

ANNUAL REPORT 2022-23



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Executive Director

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Introduction

The Lillooet Regional Invasive Species Society (LRISS) continues to deliver the 3 programs: (1) Coordination, Collaboration & Planning, (2) Field and (3) Outreach & Education. This is our 10th season of operation. The Executive Director hired an assistant, and 2 Outreach & Field Technicians to assist with the delivery of the programs for the summer season. One contractor, the Xaxlí'p Community Forest Corporation (XCFC), was hired to treat the majority of our sites.

Programs

1. Coordination, Collaboration & Planning

LRISS remains committed to collaboration and partnerships. Our deliverables were met for this program. They included:

- Collaboration with all existing partners: Appendix 1 is a list of our partners and the projects completed.
- Seek new partnerships and apply for diverse funding: LRISS has 2 new partnerships with the University of British Columbia and the Lillooet Animal Advocates Society. Dr. Jennifer Grenz is an

assistant professor who has dedicated a Master's project to the McKay Creek Wildfire recovery.

- Program Development & Planning: Every year we host an annual planning meeting with our partners that asks for input. This meeting usually occurs in March but this year we combined it with our Annual General Meeting on May 4.

- Communication of program results and efficacy: The 2021 LRISS Annual Report was prepared and shared with all partners including SLRD. A PowerPoint summary was shared at our Annual General Meeting (AGM).

- Communicate news and information to membership via social media and website: As described below in

outreach, we post 3 times a week and publish a digital monthly newsletter.

Photo: Summer Staff, Deannicka Adolph teaching youth at Ski'l Mountain Youth Group about invasive species.

1.1 Covid-19 Planning & Safety

LRISS relaxed some of our COVID-19 safety protocols this year. This approach was consistent with Public Health Guidelines. We did implement mask wearing in vehicles again part way through the



summer due to a local increase in cases. The following list shows our activities & safety protocols in place to keep the staff & public safe in the ongoing pandemic:

- Review our Occupational Health & Safety Plan to ensure exposure and COVID protocols are consistent with BC Public Health Orders and recommendations.
- Update our Business Continuity Plan: The goal of this plan is to ensure that operations will continue if the Executive Director or staff were exposed or became ill from COVID-19.
- Review and train staff on the following procedural bulletins for safety: COVID-19 101, Vehicle Use & Disinfecting, Covid Case Procedures, Mask Use and Working from Home.
- Purchase Personal Protective Equipment and disinfecting supplies for all activities.
- Review of Worksafe Guidelines and Provincial Health Officer Orders frequently to ensure LRISS is compliant with COVID-19 safety procedures.

1.3 Annual Planning & Governance

Annual Planning Meeting & Annual General Meeting: As mentioned above, LRISS held our Annual Planning Meeting and AGM jointly on May 4, 2022. We delayed our Annual Planning Meeting to showcase our new Priority Ranking Tool. The online tool was developed by Marc Coderre of GeoSpatialInfo Solutions. Mr. Coderre used the framework of the Okanagan and Similkameen Invasive Species Society's (OASSIS) Priority Ranking Tool developed approximately 8 years ago. Mr. Coderre was our main speaker and he did a presentation guiding the participants through the process of development and final product. We held many other meetings to develop this tool so this was a summary. This tool will give LRISS the ability to choose priority sites based on values and vectors on the land base for treatment. It is usually the case that LRISS does not have enough funding to strata all of the sites (over 2000) in our region so the PRT ranks sites for highest priority treatment. LRISS will hold a planning meeting in 2023. The goal of the annual planning meeting is to receive input from the representatives and incorporate this into our field activities for the upcoming season.

Partners updates were also received at this meeting. The minutes from our AGM can be found on our website. We plan to host the 2023 AGM on May 4, 2023.

Invasive Species Updates: : The Executive Director attends annual conferences to stay current with invasive management tools and research in addition to connecting with funders and regional committee colleagues. This year, the in-person Field Tour was reinstated and held in Penticton, hosted by the Okanagan and Similkameen Invasive Species Society. The Field Tour included speakers on Recruiting & Retaining Staff, Professional Practice, and the Forest Practices Board. On the field tour day, we went to 5 different locations around the Okanagan. Here is a list of topics and speakers at the locations:

- Agriculture and Agri-Food Canada Entomology Orchard, Summerland: Invasive Clearwing Moth: Role in Sudden Apple Decline Phenomenon in the Okanagan and Similkameen; Exclusion Netting Trials and Prospects for Biological Control.
- Dominion Radio Astrophysical Observatory, White Lake: Holistic Approach to Invasive Plant Management - Integration with the White Lake Basin Biodiversity Ranch.

- Black Sage Road, Oliver: Tyrion Mikell, BC Grape Growers' Association: Invasive Plant Treatment Alongside Organic Growers; Starting Control Program; Jointed Goatgrass Management.
- Vaseaux Lake, McIntyre Creek Road: Darcy Henderson, Stewardship Unit, Canadian Wildlife Service. René McKibbin, Canadian Wildlife Service: Species at Risk Critical Habitat, Regulatory/Permitting Considerations in Relation to Weed Control and Funding Opportunities; Invasive Plant Management on the Vaseaux-Bighorn National Wildlife Area.
- Okanagan Falls: Tree-of-Heaven - Impacts, Promising Options for Biological Control, and risk posed to facilitate an Invasion of Spotted Lanternfly.

Board Governance Training: A collaborative training session was held for the LRISS Board of Directors along with 2 other Boards. The Lillooet Agriculture and Food Society and Okanagan and Similkameen Invasive Species Society's Boards joined LRISS online for three 90 minute sessions with Deb McClelland with On BOARD Training. The workshop outlined the roles and responsibilities of the board as well as the key elements of good governance. It included a review of Board positions, types of policy, Board Committees, meeting efficiencies, and Board work planning. The workshop included excellent information with additional resources and templates.

2. Field Program



The LRISS field program was delivered primarily by 2 LRISS Staff and 1 contractor: Xaxli'p Community Forest Corporation (XCFC). The Executive Director Assistant worked full time in the field with one summer student. The ED also did field work and one returning student from 2021 who worked 8 days with LRISS to fill in gaps when she was available. There were 3 main activities in our field program: 1. Invasive Plant removal, 2. Inventory, and 3. Aquatic Invasive Mussel Sampling.

2.1 Invasive Plant Program

The invasive plant removal program is composed of surveys, mechanical treatment and monitoring. The list of sites to treat was prepared using our Priority Ranking Tool. The work was completed primarily by the Xaxli'p Community Forest Corporation (XCFC) crews. LRISS staff did all of the monitoring in addition to new inventory work. A summary of the work completed is found in Table 1 below.

**Photo taken by Jacquie Rasmussen of LRISS staff
Kathryn Young.**

Table 1. Summary of Invasive Plant Program Results

Jurisdiction	New Sites	Hectares (Ha) of New Sites	Sites Surveyed	Hectares Surveyed	Sites with Zero Area	Sites Treated	Ha's Treated	Treated Sites Monitored
BC Hydro	5	0.0015	31	1.8018	16	19	0.5676	4
CN Rail	0	0	11	1.872	3	8	0.657	0
First Nation Reserve	1	0.28	4	0	4	0	0	0
Ministry of Forests	3	0.8034	256	124.752	106	135	3.5578	36
MOTI	20	2.4094	159	85.6388	65	114	12.2487	30
Municipality Owned	7	0.0423	0	0	0	0	0	0
Private Land	59	5.2295	5	0.387	1	9	0.1904	0
Prov Parks	1	0.0002	28	54.6946	13	13	0.3402	0
TOTALS	96	8.7663	494	269.1462	208	298	17.5617	70

LRISS accomplished our goals for treatment in 2022. We also met our obligation to monitor at least ten percent of the sites treated. Table 2 shows a comparison of the work accomplished in 2021 and we increased our output in all categories except hectares treated. In 2022, the sites we treated had less overall area than the previous year. It is important to note that a few very large sites caused the dramatic increase in the total hectares surveyed. For example, one Spotted knapweed (*Centaurea stoebe*) near the Marble Canyon Provincial Park was estimated at 52.9 hectares (ha's) and another infestation of Canada thistle (*Cirsium arvense*) on the West Pavilion Forest Service Road was recorded at 56.8 ha's. LRISS uses a digital data collection application called Field Maps (by ESRI). The area of an infestation can be estimated using a polygon tool that can either be drawn onscreen (google satellite background) or recorded while moving along the boundaries. This app function does allow for greater accuracy of infestation areas.

