

COLUMBIA VALLEY LOCAL CONSERVATION FUND (CVLCF) FINAL REPORT 2019

General Instructions

- Final reports must be submitted **by 4:00 pm MT January 31, 2020** to the Kootenay Conservation Program. Email final report to info@kootenayconservation.ca.
- All areas of the final report must be answered.

Section A – GENERAL INFORMATION

1. Project Title (as indicated in application): Strategic Invasive Plant Control of Leafy Spurge (SIPCOLS)

2. Proponent

- a) Legal Name: East Kootenay Invasive Species Council
- b) Organization Registration #: S-53803
- c) Mailing Address: 1902 Theatre Rd. Cranbrook, BC Postal Code: V1C 7G1
- d) Contact: Kendal Benesh, Program Manager
- e) Telephone #: 250-919-7826 f) Fax #: N/A
- g) Email: kendal@ekisc.com

3. Partner (*if applicable*)

- a) Legal Name:
- b) Organization Registration #:
- c) Mailing Address: Postal Code:
- d) Contact:
- e) Telephone #: f) Fax #:
- g) Email:

Section B – PROJECT INFORMATION

1. Project Location: RDEK Electoral Areas F and G
(ie: RDEK area, watershed, direction from major centre, etc)

2. Total Project Value: 19204

3. CVLCF Contribution: 6500

4. Non-CVLCF Contribution: 12704

5. Single or multiple year project: This is year 4 of a 5 year project.

Section C – PROJECT SUMMARY

1. Please provide a single paragraph describing your project, its objective (goals) and the results. As this summary will be used in CVLCF communications, clearly state the issues addressed and avoid overly technical descriptions. Maximum 2000 characters (~290 words).

The objective of this project is to control and prevent the spread of leafy spurge (LS) infestations in RDEK Electoral Areas F and G, including inventory and mapping of existing and new LS sites, and treatment of LS sites within 1km of private property. During the 2019 field season, EKISC coordinated the inventory and treatment of 99 LS sites across high value grasslands and conservation areas in the upper Columbia Valley in collaboration with various stakeholders (RDEK, MFLNRORD, Village of Radium, Canada Wildlife Service). Chemical treatments were delivered in early October using 1,693 L of herbicide mix, covering an area of 8.45 ha. Approximately 10% of treatment sites were monitored to assess treatment completion and herbicide efficacy and all inventory and treatment data were entered into the Provincial Invasive Alien Plant Program database prior to December 1, 2019.

An assessment of 2019 treatment locations indicate that herbicide treatments are continuing to be successful for management of LS by reducing the spread and size of existing infestations, and ultimately supporting healthy ecosystem function in the upper Columbia Valley. Specifically, in 2019, 100% of project site locations in the Columbia Wetlands Wildlife Management Area (CWWMA) were treated – the first time this large of an area has been covered in one year. Site monitoring resulted in a 100% site completion score and a 95% treatment efficacy score. At a site-specific level, we are also seeing successes in long term treatments, i.e., areas where over time the use of herbicide and area treated is decreasing. By managing existing LS infestations, we also are actively preventing the spread and introduction of this species into neighbouring areas. Finally, we are continuing to engage new stakeholders in this project, building support for LS management in the upper Columbia Valley.

2. OPTIONAL: If your project lends itself to sparking interest through a compelling sound bite (for potential use in CVLCF communications), please tell us what that would be. Maximum 1050 characters (~150 words).

Got roots? Leafy Spurge does. This invasive species shoots out an extensive root system as far as 9 metres – about as long as a school bus! If you aren't aware, invasives pose significant threats to food security, human health, and economic development. In the Upper Columbia Valley, Leafy Spurge has infested high value grasslands and conservation areas, and because of its impressive ability to spread far and wide, it's very difficult to manage. EKISC, with support from the CVLCF and local land managers, has inventoried, treated, and monitored these areas for the past nine years in order to reduce direct pressures on biodiversity in the area. This has allowed EKISC to not only make better informed decisions regarding Leafy Spurge management planning for the Columbia Valley, but has also generated successes in raising awareness about Leafy Spurge for land managers and user groups, and has actively operated to reduce the spread of existing populations and prevent introduction of new infestations.

3. Biodiversity Targets (please list, maximum 90 words):

This project works to reduce direct pressures on biodiversity and is related to Aichi Biodiversity Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

This project takes place in upland grassland and open forest ecosystems of the RDEK and includes globally significant components of the Columbia Valley Wetlands.

4. IUCN Threats to Target (please list, maximum 90 words):

Invasive species are recognized as one of the main drivers of biodiversity loss at the global level by the IUCN. In addition to negative environmental impacts, invasive species pose a threat to food security, human health and economic development. This project directly aims to mitigate the negative environmental, social and economic impacts of Leafy Spurge in the Columbia Valley.

Section D – PROJECT DELIVERABLES AND RESULTS

1. Identify the deliverables outlined in your application in the table below (50 words/field) and list the results of each. Please include copies of any relevant communications products (brochures, posters, videos, websites, photos of signage, etc.) resulting from this project. Add an attachment if you need more room.

