



2020 Annual Report

www.lakeambassadors.ca

625 4th Street, PO Box 601, Invermere, BC, V0A1K0
(250) 341 6898

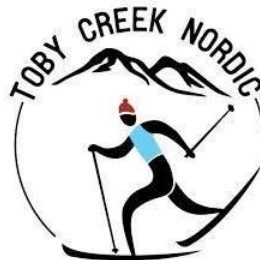
Prepared by Georgia Peck, BSc
Program Coordinator, Lake Windermere Ambassadors

January 2021



Thank you to our funders and supporters

Columbia Basin **trust** **LUSH**



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Executive Summary

The Lake Windermere Ambassadors are a society of community volunteers and cross-sector stakeholders representing local business, recreation, tourism, commercial marinas, water stewardship, ecological conservation, second homeowners, year-round residents, First Nations, two local governments, and youth. The Ambassadors evolved from foundations created by the highly successful Lake Windermere Project which ran from 2005-2010. Since 2010, our organization has been monitoring water quality and working with stakeholders in the Lake Windermere watershed in pursuit of this vision.

Our mandate is the protection of Lake Windermere in perpetuity. We aim to achieve this through our Vision and Mission Statements:

Vision: *An ecologically healthy Lake Windermere with balanced management approaches that support recreation and traditional uses, high fish and wildlife values, and economic prosperity in the region.*

Mission: *Through collaboration of representatives of key community sectors, the Lake Windermere Ambassadors will serve as a resource for future projects benefiting the health of Lake Windermere.*

The Lake Windermere Ambassadors have been designated by the Regional District of the East Kootenay and the District of Invermere as the Lake Management Committee. The primary role of the Lake Management Committee is to assist each district in implementing the recommendations in the Lake Windermere Management Plan and providing comment on development referrals.

This report details highlights and project work completed from January to December 2020.

Healthy water for healthy communities

Message From The Program Coordinator

The Lake Windermere Ambassadors (LWA) have undergone many projects over the past nine years, and this year was no different. Even in the wake of a global pandemic, the Ambassadors were able to prioritize Lake Windermere and its many uses to the community and surrounding environment. In 2020, the Ambassadors engaged the community through outreach and education, monitored water quality and quantity, completed bird, fish, and invasive species surveys, produced a State of the Lake Report and completed Foreshore Integrated Management Planning (FIMP) for the second time, in partnership with Living Lakes Canada. Furthermore, LWA built and maintained partnerships with a variety of water stewardship organizations to improve both our programming and assist in theirs.

The Ambassadors main focus has been community outreach and education; this allows all of our other work to have a meaningful impact. This year we employed a variety of methods to reach as much of the community as possible. We used many traditional methods, including newsletters, articles in the paper and Farmers Market and boat launch outreach, along with some more involved methods including free summer camps, instructional videos and an increase to our social media presence. Through each method we were able to share the importance of Lake Windermere to our community and provide direction on keeping the lake healthy.

While filling in as Acting Program Coordinator during the 2020 year, I was impressed and inspired with the level of passion and care the surrounding community has for Lake Windermere and its surrounding environment. I am proud of the work our team accomplished during a strange and unpredictable time and I am humbled by the massive impact this lake has on the Upper Columbia Valley as a whole.

I am truly honoured to have been a part of The Ambassadors and to have been able to contribute to the work being done to protect and improve this critical resource in our community.

Georgia Peck



Georgia Peck, BSc.