	2021	2022	Table 2: Field Work Completed 2021-22 A few notes about the categories reported on in Table 1 and 2 are necessary to clarify what was accomplished. New sites represent what was found during inventory of roads and trails. The hectares of the new sites is the total footprint of those sites. It does not represent solid infestations. The plants found within a site have different densities and those are recorded in the site data collection for new sites and sites surveyed. The Invasive Alien Plant Program (IAPP) has designated site density
Sites Created (new)	112	96	
New Hectares (Ha's)	11.2343	8.7662	
Total Sites Surveyed	404	494	
Total Ha's Surveyed	100.3425	269.1462	
Sites Surveyed with 0 Ha's	153	208	
Total Sites Treated	265	298	
Total Ha's Treated	42.6398	17.5618	



and distribution codes to monitor the infestation from year to year. Even if the site size is not getting smaller in overall hectares, this information can tell you whether or not a treatment is working on a site. If a site is getting less dense with plants, this may give an indication that the site treatment is effective. Please refer to Appendix 3 for the IAPP codes.



Total Sites surveyed indicates the sites that have already been established and data collected in previous years. The hectares surveyed show the total hectares that the sites cover.



LRISS staff along with XCFC crew members were able to survey and treat remote yellow flag iris sites on Seton Lake. The sites can only be accessed via boat. We hired biologist Jeff Snee and his river boat for this work. There is a large site on the far west end (301281) that was surveyed and treated this year as well. There are 30 patches that were removed within a 0.57 ha footprint. This site had not been treated in a few years because it requires a special river boat to access and increased planning and safety measures to access the patches.

Photos by Jacquie Rasmussen (Top left to Bottom Left). Jacquie, Jessiah & Deannicka. Patch of Iris. Deannicka & Jessiah gearing up. Photos below (left to right): Priority plants, Wild Parsnip, Puncturevine and Scotch Broom.



Priority Invasive Plants: There was one new plant species found in our region this year: Scotch Broom (*Cytisus scoparius*). Two high priority invasive plant species found in 2019 continue to be treated: Wild Parsnip (*Pastina sativa* L.), and Puncturevine (*Tribulus terrestris*) See photos above. These species are the top priority for LRISS to eradicate. Appendix 2 has our full priority list of plant species with definitions.

Scotch Broom was reported by a contractor working for BC Hydro in spring of 2022. This contractor had just completed a training session with LRISS. It was a short presentation given by the Executive

Director (ED) to familiarize this crew with the regional invasive plant species while they were completing vegetation surveys on Hydro right-of-ways. A photo was provided along with a location. The ED went to the site on May 16 and verified that the plant was Scotch Broom. The plant is next to the orange handled shovel in the photos below. Data was collected and the plant was removed. It was just about to flower so this was the best time to remove this species because it reproduces by seed. The area around the plant was reviewed on foot and the area was added to LRISS's workplan for inventory when summer staff started (refer to the Inventory section below).



Photo to left by Jacquie Rasmussen Wild Parsnip site, T'it'q'et Wetlands.

Wild Parsnip continues to be the highest concern of these plants because of the harm it can pose to humans. It is located very close to the T'it'q'et community (on Reserve, see photo below) where people live. This plant contains toxic compounds called furanocoumarins. These compounds can cause serious rashes, burns or blisters to skin when exposed the sap and then sunlight. The roots of the Wild



Parsnip (the non-cultivated form) contain the same compound, so it is not recommended for consumption. In 2021, the Sea to Sky Invasive Species Council (SSISC) field crews carried out field treatments including herbicide application. SSISC Field crews are certified herbicide applicators and have experience working around wetlands. This year, the P'egg'ig'lha Council (T'it'q'et) received Aboriginal Species at Risk funding and hired the SSISC Field crews to treat the site again.

Puncturevine Treatment: Puncturevine (*Tribulus terrestris*) continues to be treated by the Seventh Day Adventist Church on their Fountainview Academy property. This year the LRISS crews and Thompson Nicola Regional District staff spent a day helping them to manually remove patches from their property. We are happy to report that this plant remains only on their private property and that they provide many hours through volunteers to pull this weed. They are known for their organic carrots that are sold widely in BC supermarkets and this plant has caused impacts to their operations. It is a high priority for them as well and we are grateful for their efforts.



Photo taken by TNRD staff of crews and Peter Luchak from Fountainview, second from the left.

2.2 Inventory

Targeted inventory in 2022 focused on two species and specific sites. The targeted species were Scotch Broom and Tree-of-Heaven (*Ailanthus altissima*). The Ministry of Transportation and Infrastructure (MOTI) funded LRISS to review two landslides on Highway 99 south between Lillooet and Pemberton close to Duffy Lake. These were the slides that occurred during the atmospheric river event of November 2021. LRISS was also asked to review 2 other areas for invasive species by the Ministry of Forests and the Squamish Lillooet Regional District. These reviews were completed by the LRISS ED and reports were provided to the government representatives. A summary of the reports are found below.

Photo: Overview map of inventory locations.

Scotch Broom: BC Hydro's 2L90 ROW above Seton Lake was found to have one Scotch Broom plant in May of 2022. This was the first occurrence of this species in our region and deemed a very high priority. LRISS ED and staff did a survey of this ROW starting with the access road where the original plant was removed in May. The access road to the west was also surveyed. No more Scotch Broom was found as a result of this targeted inventory. A total of 3.9 kilometres (kms) of this line was covered. There were other invasive species found including Blueweed (*Echium vulgare*) and sites were established. This ROW will be reviewed again next year.



Tree-of-Heaven: The Tree-of-Heaven was placed on our species priority list under the Eradicate category this year because our funding partners raised the concern that this species was a host for the invasive insect, Spotted Lanternfly (*Lycorma delicatula*). Spotted Lanternfly is an invasive pest from Asia that kills plants by sucking their sap and feeds on over 70 species of trees and plants including grapes. Our vineyards are very important assets to our local economy so we decided that an inventory was warranted.

In collaboration with researchers at the Agriculture and Agri-Food Canada Entomology Orchard, in Summerland, LRISS established data criteria and codes for the Tree-of-Heaven inventory. It was important to use consistent data collection methodology and codes so the researchers could also access and use this information. All of this information was entered into the Invasive Alien Plant Program database so that it can be publicly accessed.

The inventory resulted in 60 new sites that covered approximately 3.9 ha's. The majority of the sites were on Private land in local resident yards. There were trees also found in an MOTI gravel pit within

the District boundaries called the Chenault Pit. More area beyond the District boundary will be covered in 2023. The intent is to understand the extent of this tree and our risk to a Spotted Lanternfly infestation.

Photos: Top right, LRISS summer staff next to Tree-of-Heaven growing out of the Lillooet Community Hub building on Main Street, Lillooet. Bottom right, Spotted Lanternfly.

Highway 99 Slides: In November of 2021, there was an atmospheric river event that caused devastation in British Columbia including 2 landslides on Highway 99 between Lillooet and Pemberton (refer to overview map for location). MOTI requested that LRISS do a targeted inventory of these sites and if anything was found, remove any infestations.

LRISS staff went to these sites 3 times between the end of June and mid-September. Neither of the slides had any high priority invasive plants. The following table shows the species found on Slide 1 and the data collected. All of the sites were treated but in most cases, the infestations went beyond the slide. The staff removed all of the plants on the slide area only so the area treated is less than the entire site size.

Table 3. Invasive plant species found on Slide 1, Highway 99 South.

Invasive Plant	Estimated Area (Ha)	Distribution / Density	Area Treated
Bull Thistle (<i>Cirsium vulgare</i>)	0.24	4/1	0.2056
Burdock species (<i>Arctium spp</i>)	0.001	3/2	0.001
Common Tansy (<i>Tanacetum vulgare</i>)	0.0062	5/2	0.0062
Scentless chamomile (<i>Matricaria maritima</i>)	0.12	7/2	0.06
Spotted Knapweed (<i>Centaurea stoebe</i>)	0.0001	1/1	0.0001
Western goat's-beard (<i>Tragopogon dubius</i>)	0.45	7/1	0.2056



The only plant found on Slide 2 was dandelion. Slide 2 is located on the south side of Duffy Lake on the west side of IAPP site 301618. There were new species found to the east of the slide but they were over 100m from the slide so they were separate sites. They include Orange Hawkweed, Bull Thistle and Scentless Chamomile. All of these species are already found along this highway corridor.

Scentless Chamomile was found on July 6 along the roadside but it was 100 meters from the slide.



The slide was monitored for this and other species in the subsequent visits but did not find any.

The photos above show (starting with the Left going clockwise) Slide 1 upslope, Slide 1 downslope to the Cayoosh Creek, Slide 2 upslope and Slide 2 on the downslope, Duffy Lake side (with 3 staff).

West Pavilion Resurfacing Project: The Ministry of Forests – Cascades Natural Resource District received funding to resurface the West Pavilion Road between 62 & 72 kilometre (km). This 10 km stretch will have a portion of the road surface removed and new material placed. There is a risk of the movement, establishment and spread of invasive plants as a result of multiple phases of this project including:

- Exposure of 2 areas that will be used for extraction and crushing. On-site soil disturbance & removal.
- Movement of the crush to the new location.
- Removal of road bed material from 10 km on West Pavilion to a new undetermined location.

On July 29, 2022, the Lillooet Regional Invasive Species Society staff did a review of the 2 areas for extraction and gravel crushing as well as a cursory inventory of West Pavilion road between 62 & 72 km for invasive plant species. A full report was written with photos and is available upon request from the LRISS ED.

