

LILLOOET REGIONAL INVASIVE SPECIES SOCIETY: 2012 REPORT



Summary of Activities

The Lillooet Regional Invasive Species Society's main program areas include Field work, Education & Outreach, Data Management, Funding, and Coordination.

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Table 1.0: Summary of Roads Inventoried and Total Kilometers.

Name of File	Total Km's Surveyed
5 Mile Ridge	7.8
Blowdown	10.2
Bralorne	11.3
Bridge River (Downton) FSR	38
Carpenter South	12.1
CN Tracks North	72
CN Tracks South	55.8
Della Creek	10.4
Duffy Lake (Hwy 99S)	58.5
Gun Lake	17.3
Highline Road	27.6
Hurleys	35.9
Kingdom Lake	24.5
Marshall FSR	53
Mission Mtn	14.1
Pavilion-Clinton Kelly Lake	26.1
Texas Creek	34.7
Tyughton	17.2
West Pavilion	116
Yalakom	30.55
	673.05

FIELD SEASON 2012

Our 2012-2013 field season exclusively worked on invasive plant survey and inventory in order to build on the sites already created in the Ministry of Forests, Lands and Natural Resource Operations' (MoFLNRO) Invasive Alien Plant Program (IAPP). Information about the potential for other invasive species in our region was completed and is discussed below.

Invasive Plant Inventory

The Lillooet Regional Invasive Species Society (LRISS) completed our first year of inventory. Approximately 40% of our program funding was spent on inventory. We completed invasive plant surveys only according to the MoFLNRO's guidelines. This included cursory and operational inventory methods. The operational inventory sites were inputted into IAPP managed by MoFLNRO. We covered 673.05 kilometers (km) of road in the 2012 field season. The total hectares surveyed were 226.6174. A total of 160 new sites were entered into IAPP and covered 25.1957 of the total hectares. There were 732 sites in IAPP in our region. The remainder of the hectares was cursory surveys along roadsides. Table 1.0 indicates the roads that were covered and the number of kilometers on each road.

Five of the Ministry of Transportation and Infrastructure's (MOTI) gravel pits were also inventoried. They included Chenault, Camoo, Devil's Canyon, Downton and Jones' Creek. The gravel pits were surveyed for invasive plant species on the gravel pit features. These features included access roads,



buildings/structures, product stock piles, spoil piles, quarry extraction areas, vehicle parking, storage areas, pit edge and pit internal areas. Due to the very nature of the operations in gravel pits, invasive plants can readily establish on these features because of the high frequency of disturbance. The movement of material out of the pit can also cause the spread of invasives to other areas.

Species of Concern

As a result of our field work, there are invasive plant species of concern for each zone in the LRISS area of interest. Table 2.0 lists the species of concern in each region. The regions are shown in Map 1.0 below. This information will guide us for future treatment and inventory.

2.0 Species of Concern in LRISS zones.

Zone	Primary Species	Secondary	Tertiary
Cayoosh	Orange Hawkweed	Hoary Cress	Scentless Chamomile
Connel-Lost	Japanese Knotweed	Orange Hawkweed	Tansy Ragwort
Bridge Bendor	Orange Hawkweed	Yellow Toadflax	Scentless Chamomile
Chilco	Hound's Tongue	Dalmatian Toadflax	Oxeye Daisy
Yalakom	Blueweed	Sulphur Cinquefoil	Scentless Chamomile
East	Blueweed	Leafy Spurge	Hoary Cress