Lake Windermere Ambassadors

Acting Program Coordinator

The Team



Paul Christy, Chair



Shawn Ridsdale, Vice Chair



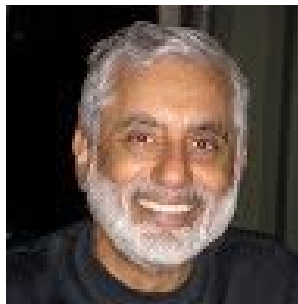
Taoya Shaefer, Treasurer



Jennifer Beverley, Secretary



Max Fanderl, Director



Gurmeet Brar, Director



Buzz Harmsworth, Director

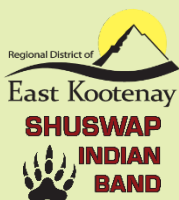


Georgia Peck, Acting Program Coordinator



Shannon McGinty, Program Coordinator

Local Government Advisors



Susan Clovechok
Regional District of East Kootenay

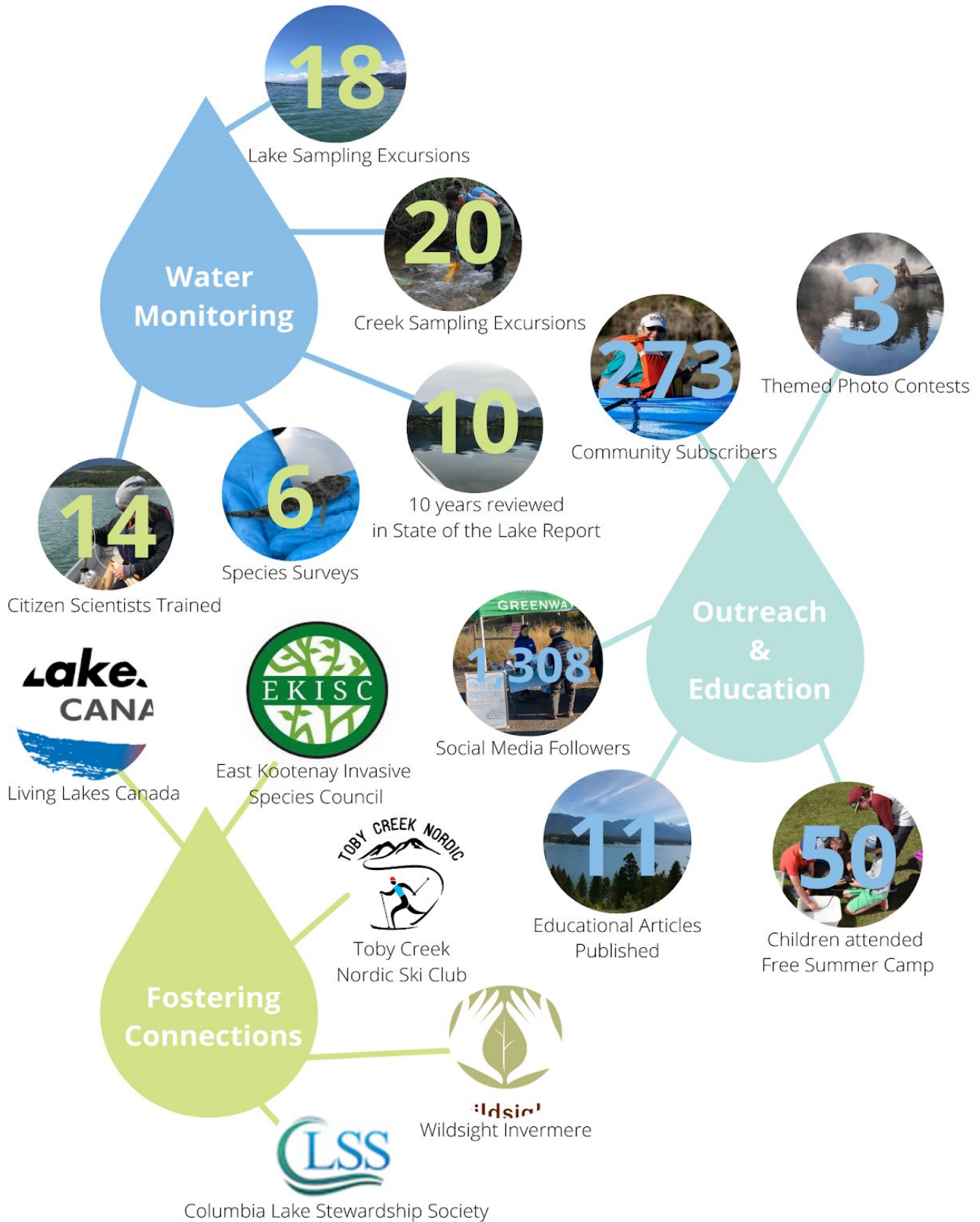
Braydi Rice
Shuswap Band



Ute Juras
District of Invermere

VACANT
Akisqnuq First Nation

Highlights



PROJECT WORK

The Ambassadors focused this year's work in three main project areas: Outreach and Education; Water Monitoring; and Fostering Connections. Through each avenue, we were able to meet our work plan goals and see success in our program.