The table below shows the plant species that were found during the review of the sites. None of these species are new to our region or fall within the Eradicate or high priority category for treatment. Although they are not a high priority for treatment, the recommendations do include treatment of invasives before the project commences. The following list is a summary of recommendations for this project.

- Removal of the top layer of soil/crush that is contaminated with the invasive plants, down to a layer where seeds are unlikely to have accumulated. This will depend on how deep the soil layer is on site. Any removed "contaminated" material should be piled on site and grass seeded before winter to prevent any new invasive plant germination.
- Seed all spoil piles and exposed soil areas with an appropriate grass seed mix prior to winter, to provide competition and help keep invasive plants from re-establishing.
- Monitor source material for invasive plant growth prior to moving the material to the construction site. Ensure material used is free of invasive plants.
- Monitor the construction area annually for invasive plant establishment and treat any invasive plants that have established.
- Clean all machinery ahead of transportation to the construction site and before leaving the site. This includes removing all plant parts, mud and/or other material adhering to the machines. A wash station for machinery being used to transport material between the gravel site and the West Pavilion would also greatly reduce the chances of invasives from either sites contaminating the other. Look into the possible use of the wash trailers from the Mussel Defence program if they are not in use.
- All invasive plants within the construction area should be treated prior to construction activities commencing.
- Minimize soil disturbance where possible and try to maintain as much native vegetation as feasible.
- Roadside areas should be seeded with an appropriate grass mix to prevent any new growth of invasive plants.
- Staging areas should be in areas that are free of invasive plants.
- Monitor the construction area and gravel extraction sites annual and promptly control infestations resulting from construction activities.

The report was reviewed by Coleen Hougen, the Invasive Plant Program manager for the Thompson Nicola Regional District. The area reviewed includes an overlap of management area between the TNRD and LRISS. After it was reviewed, it was submitted to Brian (BJ) Moore (Engineering), of the Cascades Natural Resource District who is the lead for the project.

Table 4. Invasive plants found on the Gravel Extraction sites and the West Pavilion Forest Service Road for the resurfacing project review.

West Pavilion FSR	Second Creek Extraction Area	Leon Creek Extraction Area
Burdock (<i>Arctium</i> species)	Bull Thistle (<i>Cirsium vulgare</i>)	Bull Thistle (<i>Cirsium vulgare</i>)
Canada Thistle (<i>Cirsium arvense</i>)	Burdock species (<i>Arctium</i> spp)	Meadow goat's-beard or Salsify (<i>Tragopogon pratensis</i>)
Common Tansy (<i>Tanacetum vulgare</i>)	Cheatgrass (<i>Bromus tectorum</i>)	Mullein (<i>Verbascum thapsis</i>)
Diffuse Knapweed (<i>Centaurea diffusa</i>)	Mullein (<i>Verbascum thapsis</i>)	
Oxeye Daisy (<i>Leucanthemum vulgare</i>)		
Spotted Knapweed (<i>Centaurea stoebe</i>)		

Squamish Lillooet Regional District Proposed Park Review, Anderson Lake: LRISS was asked by the SLRD Parks and Trails Coordinator, Allison Macdonald to review a site on the south and east shore of Anderson Lake for invasive plants. This site has been chosen as a new park site. SLRD staff and Director Birch-Jones had been on site in the spring and noticed invasive plants. They wanted a review of the site prior to any more planning to properly address invasive plant management. It is important to note that they are working collaboratively with Tsal'alh on this project. There are cultural values on this site and it is adjacent to Reserve lands.

Jacquie Rasmussen did a review of this site on August 15, 2022 and created a short report with recommendations as a result. The full report can be reviewed upon request. Overall, the site has a variety of invasive plants but is also home to a complex of native forbs, shrubs, and trees. It is easy to understand why this location was chosen as a park candidate given the variety of values: cultural, old growth forest and lakeshore. This location will provide a number of opportunities to conserve and protect values for Tsal'alh, wildlife & habitat. As part of the overall park plan, the management of invasive plants will be an important element to protecting the values on this landscape.

Throughout the park area, there are native plants and wildlife habitat. Birds are using the area especially in the middle of the loop trail that has thickets of native rose, maple trees, ocean spray, Saskatoon, and alder. There is also Oregon grape, hawksbeard, snowberry, and pinegrass to name some prevalent native plant species. Snowberries are a food source for birds in the winter. Although there was no sign of other wildlife or scat, it is likely that both deer and bear travel through this area for water and food sources.

There are a variety of invasive plants on the site that are very common to the surrounding area. No new high priority species were found during the site visit. The trails, the parking area near the main road, 2 cultural features and shoreline had invasive plants. The report outlines the detailed information about the invasive plants located on or near these values and provides photographs. The following

invasive plants were found on the site: Burdock species (*Arctium spp*), Cheatgrass (*Bromus tectorum*), Knapweed (*Centaurea diffusa*), Dalmatian Toadflax (*Linaria genistifolia subs. Dalmatica*), Hoary Alyssum (*Berteroa incana*), Kochia (*Kochia scoparia*), Sulphur Cinquefoil (*Potentilla recta*), and Salsify (*Tragopogon dubius*). It was noted that many of these species are well established and will need annual removal efforts to reduce their prevalence.

This proposed park offers opportunities for educating the public about invasive plants and how to avoid spreading them. The recommendations not only include priority areas for removal but also ideas for education. Signage is recommended to include PlayCleanGo messages to avoid spreading invasive plants in or out of the new park area. LRISS recommends a collaborative management approach with the Tsal'alh community and LRISS can offer invasives training to the community crews.

2.3 St'át'imc Invasives Training & Removal

LRISS initiated a training and removal project for all of the the 6 northern St'át'imc communities for 2022-23. The funding we receive from Environment and Climate Change Canada protects Species At Risk so it can be used on any jurisdiction including Reserve Lands. We offered training sessions and the chance to do a small project on reserve to every community. It can be very difficult to find funding that targets Reserve lands so this was an opportunity to continue to build capacity while removing invasive plants in communities. LRISS connected with Natural Resource and Lands staff to offer this training and support the removal project on the ground. In our letter, we also suggested that they could host a weed pull but we found that training staff that were already working outdoors made the most sense. This could include Heritage crews or Operations & Maintenance crews.

Ts'kw'aylaxw and Xwísten were interested but were not able to complete either the training or the removal project. Tsal'alh and Sekw'el'was turned down the project.



Photos taken by XCFC staff: Crews removing invasive plants from Chilhil subdivision, Xaxli'p community reserve.

XCFC crews focused on the Chilhil subdivision because of the invasive plants they had found there during other work projects: Hoary Alyssum, Common Tansy, Oxeye Daisy, Canada Thistle, Diffuse & Spotted Knapweed, Burdock, Chicory, Dalmatian Toadflax, Bull Thistle and Night-Flowering Catchfly. They removed these species from 10 properties covering 0.4631 ha's. They removed 20 bags of these invasive plants. During their work, they spoke to residents and handed out Field Guide to Noxious

Weeds and other Selected Invasive Plants of British Columbia booklets as well as a LRISS rack card with common garden invasives in our region.

T'it'q'et-P'egp'ig'lha completed their project at the wetland within their community. Their Operations & Maintenance crew removed both Wild Parsnip and Burdock manually from the site. Six large garbage bags of Wild Parsnip were removed. Fourteen truckloads of Burdock were removed. In total, this removal project covered approximately 70 square meters or 0.07 of a hectare. This project served to train the O&M staff to safely remove invasives and recognize them as well. These species have been established on site for a number of years and will require annual removal.

Photo taken by LRISS staff. LRISS Summer Staff Emma Sneep & Kathryn Young collecting samples on the Fraser River.

2.4 Invasive Mussel Sampling

LRISS was awarded a grant from the Habitat Conservation Trust Foundation to sample Pavilion Lake and the Fraser River for invasive mussels. This sampling is part of the BC Ministry of Environment & Climate Change Mussel Defence Program to keep BC free of invasive mussels. LRISS has successfully received funding for 6 years to sample water bodies for Zebra & Quagga mussels (*Dreissena polymorpha* & *D. rostriformis bugensis*). We are happy to report that no invasive mussels have been detected in any of the water bodies or in BC to date. The list of waterbodies is below in Table 5.

In order to safely complete the sampling on the Fraser River, LRISS hired River Monster Adventures to take the crews to 2 sampling spots. The grant agreement stipulated that sampling was to take place downstream from the Bridge River outflow and downstream from the Seton River outflow. Sampling on the Fraser was significantly delayed due to a cold spring and high water well into July. All 4 samples were taken at both locations but our sampling schedule was compressed to ensure we were able to get all 4 samples as per our agreement. The other challenge was the turbidity of the Fraser River. It often clogged the plankton net and caused the sample to be very heavy with sand. Thankfully, the lab where the samples were sent were able to use the samples.

We are very thankful to River Monster for their services. As part of our collaboration, we agreed to post our gratitude and sampling photos on social media and tag River Monster.