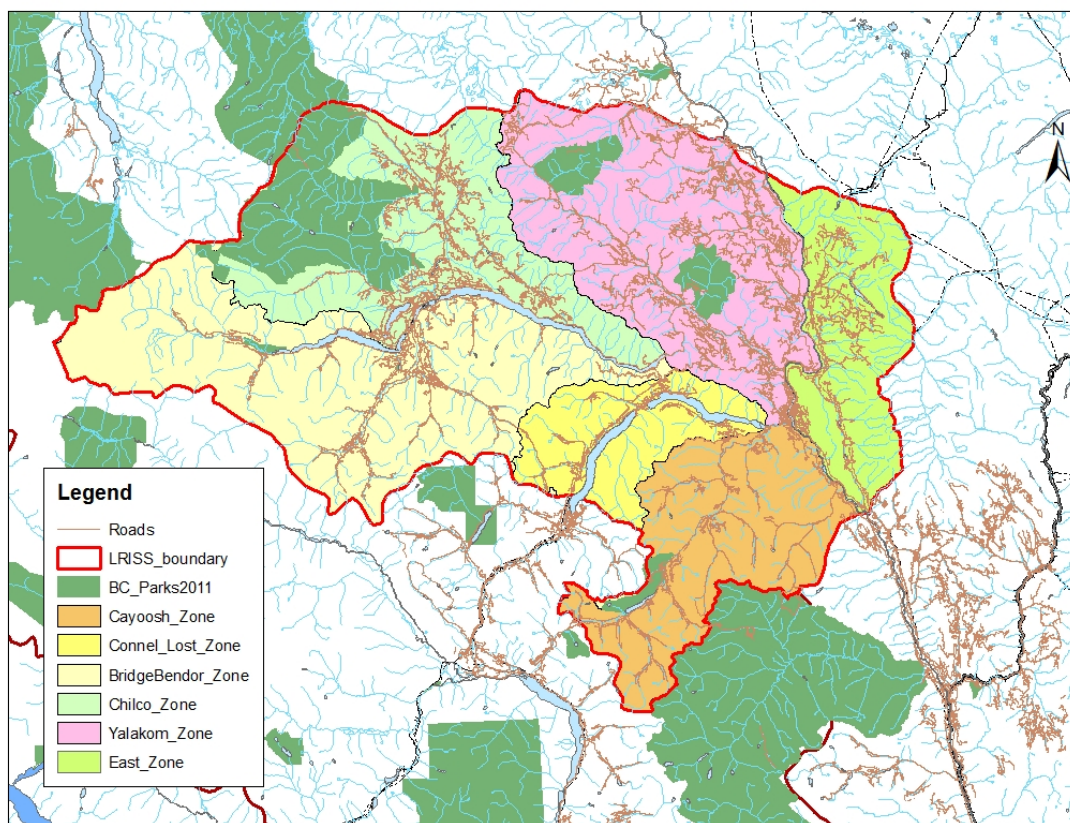
Invasive Plant Treatment

Treatment of specific infestations was very limited this year. We concentrated on invasive plant inventory and if there was a small patch or a few individuals of a species that was not widely distributed in a particular region. Overall we treated 0.8578 of a hectare. The number of treatment sites entered into IAPP totaled 29.

There are some sites where we are considering the use of chemical treatment as an option. The LRISS Board has previously decided to honor the St'at'imc Chief's Council memorandum on the use of herbicides. In order to use herbicides, each case must be presented to the Chief's council for consideration. If the Board is in agreement, the requests will be presented with all of the pertinent information to the council.

LRISS is also preparing a plan to treat a Japanese Knotweed site on the west beach of Seton lake near the private cabins. First Nations, the District of Lillooet, Squamish-Lillooet Regional District, Department of Fisheries and Oceans as well as the BC Ministry of Environment will be involved as we choose treatment options and implement the plan.

Map 1.0 LRISS Area of Interest – 6 Zones



INVASIVE SPECIES

LRISS acknowledges other invasive species that have the potential to invade our region. The coordinators have sought out information from the experts in their field on many species in order to assess the risk of invasion and a better understanding of the species habitat and impacts. Information was collected on the European Fire Ants (*Myrmica rubra*), Eastern Grey Squirrel (*Sciurus carolinensis*), agriculture invasive insects & disease and Zebra & Quagga Mussels.

Dr. Robert Higgins from Thompson Rivers University visited our area and our coordinator Odin Scholz attended his presentation and field visit. Fortunately our risk to invasive is minimal because it is known to occur in areas where annual rainfall exceeds 1000 millimeters and the mean annual temperature is 6 degrees Celsius. Lillooet's annual rainfall and temperatures are considerably less than these habitat requirements. Dr. Higgin's website gives a comprehensive description of the ant, its habitat and impacts (http://faculty.tru.ca/rhiggins/myrmica_rubra_index.htm).

The Eastern Gray Squirrel was first introduced to Stanley Park in Vancouver in 1909 and has spread into other areas of BC. LRISS has not had any reports of this species of squirrel to our knowledge. It has been found in the Sea to Sky Invasive Species Committee's (SSISC) region and they have implemented a trapping program to eradicate the species. Dr. Karl Larson from the Thompson Rivers University has a website that details the squirrel's appearance, habitat and impacts (<http://www.introsquirrel.ca/squirrel.html>). The squirrel has been found in the Kamloops area according to the site but how it got there is still a mystery. Jacquie

Rasmussen, an LRISS coordinator, spoke with Dr. Larson and in his opinion our area has a low risk to invasion because the squirrel is likely to establish in areas with deciduous forests. The Eastern Gray Squirrel will continue to be on the LRISS radar because the current infestations are in both the SSISC's region and the Kamloops area. Both of these areas border the LRISS region.