Deliverables	Results
Site Selection: (a) Generate a list of leafy spurge sites in RDEK Electoral Areas F and G using the Provincial IAPP database, and (b) Identify private properties with leafy spurge and prioritize treatments at sites that are within a 1km buffer.	(a) We generated a list of existing leafy spurge sites in the project area using the Provincial IAPP database. (b) Sites were reviewed and a SIPCOLS site eligibility list was produced based on location (within 1km of private property), treatment records, and available funding.
Coordination: (a) Develop and (b) Present a work plan to Provincial Ministries, the Regional District, local community groups, and other relevant agencies and organizations.	(a) We developed an annual SIPCOLS work plan based on site selection, and available funding from CVLCF and other stakeholders (e.g., Canadian Wildlife Service, Provincial Ministries). (b) We presented this work plan to stakeholders (Canadian Wildlife Service, Ministry of MFLNRORD, Ministry of Transport and Infrastructure).
Treatments: (a) Administer treatment contract to a qualified, experienced herbicide applicator. (b) Complete treatments at sites identified in work plan.	(a) Our SIPCOLS treatment contract was administered to Rob Chemelli at RMC Enterprises. He is a licensed herbicide applicator with significant experience with leafy spurge management. (b) Treatment plans were communicated in Spring 2019. Herbicide treatments were completed by October 15, 2019.
Monitoring & Data Entry: (a) Monitor at least 10% of all treatments to ensure efficacy and site completion is reached, and (b) Enter all inventory and treatment data into the Provincial IAPP database.	(a) At least 10% of contractor treatments were monitored to ensure site completion and treatment efficacy. (b) All inventory and treatment data collected to date were entered into the IAPP database prior to December 1, 2019.
Reporting: (a) Analyze and summarize treatment records, and (b) complete Final Report outlining the goals, objectives, and measures of success.	(a/b) Analysis and reporting on the SIPCOLS project, including an overview of project goals, objectives and measures of success, are complete and will be submitted along with this report (prior to the January 31st, 2020 deadline).
Communications: (a) Press release to local papers highlighting the project and funding support (b) Present final results to all Partners and other relevant Government agencies and organizations and (c) Press release to local papers showcasing project and results.	(a) A project spotlight was included in the EKISC September Newsletter, highlighting the project support of CVLCF and the KCP. (b) Final results are being presented to partners and relevant organizations during seasonal meetings and 2020 work planning sessions. (c) A final press release was completed in January 2020 and run on EKISC social media.

Section E – PROJECT EFFECTIVENESS

1. Please evaluate the effectiveness of the project using objective standards, quantifiable criteria and/or quality control measures identified in your application/proposal. Maximum 2000 characters (~290 words).

To assist with tracking accomplishments and results, EKISC tracks the following measures of success related to this project: (1) Short term success of invasive plant treatments through seasonal monitoring of project sites. Treatments are monitored for efficacy, completion, and response. In 2019, 100% of project site locations in the CWWMA were treated (note: this was the first time this large of an area has been covered in one year). Monitoring resulted in a 100% site completion score and a 95% treatment efficacy score. Treatment efficacy score was not 100% due to the limitation of herbicide selection (currently in BC we do not have access to herbicides that will translocate the entire root length, therefore 95% treatment efficacy is expected). (2) Long term success of invasive plant treatments through annual site monitoring. Treatment and inventory records are collected annually and entered into Provincial IAPP database (includes infestation size, density, herbicide use, etc.). Some long-term treatment sites are resulting in reduced size and density of LS infestations. For example, treatments at Site 324112 within the CWWMA has had a steady decrease in the total treatment area over the last 3 years. Note: not all SIPCOLS project sites have annual funding. Amount of herbicide also depends on application rate. (3) Prevention of new LS introductions. We aim to reduce the spread of LS into new areas within the Columbia Valley through early detection and rapid response and treating known infested areas. Though difficult to quantify, because of successful treatments we anticipate a lower frequency of new LS introductions into project areas. (4) Stakeholder engagement and participation. Success can be measured in the number of stakeholders participating in the SIPCOLS Project. This year, we were able to engage with the Shuswap Indian Band and hope to work with the Lands Department in 2020 on treatments adjacent to reserve lands.

2. What are the top 3 lessons learned from the project that would be important to communicate to others doing similar work throughout the RDEK? Maximum 1050 characters (~150 words).

(1) Due to the nature of invasives, it can be difficult to quantify successes in management actions. LS spreads quickly and can be introduced to new areas easily – so while we work to reduce distribution and density of existing populations, we see the introduction and spread of new infestations. Therefore, our main lesson learned is to ensure that invasive plant management programs set realistic and achievable objectives and goals; ones that can be effectively communicated to stakeholders and project partners. (2) With an increase in inventory and survey efforts, we often see an increase in LS presence and distribution. This again makes it difficult to quantify successes but should be anticipated to help future project planning. (3) Invasives do not know boundaries. This is increasingly important when thinking about management for LS, and why coordinating treatments across stakeholders and landscapes is crucial. For anyone considering invasive plant management, we recommend contacting and engaging with adjacent managers.

Section F – FURTHER COMMENTS

1. Please provide any further comments including recommendations for future conservation efforts. If your project produced a narrative or scientific report or additional project products (e.g. maps, photos), attach them as an Appendix (maximum 90 words).

Please see the following documents:

- SIPCOLS Supplementary Information 2019 for treatment summaries, maps, and future recommendations
- Appendix 1 for 2016 - 2019 chemical treatment records
- Appendix 2 for EKISC SIPCOLS News

Section G – FINANCIAL REPORT

1. Please submit a financial report for the project outlining revenue and expenditures with a comparison to the budget submitted with your CVLCF application. **Use the Final Budget Reporting form provided.** Details on any discrepancies from the budgeted amounts or items are required (maximum 90 words).

There are no major changes from the original proposed budget. Note the RDEK's Neighbourhood Invasive Plant Program does not provide funding to the SIPCOLS Project. The Village of Radium contributed funding to treatment of LS in 2019. This is acknowledged in the budget template.