Table 5. Waterbodies sampled for Invasive Mussels.

Waterbody name	Sample site name/description	Months sampled	Total plankton samples
Pavilion Lake	Public Boat Launch	July x1, August x2, Sept x1	4
Fraser River	Downstream from Bridge River Confluence	August x3, Sept x1	4
Fraser River	Downstream from Seton River Confluence	August x3, Sept x1	4
		Total samples taken	12

Table 6. Summary of Outreach Statistics

3. Outreach & Education Program

The LRISS outreach program did reach our goals despite less summer staff to attend and host events. Table 6 is a summary of our outreach statistics and description of our activities are in the sections below.

The primary way to ensure LRISS can not only take part but generate outreach activities and materials is to have dedicated staff. LRISS applied for funding to hire a full-time Outreach Coordinator. Summer staff contribute greatly to our outreach activities so recruitment for 2023 is very important to this program. We will endeavour to find funding and candidates that will grow our outreach program lead by a dedicated coordinator.

3.1 Events, Presentations & Training

LRISS has participated in or delivered 21 events, presentations, and training. Although this is a decrease over last year (40), we did spend time at many of the local schools as well as delivered some key training sessions. Youth was our primary focus over the spring and summer. We spent time with the following classes or groups:

- George M. Murray, Grade 5: Outreach and Weed pull at the Mile 0 Rodeo Grounds
- Cayoosh Elementary School, Grades 1 & 5: Wetland & Invasive Species
- Lillooet Secondary, Grades 8 & 9, Aquatic Invasive Species, Seton Lake
- Lillooet Secondary, Grades 8 & 9, Invasive Plants, Hike up Red Rock Trail
- Lillooet Library Summer Reading Club, 3 groups, Invasive Species games & art
- Ski'l Mountain Youth, Shalath, Invasive Species games & art
- George M. Murray Grade 5 (October): Invasives outreach Restoration Site, Lillooet

Type	Number / Posts	Total Reach
Event	21	829
Facebook	181	53863
Instagram	180	26115
LinkedIn	169	24720
TikTok	11	5696
Newsletter	12	27632
Pinterest	117	2433
Presentation	5	72
Print Ad	58	58800
Print Resource	13	802
Training	4	21
Twitter	189	17651
Website	21	7402



Left photo: Lillooet Summer Reading kids learn about CleanDrainDry. Right photo: Ski'Il Mountain Youth Group learn about invasive species using puppets.

LRISS also held a number of training sessions that were very beneficial to early reporting. On May 11, we held a training session for a variety of consulting staff completing vegetation surveys on Hydro line right-of-way in our region. This training and the connections we made with the staff lead to the report of Scotch Broom, the first site of this plant in our region. Due to the early report, this plant was found and removed before it went to flower. This is a good news story and one that shows the benefits of our training sessions. We also held training sessions for the St'át'imc Government Services staff and T'it'q'et Operations & Maintenance Crews for Wild Parsnip removal. As part of our Invasive Removal Project initiative, we held 3 training sessions for all of the St'át'imc communities. The in-person one held at the Lillooet Rec Centre was attended by Ts'kw'aylaxw and Tsal'alh community members.

3.2 Resources

LRISS not only purchases resources from Provincial programs but we create our own for local programs. This year, we have distributed over 800 print resources. The resources we purchase include wallet cards (business card size accordion brochures) for Plantwise and Aquatic Invasives. We tracked the resources that we either gave out at events like the Farmer's Market or gave to our partners to hand out. The Tourism hand out with "responsible recreation" messages was handed out by the Miyazaki House-Lillooet Information Center, Lil'tem' Mountain Hotel (Seton Portage) and LRISS staff at regional campgrounds (See Appendix 4)

Tree-of-Heaven Fact Sheet: LRISS summer student Deannicka Adolph designed a new fact sheet for LRISS this year. We needed a fact sheet for Tree-of-Heaven to give to home owners during the 2022 targeted inventory. The majority of the Tree-of-Heaven sites in the District of Lillooet are found on private property. When the LRISS staff spotted a possible Tree-of-Heaven on a property, the first thing they did was knock on the door of the home. This fact sheet was a good way to provide concise information to the residents about the impacts and connection to the invasive Spotted Lanternfly.

3.3 Digital Resources

Electronic resources include our website and 5 social media channels: Facebook, Twitter, Instagram, LinkedIn and Pinterest. We consistently post on social media three times a week. There were 836 posts generated with a reach of 124782. Facebook continues to have the greatest reach of all of our social media platforms. We added new invasive species descriptions to our website.

Starting in October, LRISS was fortunate to collaborate with the Sea to Sky Invasive Species Council and share a staff person. LRISS hired Ellika Cairns as a Program Assistant to create and deliver our digital content on our social media channels and newsletter. She not only managed all of our social media channels but created a branding guide for LRISS and completed a social media audit. Based on the recommendations in the audit, we put a pause on our Pinterest posting and opened a TikTok account to try and connect with youth.

Social Media Campaigns: LRISS delivered campaigns via social media to increase engagement and followers. Earth Day is in April so our campaign focused on actions that people could do to protect the earth. May is Invasive Species Action Month and we created a campaign with similar messages. The month of June is the start of wildflowers blooming. We choose to share a variety of native and invasive flowers to teach our followers the difference between the two.

Monthly newsletters. Using Mail Chimp, the newsletter has an article, resources, and partner feature. We also have a feature app in our newsletter. Our most recent newsletter can be found on our [website](#).




3.4 Advertising Features

Advertising includes features for print media like the newspaper and tourism guides. LRISS continues to develop monthly feature articles for our partners who, in turn, put them in their newsletters and social media. LRISS continues to have a business card ad in the newspaper every week with the PlayCleanGo message. The newspaper has been running themed advertising targeting specific audiences. LRISS submitted a features for spring and fall gardening, farmers and food security. Every

summer, we do 4 features called "Alien Invasive Spotlight". Since April 2022, there have been 58 ad features published with a reach of 58800.


Alien Invasive Spotlight



Brown Marmorated Stink Bug

Photo Credit: Susan Ellis, Bugwood.org


5443475



Japanese Beetle

Whitney Cranehow, Colorado State University, Bugwood.org


5573429



Spotted Lanternfly

Photo by: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org


5524251




European Fire Ant

Photo by Sean McCann






Invasive insects can have devastating effects on the agriculture industry, hay crops and backyard gardens. These insects are not in our region yet. Please report all suspected sightings!



Lillooet
Naturalist Society



WWW.LRISS.CA
**LILLOOET REGIONAL
INVASIVESPECIESSOCIETY**

Stop Invasive Species in Your Tracks.







LRISS.ca
**LILLOOET REGIONAL
INVASIVESPECIESSOCIETY**



INVASIVE SPECIES CORNER



**LILLOOET REGIONAL
INVASIVESPECIESSOCIETY**

It's time for harvest & fall clean up in your garden. Do not compost invasive plants like this Common Tansy. Backyard composts don't get hot enough to kill seeds. Bag all invasive plants & take them to the landfill for FREE. For more information go to:

LRISS.CA



4. Challenges, Solutions & Organization Resiliency

LRISS is constantly reviewing our organization for ways to improve and build resiliency to plan for challenges. We acknowledge that there are things that we can control and challenges that arise that are unforeseen. In 2022, we faced a variety of challenges and continued to build in processes and plans that were building our resiliency to future change.

The primary challenge in 2022 was staff recruitment and capacity. We normally have about 4 seasonal staff, on average, and last year we were only able to recruit one new staff member. Thankfully we had a part-time assistant to the Executive Director that was willing to step into a Field Operations role. A

former summer staff member also was able to work very part-time to help with some of our program activities. LRISS was awarded 4 wage subsidy positions and after advertising and recruitment, there was only one applicant.

The challenge with the shift of the Executive Director Assistant to field activities was that all of the social media and newsletter work was then shifted to the Executive Director to do. LRISS manages 5 social media channels and has been publishing a monthly newsletter online. This outreach work can take considerable hours with design work and content creation. LRISS did apply to BC Gaming for a full-time Outreach & Education coordinator but our award for the next fiscal was not sufficient to hire this position or even a part-time person for the whole year. Social media is changing very quickly and someone knowledgeable with the posting processes is needed in addition to replying to comments and keeping up with trends / key audiences.

Solutions: Collaboration and outsourcing were the key to addressing these key challenges. The Xaxli'p Community Forest Crews were able to take on the majority of our field operations. In the past, summer staff have completed a portion of these tasks. XCFC Crews were able to take on the entire treatment list for 2022. LRISS continues to work with the other 5 St'át'imc communities to build their capacity to take on invasive species management. We held training sessions and are working with Guardian programs.