There is a host of insect and diseases that are invasive to agriculture products like fruits and vegetables. The LRISS coordinators have connected with Tracy Hueppelsheuser of the Ministry of Agriculture. She is the Entomologist in the Plant Health division and the expert in this field. If there are any reports or questions regarding invasives putting agriculture products at risk in our region, we will contact Ms. Hueppelsheuser for advice.

Zebra and Quagga fresh water mussels are an Early Detection and Rapid Response (EDRR) species for British Columbia. These species can have extreme impacts to aquatic infrastructure. They clog pipes and cause



Eastern Gray Squirrel

Source: oldislandpestcontrol.com



European Fire Ant



Zebra (top) & Quagga Mussels (bottom)

Source: nas.er.usgs.gov

thousands of dollars of damage to industry in the United States. Our region has many dams and if infested with these Mussels could cause similar damage and impacts. Education and prevention of the mussels is a priority for our region. As described below, 2 docks in the Lillooet region were included in a provincial program lead by the Invasive Species Council of BC called Clean, Drain, Dry. LRISS will continue the education process that was started with this program in efforts to prevent these mussels from establishing in our local lakes and rivers.

EDUCATION AND OUTREACH

LRISS focused on presentations, training, advertising and community events. The majority of our outreach was driven by requests from local community groups and First Nations. In Lillooet, there are many organizations and groups that have been involved with invasive species management for many years. There is also no shortage of community events and programs in which LRISS can participate in order to reach a wide variety of audiences and individuals. The LRISS coordinators also participated in educational forums to stay abreast of current invasive species management research and knowledge. Table 3.0 lists the outreach and education that was completed in the 2012-2013 fiscal year and the approximate number of people reached as a result.

LRISS is currently developing a website which will link to social media like Facebook and Twitter. This will further enhance our networking and communication for educational purposes.

Photos of Outreach Activities



Walking with the Smolts Puppet Show



Seedy Saturday Display below.



Table 3.0 LRISS Outreach and Education 2012-13

Education & Outreach Event	#'s
Wildfire Management Branch - Lillooet Fire Zone: Invasives and Fires Presentation	50
Walking with the Smolts - Nature Outreach Day: Puppet Show	300
Farmer's Market Display for Invasive Species Week	75
Library Display - weed of the week.	200
Graymont Mines and Ts'kw'aylaxw First Nation presentation	6
Kids Summer Nature Camp	25
District of Lillooet Delegation	15
Bridge River Stewardship Foundation Field Presentation / Training	6
Xaxli'p FN - Forestry Department and Range riders Presentation	6
Fall Nature Camp Display - Lillooet Naturalists	50
Aquatic Invasives Presentation for St'at'imc Fisheries Forum	30
Lillooet Livestock Association Fall Meeting	15
Seedy Saturday	100
Lillooet Livestock Association Spring Meeting	12
Publications	#'s
4 Advertisements Featuring: "Weed of the Week" in the Bridge River Lillooet News. Approximate readers 2000.	2000
Educational Forums	
Participation in neighbouring region's AGM's and Forums: Southern Interior and Sea to Sky	
Summer Field Tour for Weed Committee Coordinators	N/A
Southern Interior Weed Committee Workshop: Goats Eat Weeds	
Invasive Species Council Educational Forum	
Zebra & Quagga Muscle Aquatic Invasive Species Workshop	
Fraser Basin Council Eurasian Watermilfoil Workshop	
TOTAL # of People reached (estimated)	2890

DATA MANAGEMENT

Data management consisted primarily of the review and input of data in MoFLNRO's Invasive Alien Plant Program. It is accessed online by our committee coordinators. It shows invasive plant sites, biocontrol release sites as well as treatment of sites (chemical, biological or mechanical). This data can be queried by site or by species for a specific geographical region. It also has an accompanying map view program that allows you to see where the sites are located in British Columbia and within the LRISS boundaries.