Proponent: East Kootenay Invasive Species Council

Be sure to identify the specific component(s) of the project allocated to the Columbia Valley Local Conservation Fund. Record them in the "CVLCF Funding" column.

Please remove all green text upon completion of this Budget Form.

[illegible]

Strategic Invasive Plant Control of Leafy Spurge

Annual Report 2019
Supplementary Information



Prepared for:
Kootenay Conservation Program
915 Vernon St., Nelson, BC
V1L 4G7

Prepared by:
East Kootenay Invasive Species Council
1902 Theatre Rd., Cranbrook, BC
V1C 7G1

Date: January 15, 2020



Contents

List of Tables	1
List of Figures	1
Introduction	2
Objectives	2
Management Area	2
Treatment Summary & Project Results	4
2019 Treatments.....	4
Measures of Success	5
Future Recommendations	12

List of Tables

Table 1 Summary of SIPCOLS treatments, project funding, and stakeholder participation.....	4
Table 2 Examples of sites that have received treatment funding since 2016 and are experiencing a trend in decreased infestation size and herbicide use.....	6

List of Figures

Figure 1 Invasive Plant Management Areas (IPMAs) within the Regional District of East Kootenay. Note that IMPA's 1 through 3 are further divided into sub-IPMAs.....	3
Figure 2 Locations of 2019 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.	8
Figure 3 Locations of 2018 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.	9
Figure 4 Locations of 2017 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.	10
Figure 5 Locations of 2017 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.	11



Introduction

The East Kootenay Invasive Species Council (EKISC) is a regional non-profit organization that strives to mitigate the negative environmental, social, and economic impacts of invasive species within the East Kootenay Region. Part of this work includes coordinating the inventory and treatment of invasive species on different land jurisdictions and fostering increased support for invasive species management. As such, EKISC works with various land managers and granting agencies to provide noxious and invasive weed control activities in areas across the Regional District of East Kootenay (RDEK). In 2019, EKISC partnered with the Columbia Valley Local Conservation Fund (CVLCF), a program supported by the RDEK and administered by the Kootenay Conservation Program (KCP) to deliver year 4 of 5 of the Strategic Invasive Plant Control of Leafy Spurge (SIPCOLS) Project.

The overall objective of this project is to control and prevent the spread of leafy spurge (LS) infestations in RDEK Electoral Areas F and G, including inventory and mapping of existing and new LS sites, and treatment of LS sites within 1km of private property. During the 2019 field season, EKISC coordinated the inventory and treatment of LS sites across high value grasslands and conservation areas in the upper Columbia Valley in collaboration with various stakeholders. Chemical treatments were delivered in early October, and treatment sites were monitored to assess treatment completion and herbicide efficacy. Inventory treatment data were entered into the Provincial Invasive Alien Plant Program (IAPP) database.

Project deliverables and results can be found in the completed *CVLCF Final Report template for 2019*. This Supplementary Information document contains supporting material, such as inventory and treatment records and project maps, that help EKISC evaluate the effectiveness of this Project in terms of short- and long-term successes, and stakeholder participation.

Objectives

Specific objectives for 2019 delivery of the SIPCOLS Project include:

1. Inventory and map all known and newly identified LS sites in the project area.
2. Create a comprehensive, multi-stakeholder invasive plant management plan for LS in the Columbia Valley, focusing on areas that are of high habitat value and pose the greatest threat to adjacent land managers (i.e., Wildlife Management Areas, conservation lands, agricultural lands).
3. Treat identified high-priority LS infestations within 1km of private land in the project area. Infestations that are on crown land within 1km of the Columbia Wetlands Wildlife Management Area (CWWMA) were also treated protect the high ecological value surrounding the wetlands.
4. Communicate importance of LS control to stakeholders and community members within the Columbia Valley.

Management Area

Invasive plant treatments occurred within the East Kootenay Region, which has been divided by EKISC into five primary Invasive Plant Management Areas (IPMAs), as shown in Figure 1. The intent of delineating these units is to provide a more localized approach to prioritizing invasive plant species. Invasive plant treatments taking place under the SIPCOLS Project occurred within IPMAs 4 and 5. Several known infestations of LS occur outside of these IPMAs but are treated with other land manager funding.