In October of 2022, the Sea to Sky Invasive Species Council (SSISC), approached LRISS about sharing a staff person. SSISC didn't want to lose this person to another organization but only had enough hours for part-time work between October and December. LRISS was able to co-hire Ellika Cairns with SSISC until December and then full-time in January and February. Ellika fit our needs for outreach and took over our social media and newsletter for 6 months. She not only created content and designs for the time that she was with LRISS but also for most of April. She also created a Branding Guide and completed a social media audit. She also helped to initiate a joint process for LRISS and SSISC to co-create social media content. The goal is to create content that is common to both organizations and share the workload. For example, SSISC has created a number of video reels on invasive species that are posted to both organizations' channels. There is a shared google spreadsheet that we plan the posts, share the content and links to designs in Canva.

Business continuity is still a top priority even though the global pandemic has started to fade from our program operations. The key challenge is that there is only one person responsible for all of the program operations which is the Executive Director. It was also recognized that LRISS lacked a full set of policies for governance, employees and finance. This also puts our organization at risk if Board members were to change or our ED were to resign.

The following activities were accomplished this year in order to increase LRISS's resiliency:

1. Board Governance Training: As mentioned in section 1 of this report, this training was taken in February 2023 and has already been very valuable to Board Directors and the ED.
2. Policy & Procedure Manual: As a result of our collaborative hiring of Ellika Cairns, the ED was able to spend time to significantly add to our policy manual.
3. Asana, project management app. LRISS has created a Team and projects in Asana. This app allows you to document work projects and activities and break them down into tasks. The tasks can be

assigned to people as well as deadlines. The goal of placing the majority of the tasks that LRISS does in a year means that anyone can view these tasks and understand when they need to be completed and who completes them. It creates a way to ensure business continuity if a person leaves the organization. Asana has many other features that will increase our work flow and tracking capabilities. The basic version is free but as a not-for-profit, we are eligible for a 50% discount for monthly plans with added capabilities. We are considering these options to pilot for 2023-24.

Financial Reporting

LRISS tracks finances between April 1 and March 31 as our fiscal year. The following sections give a summary of our financial information. All bookkeeping is completed using the Sage Accounting System. We hire a bookkeeper and an accountant for our tax filing. Please refer to Appendix 5 for financial reports showing details of revenue and expenditures.

LRISS receives in-kind funding from our partners. This includes equipment, staff time and discounts. Appendix 6 shows the full in-kind summary. The total for this year was \$3514.

1. Revenue

LRISS secured \$216,403 of funding for our programming (see Table 7). This is an increase over last year by \$19,171. The increase of funding primarily came from the Squamish Lillooet Regional District and Environment Canada and Climate Change.

An extra \$15,000 was granted to LRISS in this fiscal year by the Ministry of Transportation and Infrastructure to review 2 slide areas on Highway 99 South near Duffy Lake. These slides occurred as a result of the atmospheric river event in November 2021. This funding was to initiate an inventory of these slides for invasive plants and conduct any treatment.

The Squamish Lillooet Regional District Area B Director contributed \$30,000 toward the restoration efforts for the McKay Creek Fire area. LRISS has collaborated with the University of British Columbia and a Master's student will be starting a vegetation project on the fire area in the 2023 field season. It will include the response of native, invasive and culturally significant plants to different burn severities. Half of the SLRD funding was used to leverage a significant grant from Mitacs creating a budget of over \$60,000 for the Master's student project. The other half of the funding will help subsidize student assistant wages as well as cover travel costs and LRISS collaboration hours.

The revenue is listed in Appendix 5 on the Income Statement. It is important to note that all of the income, including our deferred revenue is listed on that report. The income reported here is all new income for this fiscal year. The net revenue show has 2 amounts. The one highlighted in yellow shows the actual revenue for 2022-23. That amount does not have duplicate Admin Revenue to funders. All of those amounts highlighted in orange are duplicated to ensure they are shown separately in the expenses below. There were also wages from Canada Summer Jobs allocated to specific expenses and funders so the revenue is duplicated to ensure that this reallocation can be shown in our expenses. The last amount that is not a true revenue because it has not been received yet is the GST rebate. This amount will be applied for in the 2023-24 fiscal year.

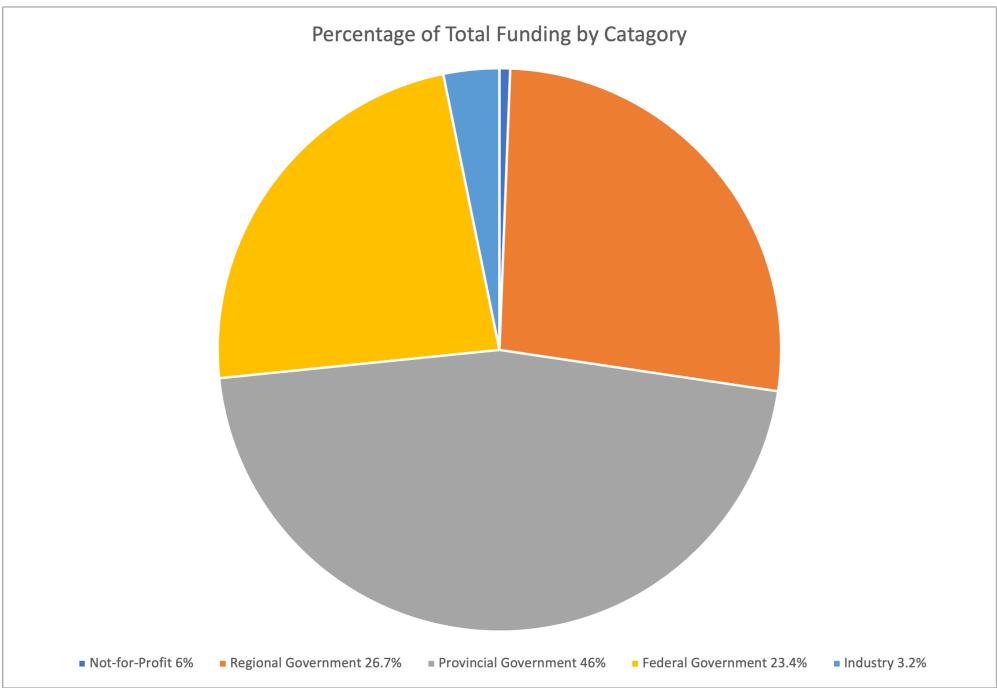
Appendix 6 shows our the amount that LRISS received as “In-Kind” contributions. This was \$3514. We are grateful to our partners for their time to organize events, post our articles and lend us equipment.

Table 7. Overview of LRISS Funding Revenue 2022-23

Sources of Revenue	Amount
BC Community Gaming Grant	\$11,000
BC Hydro	\$5,000
BC Hydro Community Investment	\$1,000
Canada Summer Jobs	\$4,861
Environment Climate Change Canada	\$49,500
Habitat Conservation Trust Foundation	\$4,900
Lillooet Naturalist Society	\$1,000
Ministry of Forests, Lands & Natural Resource Operations & Rural Development	\$42,000
Ministry of Transportation & Infrastructure	\$35,000
Squamish Lillooet Regional District	\$62,142
Total Revenue	\$216,403

The following chart show the revenue by category. The largest percentage of LRISS revenue is from the BC Government. The smallest category is not-for-profit.