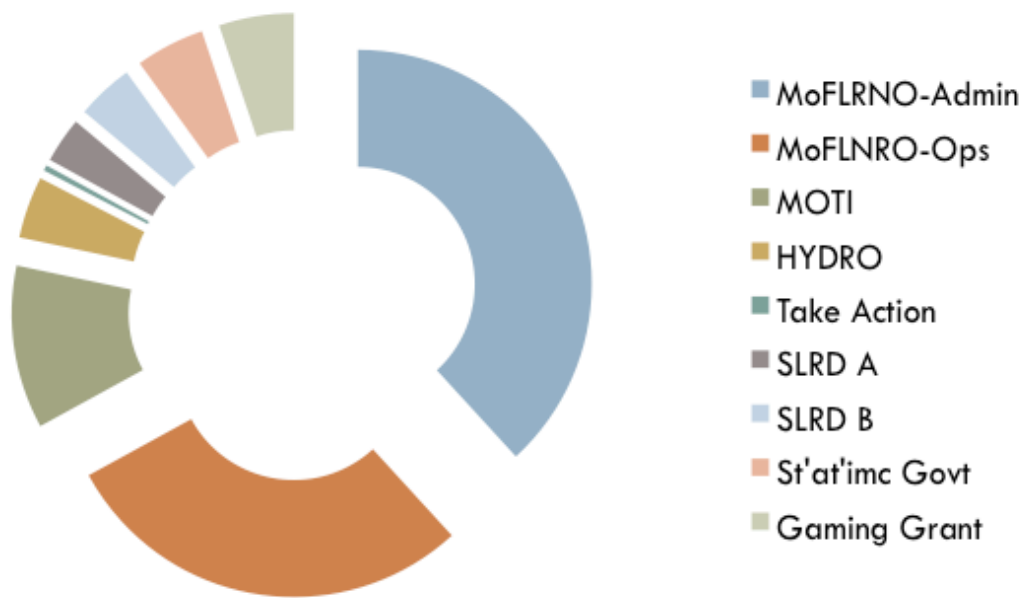
As mentioned above in the Inventory section, 189 sites were entered in total for the 2012 field season. Of these sites, 160 were operational inventory sites and 29 were mechanical treatment sites.

Maps were created from IAPP and from our field data. We needed to download maps from IAPP to see where current sites were located in the system so we did not replicate sites in the field. We were also able to monitor some sites based on this information. We used Global Positioning System (GPS) units to collect point and polygon data. This information has been used to make maps of sites. We used the GPS units to map Gravel Pit features when we inventoried gravel pits.

FUNDING

Under the program heading "Funding," this includes all activities related to the management of funds and acquisition of funds. LRISS coordinators are responsible for applying for all operational funds as well as to track expenditures. The LRISS treasurer manages the bank accounts and keeps a ledger of all expenditures as well.

Graph 1. Percentage of Expenditures by Funder



In the 2012-2013 Fiscal year, LRISS successfully acquired \$71,850 for its program. Funding came from the MoFLNRO (2 grants: Administration & Operation), MOTI, BC Hydro, ISCBC (Take Action), SLRD (Areas A & B), the St'at'imc Government Services and BC Gaming. Graph 1 shows the percentage of expenditures by funder.

The majority of our program funds were spent in the field for inventory and treatment (~40%) and for coordination (~40%). Twenty percent (20%) of our expenditures were for the program area of Education and Awareness.

COORDINATION

Approximately 40% of the LRISS budget was spent on the coordination of LRISS activities (the same % as the inventory). The coordinators were responsible for this exclusively and included all of the communications, networking and administrative duties. It is the coordinators' responsibility to keep the LRISS board informed of not only the local workplan, but of regional and provincial initiatives. Every month, there is a conference call for all of the coordinators in the province. Participation in these calls allows the coordinators to learn about other regions and their programs. Representatives from the Invasive Species Council of BC and MoFLNRO also give updates on these calls. Table 4.0 summarizes the activities that the coordinators complete under this program heading.