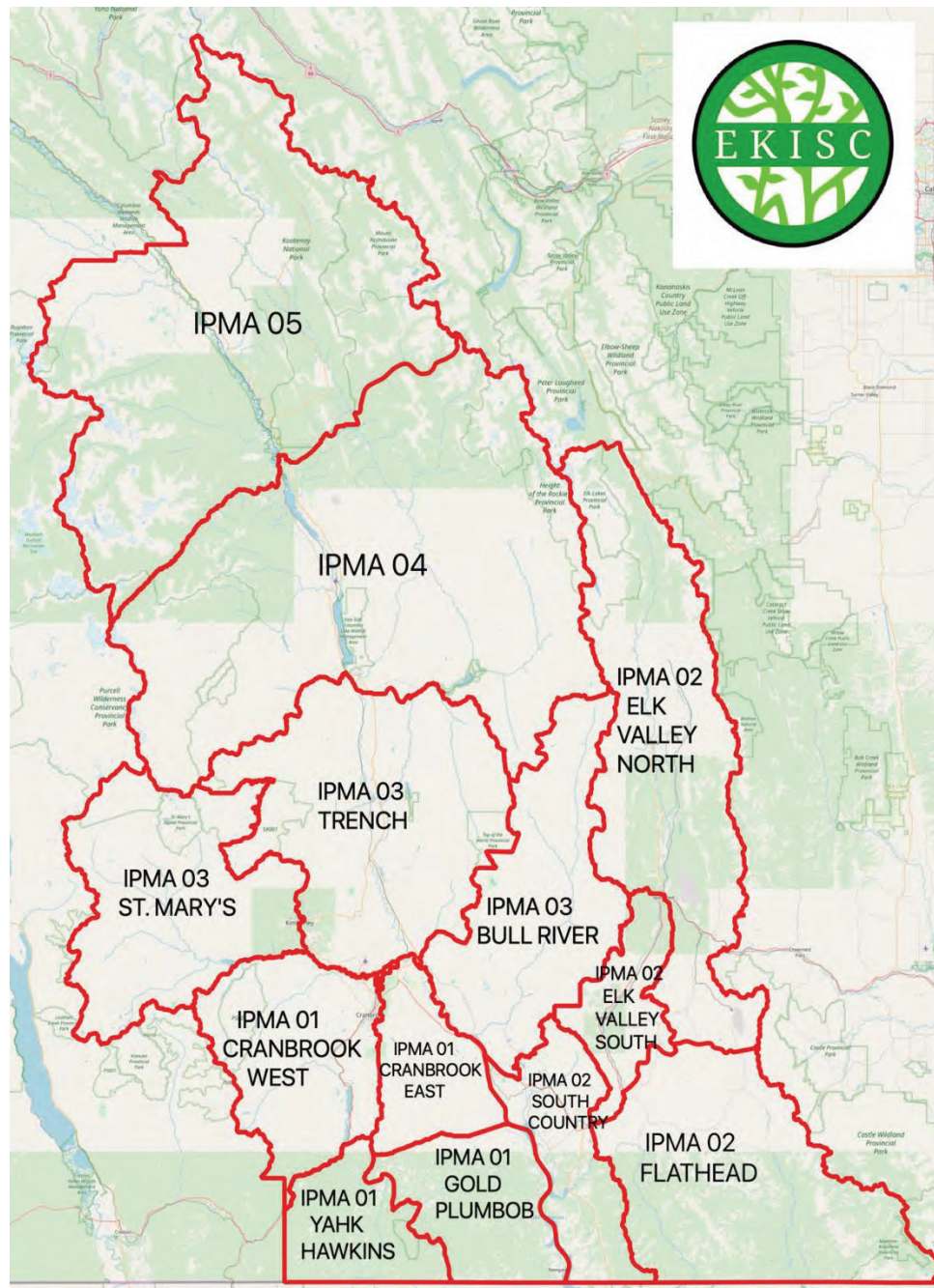


Figure 1 Invasive Plant Management Areas (IPMAs) within the Regional District of East Kootenay. Note that IPMA's 1 through 3 are further divided into sub-IPMAs. The SIPCOLS Project manages LS infestations within IPMAs 4 and 5, within the Columbia Valley.



Treatment Summary & Project Results

2019 Treatments

EKISC combines available information from the Provincial Invasive Alien Plant Program (IAPP) database, previous treatments completed, project and site objectives, existing funding, and adjacent land manager plant management plans to allocate treatment dollars for the SIPCOLS Project. Treatments for LS are typically completed at the same time as nearby treatments to increase efficiency and better utilize a landscape level approach.

In 2019, EKISC coordinated the inventory and treatment of 99 LS sites across high value grasslands and conservation areas in the upper Columbia Valley in collaboration with various stakeholders (e.g., RDEK, MFLNRORD, Village of Radium, Canada Wildlife Service). Chemical treatments were delivered in early October using 1,693 L of herbicide mix, covering an area of 8.45 ha. Table 1 summarizes treatment information, as well as funding levels and stakeholder engagement for the SIPCOLS Project from 2016 to 2019.

A complete extract of all 2019 chemical treatment locations (as well as treatments completed in the years 2016, 2017 and 2018) can be found in Appendix 1: 2016-2019 Leafy Spurge Treatment Data.

Table 1 Summary of annual SIPCOLS treatments, project funding, and stakeholder participation.

Year	Total Funding Allocated to LS ¹	SIPCOLS Funding Provided ²	# LS Sites Treated ³	Amount of herbicide mix used (L) ⁴	Area covered (ha) ⁵	No weed found sites ⁶	Stakeholders Engaged ⁷
2016	\$8,713.54	\$6,838.63	81	1842.35	9.19	20	5; MFLNRORD, MOTI, BC Hydro, CVLFCF, EKISC
2017	\$7,596.86	\$6,500.00	96	896.11	4.41	56	6; MFLNRORD, MOTI, BC Hydro, CVLFCF, EKISC, CWS
2018	\$12,565.00	\$6,500.00	115	1837.68	9.01	16	7; MFLNRORD, MOTI, BC Hydro, CVLFCF, EKISC, CWS, RDEK, Village of Radium
2019	\$19,204.00	\$6,500.00	99	1693.06	8.45	15	8; MFLNRORD, MOTI, BC Hydro, CVLFCF, EKISC, CWS, NCC, Village of Radium

¹Total funding allocated is the total amount of funding provided by all EKISC project partners to treat LS.

²SIPCOLS funding is funding provided directly through the CVLFCF.



³Number of LS sites treated is highly dependent on funding, and can also be affected by seasonal work planning, spatial distribution of sites, and other factors. Sites also vary in size and density. Funding is typically the limiting factor in number of sites treated (i.e., not all LS sites are treated every year).

⁴Amount of herbicide mix used varies based on number of sites visited, size and density of site, type of herbicide used and application rate. Less herbicide used does not necessarily mean less LS sites or density. Amount of herbicide used can also vary greatly at an individual site from year to year due to plant response to treatment.