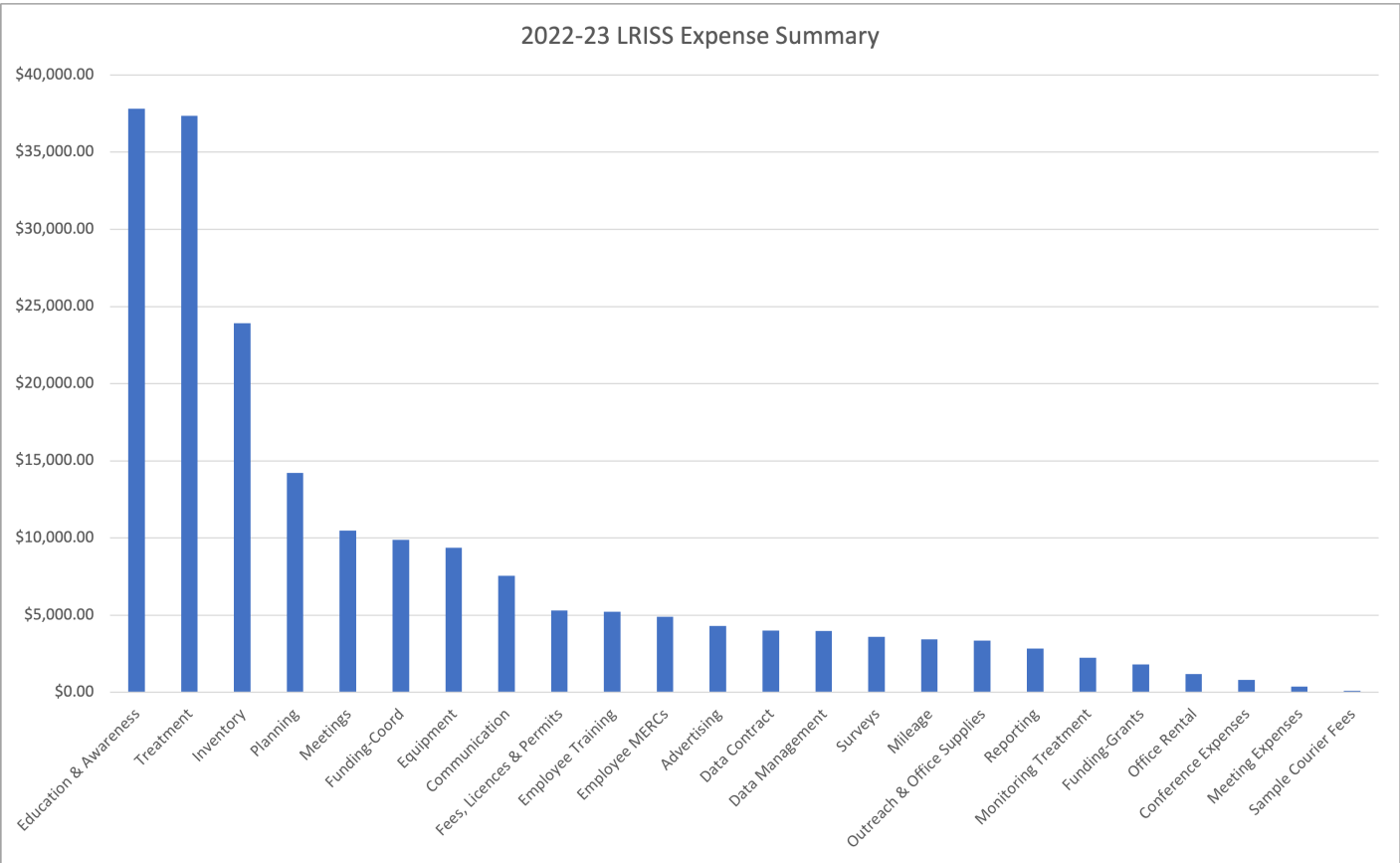
Chart 1. Revenue Categories



2. Expenditures

The total expenditures for 2022-23 fiscal year is just over \$198,000. The chart below shows a summary of the expenses. The top three expenditures were: Education & Awareness, Treatment of invasive plants and Inventory of invasive species. Inventory costs increased this year because we dedicated time to a number of inventories as described in the Field Operations section above.

Chart 2. Summary of Expenses 2022-23



A full account of the expenses can be found in Appendix 5. The Income Statement has all of the categories found in Chart 2 including more details.

Acknowledgements

We are extremely grateful for the volunteer Board of Directors that oversees the operation of LRISS. Our Board Members include:

- Sue Senger, Chair
- Matt Manuel, Vice-Chair
- Bill Spencer, Treasurer-Secretary
- Gerald Michel, Director
- Mandi Rogers, Director
- Emily Jones, Director
- Ellen Reyes, Director

LRISS also like to thank all of our partners (see Appendix 1) and their contributions to our program.

Appendix 1. List of Partnerships and Activities

Partner	Project - Activity
University of British Columbia	McKay Creek Fire Vegetation Response research.
Lillooet Naturalist Society	Funding, In-kind support, Invasive plant removal on Trails, Newspaper Features
Lillooet Agriculture & Food Society	Sharing of resources Agreement, Monthly article shared.
Bridge River Valley Community Association	Weekly Roadside outreach: #ResponsibleRecreation, Invasive Outreach Historic Haylmore Site, Events, Staff Training, Monthly article shared.
Lillooet Community Connect Innovation Hub	Support funding applications, meetings, share social media posts. LRISS is a member of the HUB Advisory Committee
Lillooet Animal Advocate Society	Outreach with youth, online for responsible pet ownership. Includes Don't Let it Loose Program messages.
SWIMS – Society for Wellness, Instruction & Mobility through Swimming	LRISS collaborated with youth summer fun days: outreach teaching about invasive aquatic invasive species like invasive mussels.
Miyazaki House Society	Share outreach, office space, remove invasives from property, support events
Lillooet Wild	Promotion of conservation of species. Social Media campaign.
Lillooet Off Road Cycling Society	Partnership Agreement: Sharing of resources, Project support, Monthly articles shared.
Lillooet Livestock Association	Member on LRISS Board, Producer outreach, Monthly article shared.
Lillooet Rod & Gun Club	Monthly article shared.
Xwísten	Councillor on LRISS Board, monthly article shared, Training of Heritage Crews
P'egp'ig'lha Council - T'it'q'et	Project Collaboration, Crew Training for Guardianship program, Support to remove Wild Parsnip Infestation, Monthly article shared.
Xaxli'p Community Forest Corporation	Funding application support, Monthly article shared, Crew contract.
Tsal'alh	Monthly article shared, Project Collaboration.
Sekw'el'was – Splitrock Environmental	Funding application support, Project Collaboration, Monthly article shared.
Ts'kw'aylaxw	Monthly article shared.
Lillooet Chamber of Commerce	Member, Share updates at monthly meetings.
District of Lillooet	Project Collaboration. Home Kit Delivery
Tourism Lillooet	Deliver outreach materials, share social media & articles.
Tyax Wilderness Lodge	Share social media – promote through our channels

Tyax Adventures	Joint outreach delivery to Mountain Bikers: PlayCleanGo, Share social media.
Winners Edge Sporting Store	Social Media sharing
TimberMart, Feed & Garden Centre	Social Media sharing, public outreach for garden invasives
Squamish Lillooet Regional District	Funding Partner for all programs
Ministry of Forests, Lands & Natural Resource Operations	Funding Partner for all programs
Ministry of Transportation & Infrastructure	Funding Partner for Field program
BC Hydro	Funding, Workshop training support for St'at'imc
BC Community Gaming	Funding Partner for Outreach & Education Program
Habitat Conservation Trust Foundation	Funding Partner for Aquatic Invasive Mussel sampling
Ministry of Land, Water & Resource Stewardship	Funding and project partner for aquatic invasives
Environment Climate Change Canada	Funding, Information about species at risk
Other Regional Invasive Species Organizations including Sea to Sky Invasive Species Council	Invasive Site reconnaissance on borders, outreach materials collaboration, collaborative research on mapping and human resources programs.

Appendix 2. LRISS 2022 Priority Plant Species & Categories

COMMON_NAME	LATIN_NAME	LRISS Priority
Annual sow thistle	<i>Sonchus oleraceus</i>	1-Prevent
Black knapweed	<i>Centaurea nigra</i>	1-Prevent
Bohemian knotweed	<i>Fallopia x bohemicum</i>	1-Prevent
Brown knapweed	<i>Centaurea jacea</i>	1-Prevent
Bur chervil	<i>Anthriscus caucalis</i>	1-Prevent
Butterfly bush	<i>Buddleja davidii</i>	1-Prevent
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	1-Prevent
Field scabious	<i>Knautia arvensis</i>	1-Prevent
Flat pea / flat peavine	<i>Lathyrus sylvestris</i>	1-Prevent
Garlic mustard	<i>Alliaria petiolata</i>	1-Prevent
Giant hogweed	<i>Heracleum mantegazzianum</i>	1-Prevent
Giant knotweed	<i>Fallopia sachalinensis</i>	1-Prevent
Gorse	<i>Ulex europaeus</i>	1-Prevent
Himalayan knotweed	<i>Polygonum polystachyum</i>	1-Prevent
Longspine sandbur	<i>Cenchrus longispinus</i>	1-Prevent
Marsh plume thistle/Marsh thistle	<i>Cirsium palustre</i>	1-Prevent
Meadow hawkweed	<i>Hieracium caespitosum</i>	1-Prevent
Meadow knapweed	<i>Centaurea debeauxii</i>	1-Prevent
Poison hemlock	<i>Conium maculatum</i>	1-Prevent
Policeman's helmet / himalayan b	<i>Impatiens glandulifera</i>	1-Prevent
Rush skeletonweed	<i>Chondrilla juncea</i>	1-Prevent
Russian knapweed	<i>Acroptilon repens</i>	1-Prevent
Scotch broom	<i>Cytisus scoparius</i>	1-Prevent
Scotch thistle	<i>Onopordum acanthium</i>	1-Prevent
Tansy ragwort	<i>Senecio jacobaea</i>	1-Prevent
Teasel	<i>Dipsacus fullonum</i>	1-Prevent
Whiplash hawkweed	<i>Hieracium flagellare</i>	1-Prevent
Wild chervil	<i>Anthriscus sylvestris</i>	1-Prevent
Blueweed	<i>Echium vulgare</i>	2-Eradicate
Common bugloss	<i>Anchusa officinalis</i>	2-Eradicate
Cypress spurge	<i>Euphorbia cyparissias</i>	2-Eradicate
Hoary cress	<i>Cardaria draba</i>	2-Eradicate
Leafy spurge	<i>Euphorbia esula</i>	2-Eradicate
Puncturevine	<i>Tribulus terrestris</i>	2-Eradicate
Purple loosestrife	<i>Lythrum salicaria</i>	2-Eradicate
Tree of Heaven	<i>Ailanthus altissima</i>	2-Eradicate
Wild Parsnip	<i>Pastinaca sativa</i>	2-Eradicate
Yellow iris	<i>Iris pseudachorus</i>	2-Eradicate
Baby's breath	<i>Gypsophila paniculata</i>	3-Contain
Common tansy	<i>Tanacetum vulgare</i>	3-Contain
Dame's rocket	<i>Hesperis matronalis</i>	3-Contain
Himalayan blackberry	<i>Rubus armeniacus</i>	3-Contain
Hoary alyssum	<i>Berteroa incana</i>	3-Contain
Hound's-tongue	<i>Cynoglossum officinale</i>	3-Contain

