024, 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 this 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.

Data Sharing:

Each year, we share our findings from the previous year in our annual Water Quality and Quantity reports. Our 2023 Water Quality and Quantity Reports were published in July 2024. Our data can also be publicly accessible on Living Lakes Canada's [Columbia Basin Water Hub](#), contributing to a more extensive water monitoring database.



Presentations and Community Events:

Following the release of our annual reports, efforts are made to share our findings and recommendations with local governments, lakeside communities, and partner organizations. CLSS staff and volunteers actively participated in various meetings, gatherings, and events to engage with other organizations, exchange information, and offer recommendations. CLSS delivered a total of seven presentations to local governments, funders, organizations, and communities. Some of the events attended this year included:

- RDEK Electoral Area F & G Advisory Planning Commission – January
- Columbia Basin Trust ReDi Grant Community Meeting - April
- Wings over the Rockies Nature Festival – May
- Spirit's Reach Community Association AGM – May
- Columbia Valley Community Foundation Garden Party – June
- Columbia Wetland Stewardship Partners AGM – June

Wings over the Rockies:

In May, CLSS organized an educational tour at the Source of the Columbia Trail in Canal Flats as part of the Wings over the Rockies Nature Festival. We partnered with Pam Saunders from the Lake Windermere Ambassadors to educate on the headwater lakes of the Columbia River. Additionally, we supported the Lake Windermere Ambassadors Wings over the Rockies event which involved conducting water monitoring at Windermere Creek.

Information Booths:

Throughout the summer, we set up outreach booths around Columbia Lake and the upper Columbia River in Fairmont. At these booths, we engage with residents and visitors, providing education on our stewardship efforts, safe



boating practices, responsible recreation on the Columbia River, and information about invasive species. In 2024, we hosted two outreach booths, one at the Invermere Farmers Market in collaboration with the Lake Windermere

Ambassadors engaging over 135 members and visitors of the community. Additionally, we are grateful to have hosted an outreach booth at Coys Barn Dance closest to the pin contest as a part of a fundraising initiative for CLSS.

Articles & Educational Materials:

Throughout the spring, summer, and early fall, we provide Safe Boating and River Access Guide brochures to the public around Columbia Lake and the Columbia River. In addition, we publish articles in the Canal Flats Newsletter and share our findings over our social media platforms. The image to the right displays the infographic for an article we released on August 2, 2024 regarding an accumulation of dead fish present in Columbia Lake.



Over the past two weeks, residents of Columbia Lake have raised concerns about the recent accumulation of dead fish observed on the lake and along its shoreline. Several potential causes can result in fish kills, with one of the principal causes being a lack of dissolved oxygen (DO) in lake water.

3.0 Involving Our Communities

Each year, our commitment to preserving the ecological health and water supply of Columbia Lake extends to involving our communities. We provide opportunities for community members to participate in our stewardship initiatives. In 2024, 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.

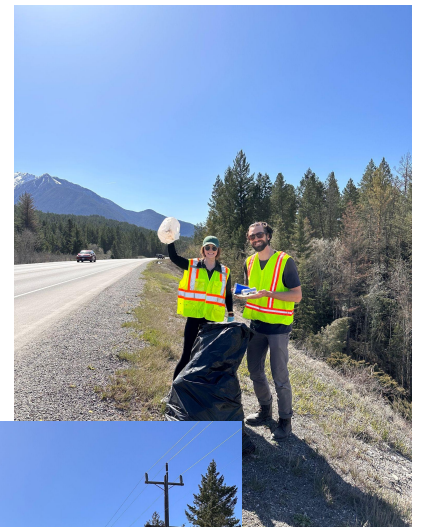
Invasive Weed Pull:

On June 1st, we organized a knapweed pull in partnership with the East Kootenay Invasive Species Council. With the assistance of five participants, we successfully removed 9 bags of knapweed from the shoreline of Columbia Lake. Knapweed is an invasive species that inhibits the growth of native vegetation by releasing chemicals, outcompeting other plants, and destabilizing the soil. The spread of knapweed is often due to vehicle transportation of seed fragments. We selected the west side of Columbia Lake's shoreline for this weed pull, as knapweed is commonly found in disturbed areas. This location is home to the Canadian Pacific Railway, resulting in shoreline disturbances and knapweed growth.



Fairmont Community Cleanup:

On April 20, 2024 we joined forces with the Fairmont and District Lions Club and Fairmont Community Association to organize a community cleanup. Over 40 volunteers participated in collecting garbage in the Fairmont Hot Springs community covering areas from the Fairmont Transfer station to Columbia Ridge. The Fairmont Community has a long-standing tradition of hosting annual cleanups, and we are grateful to have assisted in planning this year's event.