⁵Area covered is the total treatment area for all LS sites. Area covered is based on the amount of herbicide mix used and the herbicide delivery rate. Area covered can also vary greatly at an individual site from year to year due to plant response to treatment. Note: previous reporting included only the area treated with CVLCF funds.

⁶No weed found sites. This is the number of sites visited that had no LS plants observed. LS sites are visited for up to five years after No Weed Found. LS plants may not be visible at a site one year but be visible the subsequent year.

⁷Stakeholders engaged is the number of funders that contributed funding to LS treatments in a given year.

Measures of Success

Due to the nature of invasive species, it can be incredibly difficult to quantify successes in management actions. Invasive plants can spread quickly and be introduced to new areas easily – so while we are working hard to reduce the distribution and density of existing LS populations, we are also seeing the introduction and spread of new infestations in the Columbia Valley. Throughout this project, EKISC has observed that LS responds aggressively and unpredictably to herbicide treatments. For example, a site that has herbicide applied in one year may experience a boom in growth during subsequent years – the infestation may either increase in density, or more often in size, sending out new shoots up to ten metres away from the main infestation. This can increase the size of the site or “area covered” and increase the amount of herbicide used.

LS is also very easily spread to new sites, making it difficult to use the total number of LS sites in the Columbia Valley as an indicator of project success. In addition, the longer this project runs, the more likely we are to see more LS sites, as our cumulative plant inventory time increases. Finally, due to limited funding, EKISC is not able to treat all LS sites every year which can also complicate evaluating treatment and project success.

To assist with tracking accomplishments and results, EKISC tracks the following measures of success related to this project:

1. Short term success of invasive plant treatments through seasonal monitoring of project sites. Treatments for this project are monitored for treatment efficacy, completion, and response.
 - a. In 2019, 100% of site locations in the CWWMA were treated – the first time this large of an area has been covered in one year. Monitoring of LS treatments sites resulted in a 100% site completion score and a 95% treatment efficacy score. Treatment efficacy score was not 100% due to the limitation of herbicide selection (currently in BC we do not have access to herbicides that will translocate the entire root length, therefore 95% treatment efficacy is expected).
2. Long term success of invasive plant treatments through annual site monitoring. Treatment and inventory records are collected annually and entered into the Provincial IAPP database. Data submitted includes the infestation size, density, and herbicide use.
 - a. Some long-term treatment sites are resulting in reduced size and density of LS infestations. For example, Site 324112 within the CWWMA has the following treatment record data associated with it:



- 2017: 21L of herbicide sprayed over 0.08 ha
- 2018: 11.5L of herbicide sprayed over 0.03 ha
- 2019: 9.5L of herbicide sprayed over 0.04 ha

Table 2 showcases additional sites where we are observing trends of decreased herbicide use and infestation size. Many of these areas are in high value wildlife habitat.

- As mentioned, although the infestation size is decreasing in areas, new sites are establishing, and some existing patches of LS seem to be spreading. This is likely due to the long root system of LS, and effort from treated plants to spread out and survive once treatment is initiated. Though we have observed the unpredictability of LS response to herbicide, we expect that subsequent treatments at these sites will decrease plant density and extent.
- Prevention of new LS introductions. We aim to reduce the spread of LS into new areas within the Columbia Valley through early detection and rapid response and treating known infested areas.
 - Though difficult to quantify, because of successful treatments we anticipate a lower frequency of new LS introductions into project areas. The more we are able to contain existing infestations, the lower rate of spread into new areas.
 - Stakeholder engagement and participation. Success can be measured in the number of stakeholders participating in the SIPCOLS Project.
 - Through raising awareness of the negative impacts LS has on ecosystem integrity in the Columbia Valley, SIPCOLS has motivated additional stakeholders and land managers to participate in coordinated LS management. Table 1 highlights that over time, we have both increased the number of stakeholders contributing funding to the treatment of LS, but also increased the overall leveraged funding for this project.
 - For example, in 2019 CVLCF, MOTI, MFLNRORD, BC Hydro, FWCP/NCC, CWS, EKISC and the Village of Radium all engaged in treatments for LS and other priority invasive plants in high value wildlife areas of the Columbia Valley (compared to solely the CVLCF in 2013). This collaborative effort for invasive species management provides a substantial advantage in managing LS infestations in the Columbia Valley.

Table 2 Examples of sites that have received treatment funding since 2016 and are experiencing a trend in decreased infestation size and herbicide use. Note that the area treated and amount of herbicide used often fluctuates between years, highlighting that LS can sometimes respond to herbicide treatment with increased growth the subsequent year.

Site ID	Treatment Date	Area Treated	Amount of Undiluted Herbicide Used ¹
45787	2019	0.0200	0.0900
	2018	0.0600	0.2700
	2017	0.0100	0.0450
	2016	0.1750	0.7875
230786	2019	0.0300	0.1350
	2018	0.0600	0.2700
	2017	0.0400	0.1800
	2016	0.0900	0.4050



263397	2019	0.0200	0.0900
	2018	0.0200	0.0900
	2017	0.0150	0.0675
	2016	0.0600	0.2700
230783	2019	0.0400	0.1800
	2018	0.0800	0.3600
	2017	0.0050	0.0225
	2016	0.0750	0.3375
263397	2019	0.0200	0.0900
	2018	0.0200	0.0900
	2017	0.0150	0.0675
	2016	0.0600	0.2700
300660	2019	0.0050	0.0225
	2018	0.0300	0.1350
	2017	0.0100	0.0450
	2016	0.0500	0.2250

¹Amount of herbicide mix used varies based on number of sites visited, size and density of site, type of herbicide used and application rate. Less herbicide used does not necessarily mean less density or fewer plants. Amount of herbicide used can also vary greatly at an individual site from year to year due to plant response to treatment.