LATIN_NAME	COMMON_NAME	LRISS Priority
Japanese knotweed	Fallopia japonica	3-Contain
Nodding thistle	Carduus nutans	3-Contain
Orange hawkweed	Hieracium aurantiacum	3-Contain
Perennial sow thistle	Sonchus arvensis	3-Contain
Scentless chamomile	Matricaria perforata	3-Contain
St. John's wort/Saint John's wort	Hypericum perforatum	3-Contain
Sulphur cinquefoil	Potentilla recta	3-Contain
Tall hawkweed	Hieracium piloselloides	3-Contain
Wood sage	Salvia nemorsa	3-Contain
Yellow hawkweed	Hieracium pratense	3-Contain
Yellow/common toadflax	Linaria vulgaris	3-Contain
Burdock species	Arctium spp	4-Strategic Control
Canada thistle	Cirsium arvense	4-Strategic Control
Chicory	Cichorium intybus	4-Strategic Control
Dalmatian toadflax	Linaria dalmatica	4-Strategic Control
Diffuse knapweed	Centaurea diffusa	4-Strategic Control
Dodder	Cuscuta spp.	4-Strategic Control
Knapweed species	Centaurea spp.	4-Strategic Control
Oxeye daisy	Leucanthemum vulgare	4-Strategic Control
Spotted knapweed	Centaurea biebersteinii	4-Strategic Control




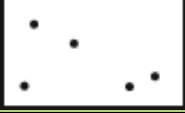





Categories of Invasive Plant for Prioritization

Criteria for LRISS

Based on the Sea to Sky's criteria with some changes to management approach.

Priority	Category	Definition	Management Approach
1	Prevention Watchlist	These species are not yet found in the region, but could be found in neighbouring areas or are considered likely to arrive soon.	Alert or Watchlist species, focus on education & awareness with the goal of prevention. If prevention fails, and these species are detected where they were previously not known to occur, the goal is immediate eradication following an EDRR protocol (<i>Note: LRISS will be developing an EDRR protocol</i>).
2	Eradicate	These species exist in the region, but with very limited distribution. Eradication is feasible.	Eradication is the goal. These species are the highest priority for planned annual control programs.
3	Contain	These species are abundant in certain portions of the region, but have not yet infested all potential habitats.	Containment to the current location and/or distribution. Preventing or reducing access to areas with invasive species infestations is also a strategy employed in containment. Treatments would generally only occur within the containment boundary if sensitive sites or unique resources were at risk.
4	Strategic Control	These are widespread species that are beyond landscape-level control and/or have relatively low impact.	The goal of management efforts for these species is to protect site-specific values or assets. Land managers may choose to treat these species at sites they deem valuable to protect (e.g. wildlife habitat, corridors of spread, agricultural land etc.) based on specific land management objectives. Some of these species have biological control agents available.
5	No Action	These are widespread species, where site-scale control is ineffective or futile; and/or these species have relatively low impact. Lost causes.	Not included in control programs. Education only (e.g. do not plant in gardens).
6	Insufficient Information	There is insufficient information for these species on their distribution, impacts, potential for spread and/or feasibility of control. Not enough information to assign a management category.	Carry out inventory if required, monitor known locations, and/or access more information from other regions.

Appendix 3. IAPP Density & Distribution Codes

Invasive Plant Survey - Distribution Codes		
Code	Image	Description
1		Rare individual, a single occurrence
2		Few sporadically occurring individuals
3		Single patch or clump of a species
4		Several sporadically occurring individuals
5		A few patches or clumps of a species
6		Several well-spaced patches or clumps
7		Continuous uniform occurrence of well-spaced individuals
8		Continuous occurrence of a species with a few gaps in the distribution
9		Continuous dense occurrence of a species

Invasive Plant Survey - Density Codes	
Code	Description
1	$\leq 1 \text{ plant/m}^2$ (Low)
2	2-5 plants/m^2 (Med)
3	6-10 plants/m^2 (High)
4	$>10 \text{ plants/m}^2$ (Dense)

Appendix 4. Examples of Print Resources

Áma síqswa Its7a tsítcwkalha. Welcome to our home. When travelling through the Bridge River Valley, please respect the nature, the places and the people. **Here is our Visitor Code of Conduct. Please recreate responsibly.**

KEEP WILDLIFE WILD AND YOURSELF SAFE

Wildlife can be anywhere at any time.

Respect pet restrictions and use a leash for pets if and when they're allowed.

Carry bear spray. Make noise – sing and talk loudly.

Respect areas where motorized vehicles (ATV's, snowmobiles, dirtbikes, etc.) and motor boats are banned.

Don't feed the wildlife and keep your distance.

Be sure to have the proper license for fishing and hunting.

THINK BEFORE YOU LIGHT A FIRE

Wildfires are a serious threat to our communities and landscapes.

Never leave a campfire unattended and put your campfire out completely when you leave. Ashes should be cool to the touch.

Check for and respect fire bans.

If you smoke, make sure your butts are fully extinguished and dispose of them in designated waste facilities.

PREPARE FOR ALL ADVENTURES

If you're new to a sport or to the region, consider hiring a certified guide for hiking, biking, skiing, snowmobiling, paddling, AT/ing and fishing. Take a course or some training.

Wear appropriate footwear and clothing and be prepared for sudden weather changes on the water and in the mountains in **ALL** seasons.

Avoid risking your life for a selfie.

Be avalanche aware and always carry the safety gear.

Always let someone know your plans before adventuring into the wild.

Follow the 3 T's – Trip-planning, Training and Taking the essentials.

Be prepared with food, water, maps and first aid supplies.

There is no cell service in the Bridge River Valley.

Whenever possible, travel with a companion.

RESPECT TRAIL ETIQUETTE

Stay **ON** the trail and share the trail with other users and wildlife.

Keep motorized vehicles to designated motorized trails only.

Be friendly with people you encounter on the trail.

Cyclists yield to everyone and hikers yield to horses.

Did you enjoy the local trails? Consider making a donation to the Bridge River Valley Association: bridgerivervalley.ca

DRIVE CAREFULLY

Respect speed limits.

Keep the noise of all motorized vehicles at a minimum.

Some Forest Service Roads are active logging/mining roads. Be informed and yield to trucks.

Share the road with cyclists and pedestrians.

Ensure your vehicle is equipped for the journey before setting off (such as 4x4, high clearance, and winter tires) and check driving conditions before you hit the road: drivebc.ca isurvivedthehurley.com

RV's and slow vehicles can pull over to let others pass on windy roads and uphill.

RESPECT EVERYTHING LOCAL

Respect and honour Indigenous Peoples as stewards of the land and waters you are travelling through.

Support local shops and businesses.

Respect private property, including private parking spaces.

CAMP RESPONSIBLY

Only camp in designated camping areas.

Keep a clean campsite.

Respect quote hours and other rules. Dig a cathole for human waste.

STOP THE SPREAD OF INVASIVE SPECIES

Ensure vehicles, trailers, boats, bikes and boots are cleaned, drained and dried before and after visiting an area.

Take only pictures and leave the local flora in its natural habitat. Visit Iriss.ca

KEEP THE ENVIRONMENT AND THE COMMUNITIES CLEAN

Pack out what you pack in.

Reduce, Reuse & Recycle.

Minimize single-use plastic.

Whenever available, use public washrooms and outhouses.

Clean up after your pets.

Pack out all your waste and dispose of it into designated wildlife-proof garbage containers.

ASK IF YOU DON'T KNOW

Information is the key to be a responsible visitor. Local people are friendly and knowledgeable. Stop in at the local Visitor Centre located at the Haymore Heritage site in Gold Bridge.



POST RESPONSIBLY

Be mindful when posting on social media and consider the potential impacts that rapidly increased use can have on our wild places. Turn off your geotagging or use a generic location tag such as a community / business.

Source: Adapted from Kootenay Rockies Responsible Tourism Guide.

Thank you for being a responsible visitor!

Invasive Species Facts

Tree-of-Heaven

Ailanthus altissima



Photo Credit: Robert Videki, Doronicum Kft., Bugwood.org

General Information: The common name, Tree-of-Heaven, refers to its towering height. It can grow over 20 meters tall. The Tree-of-Heaven is native to China and introduced to North America as a garden ornamental. It grows along roadsides, lakeshores, gardens, empty fields and forest edges. It blooms in late spring, creating small, cone-shaped clusters of flowers that turn to red seeds. The seeds are flat, papery and twisted. It reproduces by seeds, roots and suckers. A single plant can produce 325,000 seeds per year. It will also sprout from cut stumps and root fragments. Seeds can remain viable in soil for 1-2 year. Seeds can disperse by wind, water, birds and farm equipment.