Outreach and Education

In 2020 the Ambassadors engaged with the community through many different methods of outreach. We had an overall impression reaching approximately 3,500 community members and visitors; we directly interacted with 1,308 individuals. Below is a list of everything we did and participated in this year to connect with the community:

- Whiteway Outreach
- Snowflake Festival
- Invermere Coffee and Tea Festival
- Whiteway Winter Challenge
- Winter Whiteway Clean Up
- 9th Annual General Meeting
- Panel Presentation at 2021 BC Budget Consultations
- Farmers Markets
- Boat Launch Outreach
- Free Kids Summer Camps
- Valley Appreciation Day
- BC Rivers Day Paddle
- KCP Annual Fall Gathering
- Toby Creek Nordic Ski Club Annual General Meeting
- Columbia Basin Watershed Network Annual Meetings
- Community Water Quality Presentation
- Water Quality Presentation to Regional District of East Kootenay
- Online presence through Website and Social Media
- Educational Articles
- Columbia Valley Community Foundation Annual General Meeting
- Local Classroom Visits and Presentations
- Water Rangers Pilot Project



10 Year State of the Lake Report

This year the Ambassadors undertook a ten-year review of water quality monitoring and related activities to assess long-term trends and changes to water quality on Lake Windermere. The Ambassadors engaged the BC Lake Stewardship Society to write this review with the assistance of LWA staff. We are pleased to release this published report to residents, visitors, decision-makers and stakeholders as a snapshot of the health of Lake Windermere over time, it's current and potential water quality threat and impacts, and to highlight the role of the Ambassadors as monitors and stewards of the lake.

Windermere Lake, BC:
State of the Lake Report
2010-2019



Prepared

by

Norm Zinshel¹

Georgia Peck¹

Shannon McGinty²

September 2020

¹British Columbia Lake Stewardship Society
www.bclss.org

²Lake Windermere Ambassadors
www.lakeambassadors.ca

This report provided the Ambassadors with the opportunity to recognize the rich cultural history that is associated with Lake Windermere, as part of the traditional territory of the Ktunaxa and Shuswap/Secwepemc First Nations and to acknowledge the traditional ties our Local First Nations once had, and still have to this area. By reviewing the state of Lake Windermere, the Ambassadors can evaluate the ten years of effort put forth by the organization and receive recommendations for how to evolve into the future. It also provides the chance to evaluate the Ambassadors' historical water quality dataset and to compile recent additions such as flow and biota information. The purpose of the report was to compile all data into one document that can be used to influence decision-making in the watershed and included some of the following objectives:

- 1) Examine indications of potential trends in water quality
- 2) Assess compliance with the established Water Quality Objectives (WQOs) for the period of 2010-2019
- 3) Conduct more in-depth analysis where WQOs are exceeded or trends are evident, as applicable
- 4) Review the Ambassadors Water Quality Monitoring Program and recommend improvements where applicable
- 5) Recommend priority areas for the Ambassadors to focus on to further protect Lake Windermere in the future

Based on the reviewed data, water quality in Windermere Lake was found to be relatively stable with no evidence of a deteriorating trend. It is recommended that consistent monitoring

continues into the future, especially in light of climate change predictions, surrounding development and changes in land use.

Free Kids Summer Camps

2020 was the third year that we ran free kids summer camps. This year, we collaborated with Columbia Lake Stewardship Society (CLSS) and co-hosted camps on both Columbia Lake and Lake Windemere. We were also fortunate enough to team up with East Kootenay Invasive Species Council (EKISC) and have one camp hosted by the EKISC team. All together, we were able to expand our offering to five camps held at James Chabot



Provincial Park and one camp at Tilly Memorial Park in Canal Flats, all while following social distancing protocols and Interior Health regulations. Our camps covered a variety of topics, all related to the Lake Windemere watershed. We had 50 children participate over the whole summer, some of that being repeat attendees at multiple camps. Providing we continue to have the capacity, we will continue to run these camps for the community.

Educational Articles

From April to November we published monthly articles in the Newspaper and a couple of supplementary blog articles on our website. These articles ranged in topics but aimed to provide the community with information related to Lake Windemere and watershed health. The table below outlines articles published and topics covered:

Date	Location	Title	Author
April 15, 2020	Columbia Valley Pioneer	"Prioritizing Public Access"	Shannon McGinty and Georgia Peck
May 20, 2020	Columbia Valley Pioneer	"The Buoys are Back in Town"	Georgia Peck
May 29, 2020	http://www.lakeambassadors.ca/blog/	"Zebra and Quagga Mussels"	Clare Suggett
June 17, 2020	Columbia Valley Pioneer	"Columbia River Treaty: Staying Current"	Clare Suggett
July 22, 2020	Columbia Valley Pioneer	"Oh Buoy, How to Properly Secure Your Boat"	Clare Suggett
July 30, 2020	http://www.lakeambassadors.ca/blog/	"Water Conservation"	Clare Suggett
August 19, 2020	Columbia Valley Pioneer	"What You Leave in Your Wake"	Clare Suggett
August 27, 2020	http://www.lakeambassadors.ca/blog/	"Cyano Bacteria and Algae Blooms"	Clare Suggett
September 24, 2020	Columbia Valley Pioneer	"Foreshore Integrated Management Planning"	Georgia Peck
October 22, 2020	Columbia Valley Pioneer	"Long Live The Lake"	Georgia Peck
November 18, 2020	Columbia Valley Pioneer	"Bird Is The Word"	Georgia Peck