Figures 2 through 5 illustrate LS treatment locations throughout the RDEK from 2019 back to year 2016, highlighting how contained LS has remained to the Upper Columbia Valley. EKISC's current strategy with LS is to decrease infestation levels and prevent new introductions of the invasive plant leafy spurge (LS) in the Fairmont to Radium Hot Springs area.

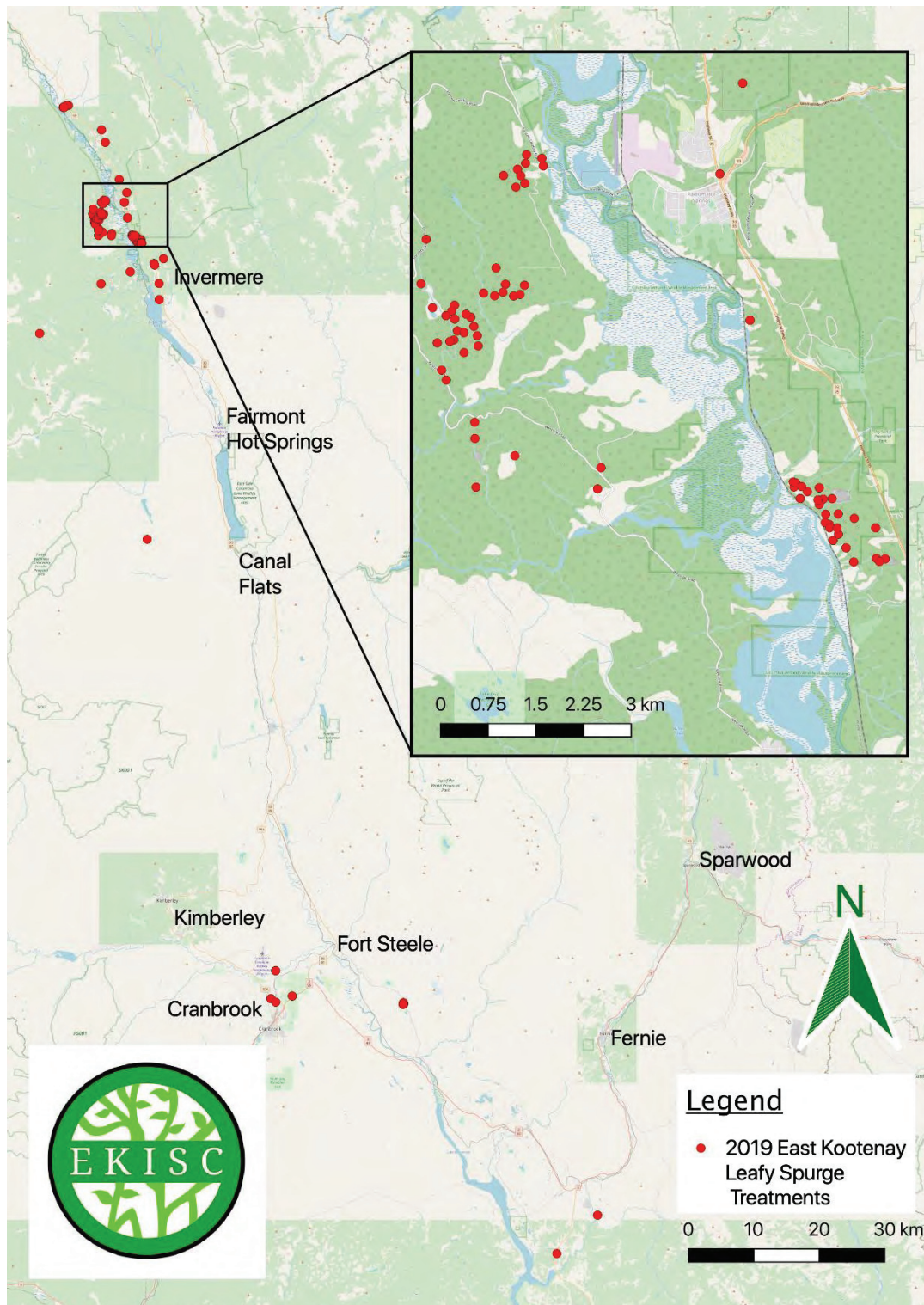


Figure 2 Locations of 2019 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.