Other Common Names: Chinese Sumac, stinking sumac, varnish tree, stink tree, paradise tree

Bark



Photo Credit: Annemarie Smith, ODNR, Division of Forestry, Bugwood.org

Flowers are produced by male & female trees. They are small & yellow-green, in loose cone-shaped clusters.

Bark is smooth, grey, with shallow, diamond-shaped fissures on older trees. It looks like the skin of a cantaloupe.

Flower



Photo Credit: Jan Samanek, Phytosanitary Administration, Bugwood.org

Leaves



Photo Credit: Richard Gardner, Bugwood.org

Photo Credit: Richard Gardner, Bugwood.org

Leaves are 3-15cm long each with 10-25 leaflets. Leaflets have smooth edges except near the base where there are 1-3 rounded teeth. When crushed, leaves have an unpleasant smell like burnt rubber or peanut butter.

Seeds



Photo Credit: Chuck Bangeron, University of Georgia, Bugwood.org

Female flowers develop a single seed in the middle of a papery wing up to 5cm long.

Impacts & Risks



Tree-of-Heaven poses risk to the agriculture industry, infrastructure, and human health. The Tree-of-Heaven has an aggressive taproot system that can damage sidewalks, streets, sewers & foundations. It has a sap that can be a skin irritant to people. It is very competitive and will easily take over areas creating dense thickets. Tree-of-Heaven is the preferred host of the Spotted Lanternfly. Spotted Lanternfly is an invasive insect that will damage up to 70 kinds of plants including vineyards and orchard trees.

Spotted Lanternfly



Photo Credit: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

How You Can Help

- Review your property regularly for this species.
- Treatment: Remove small patches before it flowers & sets seed.
- Cover bare patches or disturbed soil by planting or seeding with non-invasives.
- Check areas where you have removed invasives for any new plants that year and in future growing seasons.
- Dispose of invasive plants responsibly. Bag them for disposal at the local landfill. Composting and burning are not recommended.
- Contact LRISS for specific treatment recommendations.

Look Alikes for Tree of Heaven

Japanese Walnut (*Juglans ailanthifolia*) – To distinguish, note that Tree-of-Heaven has 1 – 3 coarse teeth at the base of each leaflet & a noticeable gland on the underside of each tooth.

Staghorn Sumac (*Rhus typhina*) – Staghorn Sumac leaves are odourless. Tree-of-Heaven leaves produce an unpleasant odour when crushed.

Smooth Sumac (*Rhus glabra*) – Smooth Sumac leaves do not have an unpleasant odour & have serrated/toothed leaves while Tree-of-Heaven leaflets are smooth.

References: E-Flora BC <https://linnet.geog.ubc.ca> Okanagan
Invasive Species Online <https://www.oiso.ca> Fire Effects
Information System (FEIS) <https://www.fs.fed.us>
Washington State Spotted Lanternfly Brochure 2020



Appendix 5. LRISS Financial Reports

Lillooet Regional Invasive Species Society Balance Sheet As at Mar 31, 2023	
ASSET	
Current Assets	
Gaming Equity Shares	6.74
Gaming Bank Account	21,023.02
Chequing Equity Shares	6.96
Plan 24 Savings Account	2,175.21
Chequing Bank Account	41,648.00
TOTAL CASH	64,859.93
Total Current Assets	64,859.93
TOTAL ASSET	64,859.93
LIABILITY	
Current Liabilities	
Accounts Payable	7,736.49
Collabria Visa #4753 Payable	256.20
WCB Payable	15.66
GST Rebates Receivable	-2,677.97
GST Owing (Refund)	-2,677.97
Total Current Liabilities	5,330.38
TOTAL LIABILITY	5,330.38
EQUITY	
Retained Earnings	
Retained Earnings	4,245.69
Current Earnings	55,283.86
Total Retained Earnings	59,529.55
TOTAL EQUITY	59,529.55
LIABILITIES AND EQUITY	64,859.93
Generated On: Apr 21, 2023	

Lillooet Regional Invasive Species Society Income Statement Apr 01, 2022 to Mar 31, 2023

REVENUE

Revenue from Funding

Admin Revenue from MOTI	3,500.00	\$16,060.00
Admin Revenue from Feds - MOE	5,000.00	
Admin Revenue from HCTF	500.00	
Admin Revenue from BC Hydro	500.00	
Admin Revenue from SLRD	3,200.00	
Admin Revenue from MOFLNRO	3,360.00	
Habitat Conservation Trust Fund	4,900.00	
Deferred Revenue	28,642.98	
MOFLNRO - COORDINATION	14,000.00	
MOFLNRO - OPERATIONS	28,000.00	
MOTI	35,000.00	
BC Hydro	6,000.00	
SLRD Area B	30,000.00	
SLRD Service	32,142.50	
Feds - MOE	47,050.00	
BC Gaming Grant	21,000.00	
Canada Summer Jobs	9,719.32	\$4,866
GST Rebates	2,677.97	\$0.00
Lillooet Naturalists Society	1,000.00	
Net Funding Revenue	<u>276,192.77</u>	<u>\$252,588.80</u>

Note: This is the actual funding received.

Other Revenue

Bank Interest Revenue	2.81
Donations	5.00
Total Other Revenue	<u>7.81</u>
TOTAL REVENUE	<u>276,200.58</u>

EXPENSE**Operating Expenses**

El Expense	953.00	
CPP Expense	2,177.39	
WCB Expense	74.62	
Vac Expense	1,705.88	
Accommodation	294.06	
Accounting	682.50	
Advertising	4,294.52	
Equipment	9,377.81	
Fees, Licenses, Permits	4,622.29	
Meals	506.66	
Meeting Expenses	378.09	
Mileage - kms	3,441.96	
Office and Outreach	3,360.23	
Office Rent	1,200.00	
Sample Courier Fees	115.08	
Deferred Expenses fr Previous Year	2,421.66	
Admin Expense to Funders	16,060.00	
Subtotal		46,754.86
Total Operating Expenses		<u>51,665.75</u>

Wage Expenses

Wages: Coordination-Communication	7,561.50	
Wages: Coordination - Meeting	10,472.00	
Wages: Coordination - Planning	14,227.50	
Wages: Education & Awareness	37,161.50	
Wages: Inventory	21,680.75	
Wages: Treatment	4,572.75	
Wages: Monitor	2,236.25	
Wages: Data Entry	882.00	
Wages: Funding - Coordination	9,890.56	
Wages: Funding - Grants	1,816.67	
Wages: Reporting	2,845.50	
Wages: Survey	3,589.50	
Wages: Employee Training	5,225.96	
Wages: Data Management	3,086.00	
Wages: Contract - Inventory	1,575.00	
Wages: Contract - Treatment	32,775.88	
Wages: Contract - Data	4,000.00	
Wages: Stat Holidays	1,309.54	
Wages - Reallocated	4,342.11	Plus 511.21 of MERCs
Wages - Subtotal		<u>169,250.97</u>
Total Wage Expenses		<u>169,250.97</u>
TOTAL EXPENSE		<u>220,916.72</u>
NET INCOME		<u>55,283.86</u>

Generated On: Apr 17, 2023

Appendix 6. In-kind Contributions Summary 2022-23

Lillooet Regional Invasive Species Society: 2022-23 In-Kind Contributions

Volunteer or Organization	Activity or Resource	Estimated number of hours	Rate (if applicable)	Estimated Value
Earth Day Event	Director Spencer	2	\$27	\$54.00
Lillooet Naturalist Society	Weed Pulling	3	\$27	\$81.00
Public	Weed pulling or removal.	2	\$27	\$54.00
Public - Christina Timms	Reporting & photos of Tree-of-Heaven	3	\$27	\$81.00
Lillooet Agriculture & Food AGM	Organize event	1	\$27	\$27.00
Wixsten, xaxil p, Ts'kw'aylaxw, Sekw'el'was, T'it'q'et, Tsal'alh, St'át'imc Government Services, Lillooet	Organizations posting monthly newsletters	42	\$27	\$1,134.00
District of Lillooet - BRLN Features with invasive species segment (June, July, October)	Advertising info cost	2	\$50	\$100.00
District of Lillooet	Invasive Species information to DOL site	1	\$25	\$25.00
Lillooet Library	Organize youth events	8	\$22	\$176.00
Lillooet Off Road Cycling Association Bike Rodeo	Event Organization	5	\$27	\$135.00
Timber Supply Area Partner Meetings	Meeting Organization	1	\$27	\$27.00
McKay Creek Fire Restoration Meetings	Meeting Organization	14	\$30	\$420.00
Plankton Tow nets	Plankton Tow nets	2	\$0	\$1,200.00
TOTALS		86		\$3,514.00

Category	Amount
Events	\$839.00
Treatment	\$216.00
Outreach	\$1,259.00
Equipment	\$1,200.00
	\$3,514.00