In addition to these articles, we also publish weekly “Pulse Checks” from April to September, highlighting that week’s water monitoring and providing education on water monitoring parameters.

Foreshore Integrated Management Planning

From 2006-2009 Foreshore Inventory Management Planning (FIMP), formerly known as Sensitive Habitat Inventory Mapping (SHIM), took place on Lake Windermere to gain insight into foreshore habitat values and the impacts that human activities can have on this critical space. This process was intended to help stakeholders, decision-makers, local agencies, organizations, provincial and federal governments, and property owners gain perspective on their surroundings and the importance of proper management practices. The information collected in 2006 has provided the Lake Windermere Ambassadors with baseline data and have resulted in programs that have aided the Ambassadors in foreshore-related planning, outreach and education and the development of a foreshore protection plan, which provides recommendations and identifies guidelines for foreshore development and enhancement. If you are interested in learning more, this can be found in the Lake Windermere Management Plan.



The Lake Windermere Ambassadors in partnership with Living Lakes Canada began the process of redoing the FIMP on Lake Windermere in 2020. The information collected will help gain insight into landscape level changes that have occurred over a ten-year time frame and will give us a better understanding of the impacts a growing population has had on our surrounding environment. The objectives of this project are:

- 1) Test re-FIMP procedures by Living Lakes Canada's Foreshore Inventory Mapping for Aquatic Species at Risk Project
- 2) Gain insight into changes on the Lake Windermere foreshore and impact of land use on fish and wildlife habitat
- 3) Update management plan to improve the foreshore of Lake Windermere

The field data collected, including insight from First Nations Traditional Ecological Knowledge, will help guide policy and management practices and educate individuals within the community. The overall goal of this project is to improve information concerning foreshore

health and will help elucidate species at risk habitat requirements for Upper Columbia Basin waterbodies to help conserve and restore habitats of highest ecological value.

Water Monitoring

2020 marked the tenth year of sampling for the Lake Windermere Ambassadors, with baseline data collected for four years' prior during the Lake Windermere Project. This year we were able to continue our annual program, and expand to cover more areas becoming more pertinent in a changing climate. The program continued to focus on the lake, tributaries, and beaches.

Lake Windermere Monitoring

Our 2020 sampling season began on April 20, 2020, collecting detailed freshet data. We then continued our weekly Lake Monitoring starting on May 19, 2020 through to September 15, 2020. During this time, we completed 18 excursions and trained 14 citizen scientists, when



social distancing allowed for it. Our standard sampling regime was conducted in accordance with recommendations from the Ministry of Environment in the updated Water Quality Objectives for Lake Windermere, released November 2010. This includes weekly measurements of specific conductivity, pH, temperature, dissolved oxygen, and turbidity. Weekly field observations for air temperature, water depth, water clarity, wind speed and

direction, and cloud cover were also recorded. Lastly, total and dissolved phosphorous were tested monthly. A continuous water temperature logger was installed in Lake Windermere from May 15 to September 21, 2020.

In addition to our standard sampling regime, we completed six species surveys, and monitored for invasive mussels in collaboration with East Kootenay Invasive Species Council. Monitoring for invasive mussels was done with Substrate Samplers installed at six locations on the east side of the lake, Lakeview Meadows, Terra Vista Community Association, Akiskinook Resort, Windermere Public Beach, Cardiff Cove Marina, and Pete's Marina. Through this sampling, no invasive species were found to be present in Lake Windermere. The six species surveys included three days of Bank Swallow monitoring for the Columbia Valley Swallow Project, Aquatic Invasive Plant Survey, Water Bird Survey and a one-day fish survey.



Results and interpretations from all lake sampling will be shared in our 2020 Water Quality Report. This report will be shared locally, provided to stakeholder groups, made available online (our website, social media, and Ministry of Environments Eco-Catalogue), and through presentations and community outreach.