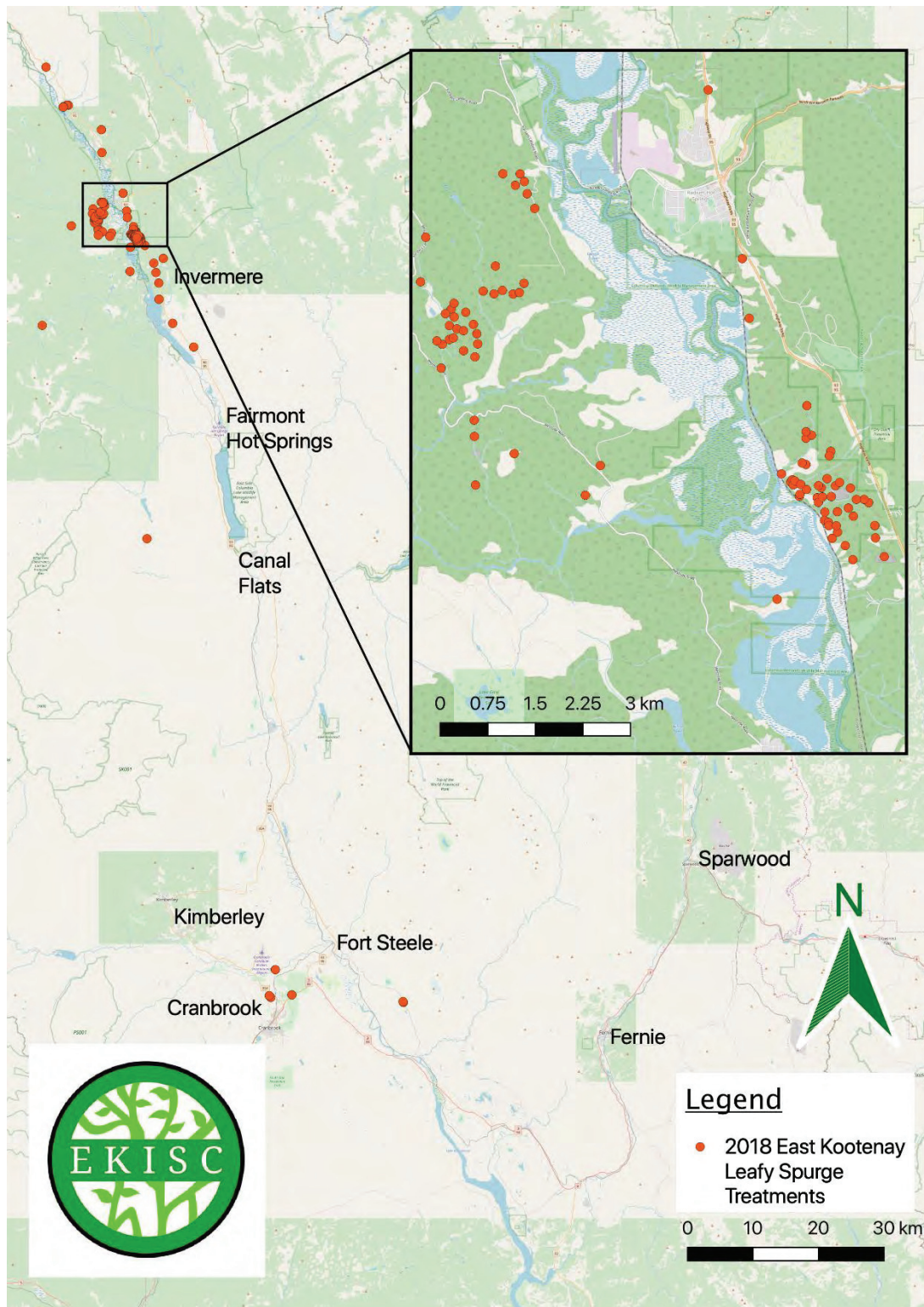


Figure 3 Locations of 2018 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.