Table 4.0 Coordination Activities

Workplan Development	Website Development
Inventory of Supplies	Equipment/Supply Purchase
Budget Development	Display Development & Creation
Participation in meetings: MoFLNRO, Livestock, adjacent Weed Committees, Local Gov't, Weed Committee Working Group	ISC Take Action program
Board Meeting Coordination	Strategy Development
Stakeholder Communication/ Networking	Referral response (eg. Forest Management Plans)
Invasive Species Information Research	Treatment Options Research
Presentation Preparation	Funding Research / Acquisition
Report to Funders	Communications
Requests for Information	Logo Campaign

INVASIVE SPECIES COUNCIL OF BC PROGRAM: TAKE ACTION

The Invasive Species Council of British Columbia (ISCBC) initiated a pilot program last year aimed at changing behaviour with regard to the spread of aquatic invasives. There were two boat launches in the LRISS that were included in this program: Pavilion and Seton Lakes. The program was managed by the Southern Interior Weed Management Committee and took a unique approach to outreach and education concentrating on aquatic invasive species like Zebra & Quagga mussels and Eurasian Watermilfoil. Crews were stationed at the boat launches and took two levels of approach: low and high intensity interactions. Low intensity was primarily observation of boaters at the launch and recording their behavior. The main question and slogan for this program was: Did the boat owner “**Clean, Drain, Dry**” their boat? The high intensity interactions involved the crews approaching boat owners with a survey and asking them to commit to the “Clean, Drain, Dry” action. This interaction included questions about their level of knowledge about aquatic invasives in addition to the actions (if any) they do to prevent the spread of invasives.

The 2012 results for the Pavilion and Seton boat launches indicated that the Pavilion launch had very little traffic and the initial baseline measurements were hampered by the spring wildfire. This also meant that Seton didn't get a baseline measurement because the visits to both boat launches were always done together on the same day. There was only one interaction at Pavilion launch and one written commitment. At Seton there were 7 interactions, 6 verbal commitments, 2 written commitments and 8 post-measurements observations completed. The summary document from ISC also indicated that there was one boat identified from Washington at the Seton Boat launch.

Currently, the only aquatic invasive that we know about in the LRISS region is Didymo or “rock snot” confined to the Seton lower spawning channels. This makes it very important to concentrate on education, awareness and prevention. The fact that there was a boat from Washington at Seton makes the prevention message even more important. The United States have Zebra and Quagga muscle infestations and many states have mandatory boat inspection stations. The Canadian US Boarder does not have this level of inspection. If we want to keep our area free of aquatic invasives, our program will need to include a prevention plan.

EQUIPMENT

Field equipment was purchased in preparation for our 2013 field season. An Ipad was acquired in order to collect data in the field. The Ipad will allow us to download maps for navigation and site location. It is our goal to reduce the amount of paper that we use by collecting all field data with the Ipad. Other resources purchased to help with mechanical treatment included: shovels, weeders, trowels and pruners. A portable truck radio was purchased with the local channels for safety while travelling active logging roads.

ONGOING PROJECTS

The coordinators, with support from the Board of Directors, have been working on several ongoing projects and relationship building. The following is a list of these initiatives:

- Invasive plant management on the Canadian National Railway right-of-way. A request for funds has been submitted (December 2012) and CN has acknowledged the receipt of this request. To date, there has been one conversation with CN's Arwa Hozaima asking for details about potential treatment options on the tracks along Seton and Anderson Lakes. No other communication has come from Ms. Hozaima about treatment options. LRISS coordinators continue to pursue the opportunity to discuss management options and resources with CN.
- Invasive plant management in the District of Lillooet (DoL). A request for funding from the DoL was presented at a Council meeting and was denied. This meeting did create an action for the District Engineer to meet with LRISS coordinators to start the discussion about invasives and the DoL's role. A meeting with LRISS coordinators, DoL Engineer and his assistant did occur and several training sessions were requested by the DoL for their staff and summer crews. LRISS Board of Directors decided that it would be beneficial for the LRISS coordinators to agree to 2 training sessions: one for the staff and one for the summer crews. The staff presentation took place on April 30, 2013 and the summer crew training will occur in June. LRISS also made a request to the DoL for a representative on our Board of Directors. Wayne Robinson, Director of Recreation, has volunteered to be the DoL representative (not an official Board member). LRISS will continue to pursue funding opportunities with the DoL and cooperative invasive species management with Wayne's assistance.
- Japanese Knotweed Treatment at the Seton Lake Beaches. Several locations of Japanese Knotweed have been reported in the LRISS operational area. The majority of the locations are in private gardens. There is a site at the Seton Lake beach close to other private residences that also have knotweed on their property. In order to treat this site, located at the water's edge, it was essential to contact several stakeholders because overlapping jurisdictions. The primary contacts are the T'it'q'et First Nations, the District of Lillooet and the neighbouring private land owners. Any treatment will be manual because of the site's proximity to water. LRISS coordinators have communicated with the primary contacts in May and this year we will likely cut back any new shoots this year as the first of many rounds of manual treatment.