Tributary Monitoring

Similar to lake monitoring, two tributaries that flow into Lake Windermere were monitored weekly. Windermere Creek and Abel Creek received weekly monitoring from May 13, 2020 to September 16, 2020, plus one day of equipment comparison with Shuswap Indian Band on October 21, 2020. Our sampling protocol followed the Columbia Basin Water Quality Monitoring Project's protocols, which are closely aligned to the Canadian Aquatic Biomonitoring Network's sampling methodology. Weekly measurements taken include streamflow, specific conductivity, pH, temperature, dissolved oxygen, and turbidity. Weekly field observations for air temperature, wind speed and direction, and cloud cover were also recorded. Total and dissolved phosphorous were tested monthly, and invertebrate samples were collected monthly for eDNA analysis. Both Windermere and Abel creek have HOBO Water Level Loggers on them collecting continuous data. This data is currently being shared through our [Data Portal](#) website.



Public Beach Monitoring

In collaboration with the Interior Health Authority, we collected weekly beach water quality samples from Kinsmen, James Chabot, and Windermere Beach May 11, 2020 to August 31, 2020 (excluding long weekends). Samples were analyzed for *E.coli* through the Interior Health Authority laboratories. All public beaches met Ministry of Environment objectives for total *E. coli* counts throughout the summer season.

Building Connections

Much of the work we do is not possible without the support and collaboration with other similar groups. We work with other groups both locally and at a provincial level. Some key projects we received support with this year include:

- Living Lakes Canada (LLC) Ground Water Monitoring Project providing data sharing opportunities to better understand the flow of water into and out of Lake Windermere



and LLC's Foreshore Inventory Mapping for Aquatic Species at Risk Project to support Re-FIMP testing on Lake Windermere

- East Kootenay Invasive Species Council providing both educational opportunities and collecting water samples on Lake Windermere to monitor for invasive species
- Columbia Basin Watershed Network providing Summer Mapping Program and Equipment Replacement Grants
- Goldeneye Ecological Services for completing species surveys
- BC Lake Stewardship Society for assisting with water quality and quantity monitoring and report writing
- Columbia Lake Stewardship Society with collaboration on community outreach and water monitoring programs on the Columbia Headwater Lakes

Lake Management Committee

From everything in this report to installation of the Slow/No Wake Buoys in Taynton Bay, recommendations to local government and increasing public access opportunities the Ambassadors continue to complete work related to the implementation of the non-regulatory Lake Windermere Management Plan. We received two individual referrals from the Regional District of East Kootenay for development and crown land tenure applications on the foreshore of Lake Windermere in 2020. Additionally, LWA collaborated and coordinated with the District of Invermere through the provision of feedback on the Athalmer Neighborhood Development process. We are confident that we will continue to receive these requests as they do come in, and will respond to each accordingly.

Financials

The fiscal year for the Ambassadors runs from October 1st to September 30th each year. This year the Ambassadors saw comparable income and spending to previous years, with an annual cash flow of approximately \$125,000 supporting this program.

Full financial statements can be found online at lakeambassadors.ca or can be requested from our office at info@lakeambassadors.ca (250) 341 6898.



CONCLUSIONS

In spite of the Covid-19 Pandemic, 2020 was another successful year for the Lake Windermere Ambassadors completing our education, outreach, and monitoring duties as the Lake Management Committee while continuing to grow and expand the program where appropriate.

ACKNOWLEDGEMENTS

The work we do could not happen without our collaborators, partners, and mentor

- Akiskinook Resort
- Akisqnuq First Nation
- BC Lakes Stewardship Society
- Cardiff Cove Marina
- Canada Summer Jobs
- Canadian Freshwater Alliance
- Columbia Basin Trust
- Columbia Basin Watershed Network
- Columbia Lake Stewardship Society
- Columbia River Paddle
- Columbia Wetlands Stewardship Partners
- Community Donors
- District of Invermere
- East Kootenay Invasive Species Council
- Gerrys Gelati
- Golden Eye Ecological Services, Rachel Darvill
- Home Hardware
- Invasive Species Council of BC
- Clare Suggett, Water Stewardship Assistant
- Kootenay Conservation Program
- Lakeshore Resort
- Lakeview Meadows
- Leo Burrito
- Living Lakes Canada
- LUSH Charity Pot
- Our Committed Board of Directors
- Peppis Pizza
- Real Estate Foundation of BC
- Regional District of East Kootenay
- Shadybrook Resort
- Sign Artist
- Shuswap Indian Band
- Terra Vista Community Association
- Toby Creek Nordic Ski Club
- Wildsight Invermere
- Windermere Community Association