Summer Camps:

In 2024, 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. Each camp had an educational theme that changed weekly. The summer camps in 2024 included:

- July 11 @ James Chabot
- July 18 @ Tilley Memorial Park
- July 25 @ James Chabot
- August 1 @ Tilley Memorial Park
- August 8 @ James Chabot Provincial Park
- August 22 @ Windermere Beach with the Exploring Badgers Summer Camp
- August 29 @ 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 support and educational efforts for:

- Species at Risk and Sensitive Habitats around Columbia Lake
- Site Stewardship of the Columbia River Access Points in Fairmont

Species at Risk and Sensitive Habitats:

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 2024, we continued supporting the Upper Columbia Swallow Habitat Enhancement Project by educating and recruiting volunteers to monitor swallow colonies around Columbia Lake. To support this project, we recruited five volunteers who assisted with swallow monitoring around Columbia Lake. In addition, we installed a new sign in the community of Spirit's Reach on Columbia Lake that is home to a swallow nesting colony to provide education to residents about this sensitive habitat.

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.



Boot Brush in Columbia Lake Provincial Park:

This summer, we collaborated with Wildsight Invermere to install a boot brush at the Columbia Lake Provincial Park. Recreationists can use the boot brush on their shoes and bikes to prevent the introduction of invasive plant species into the park.

Columbia River Access Points:

In 2024, we continued collaboration with the Regional District of East Kootenay (RDEK) and Fairmont Hot Springs Resort 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 between May 17 and September 30, 2019. The upstream 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 supported the RDEK Area F and Fairmont Hot Springs Resort by coordinating portable toilet facilities for the area from May long weekend to September long weekend and distributed educational brochures on responsible river recreation. The Fairmont Hot Springs Resort responded to our concerns about the garbage disposal for the area and installed a garbage container



that was emptied weekly throughout the summer. We appreciate the support from Fairmont Hot Springs Resort in managing this highly trafficked area of the river. The heavy use of this stretch of the Columbia River exemplifies the need for more permanent management and maintenance of these popular

recreation areas in Fairmont. CLSS will continue to work with and support the

RDEK and Fairmont community in these temporary management strategies until long-term solutions are implemented.

5.0 Developing Our Organization

Fundraising:

In the fall of 2023 CLSS initiated a fundraiser selling raffle tickets for a stained glass art piece depicting Columbia Lake. The art piece was generously donated by volunteer of CLSS, Cesar Fuertes. The proceeds were raised for CLSS during a time of financial challenges. The draw for this art piece took place in April 2024 at the Local coffee shop in



Fairmont. We appreciate Cesar's generous donation. CLSS was fortunate to have received another generous fundraising opportunity in September 2024 from Coys Golf Course. Coys Golf Course hosted a closest to the pin contest at their annual Barn Dance, where 50% of the proceeds were donated to our organization. We are grateful for the thoughtfulness and generosity of Coys Golf Course and we had a great time hosting an outreach booth at the event.



Collaboration:

In 2024, we collaborated with eight other organizations and groups for various projects around Columbia Lake. These collaborations aim to streamline work, create efficiencies, share information, and align programs with other stewardship efforts in the area. The other groups we coordinated with include the:

- Columbia Wetland Stewardship Partners
- East Kootenay Invasive Species Council
- Fairmont Hot Springs Resort
- Fairmont and District Lions Club
- Lake Windermere Ambassadors
- Living Lakes Canada
- Upper Columbia Swallow Habitat Enhancement Project
- Wildsight Invermere

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 10th year of working towards preserving the ecological health and water supply of Columbia Lake. Our programs were guided by our five pillars: study our lake, share our findings, involve our communities, promote our lake's sustainability and develop our organization. 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.

As we embark on our 11th year, we remain committed to and motivated by our mission and vision. In 2025, we are determined to continue existing water monitoring and education programs. We will also continue fostering partnerships through water monitoring data collection, community engagement and sustainability initiatives.

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

Columbia Basin Trust, Collaborator

Columbia Ridge Community Association, Donor

Columbia Wetlands Stewardship Partners, Partner

Columere Park Community Association, Donor

Diane Jeffers, Boat Volunteer

Ed Gillmor, Boat Volunteer

East Kootenay Invasive Species Council, Partner

Fairmont and District Lions Club, Collaborator

Fairmont Community Association, Collaborator

Fairmont Hot Springs Resort, Collaborator

Gary Gray, Boat Volunteer

Hoodoo Mountain Resort, Donor

Lake Windermere Ambassadors, Partner

Little Badgers Early Learning Centre, Partner

Living Lakes Canada, Partner

North of 49 Markets, Donor

Regional District of East Kootenay Area F, Collaborator

Spirits Reach Strata Association, Donor

Village of Canal Flats, Collaborator

Wildsight Invermere, Collaborator