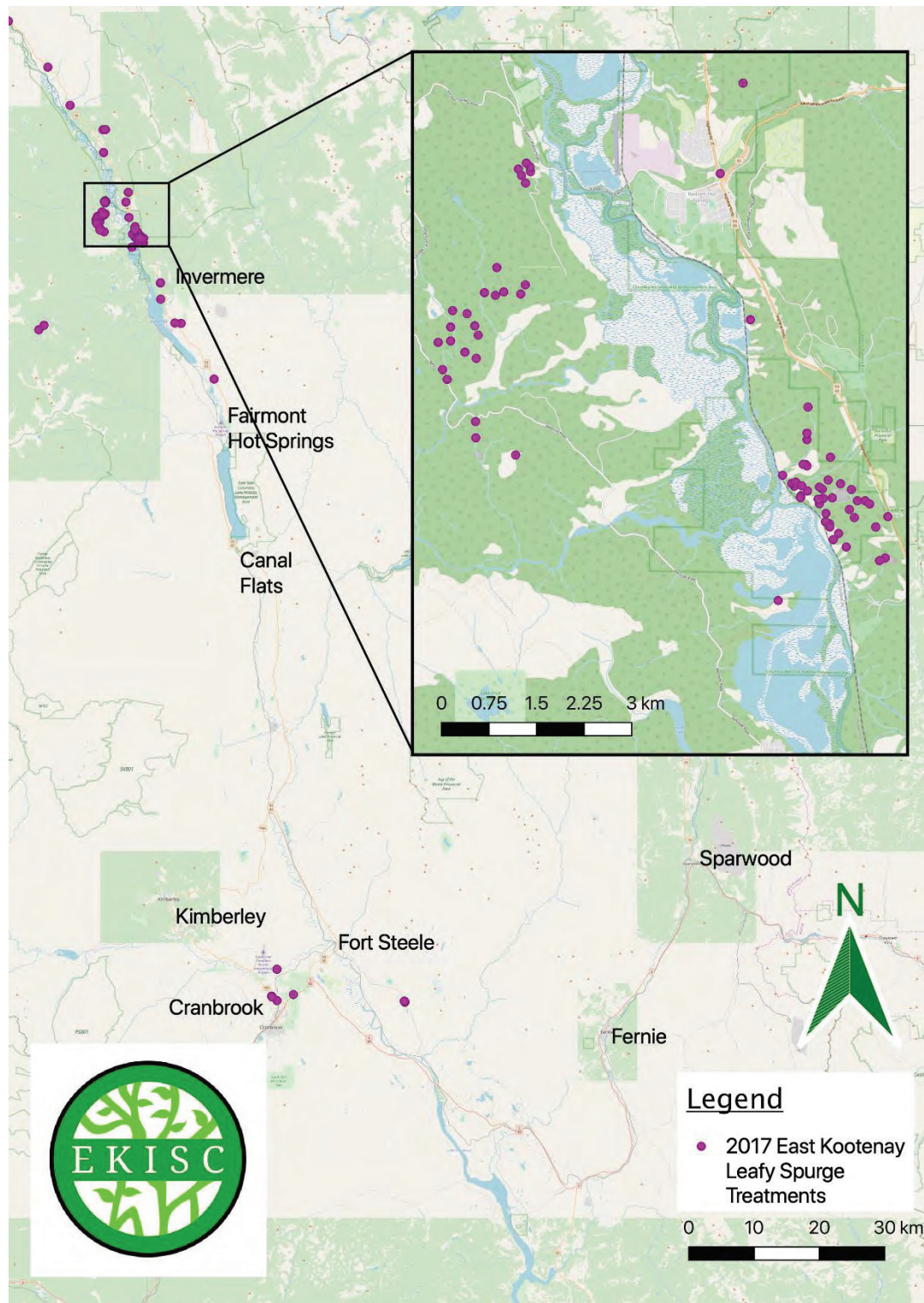


Figure 4 Locations of 2017 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.

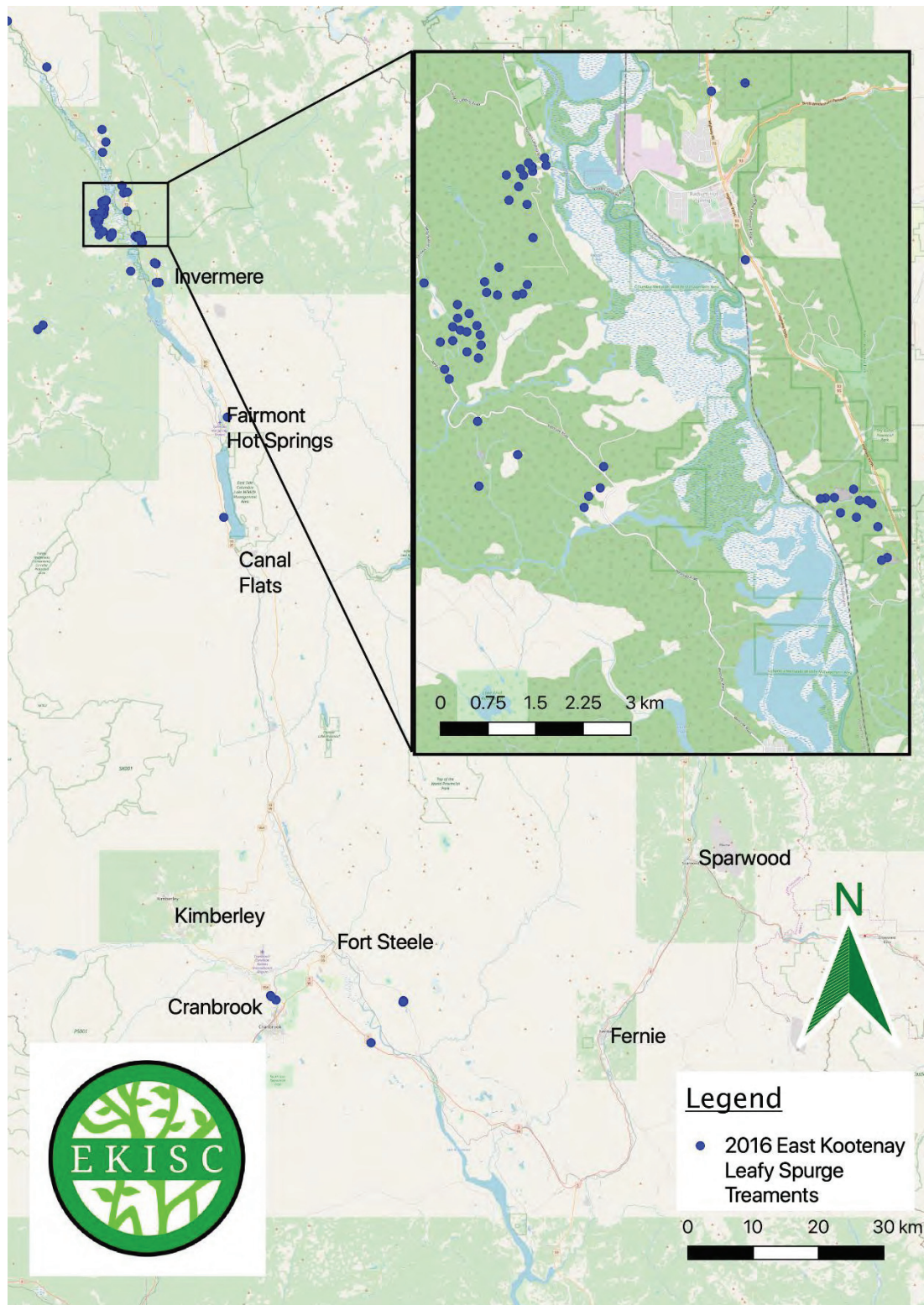


Figure 5 Locations of 2017 LS treatment sites. Treatments outside of Electoral Areas F and G are not treated with CVLCF funds.



Future Recommendations

The SIPCOLS Project is a crucial component in management of LS in the Columbia Valley, utilizing stakeholder collaboration to decrease existing infestations and reduce the risk of spread into high value lands. Although we believe this project is not only containing and reducing the spread of existing LS populations and allowing contractors and EKISC staff to quickly identify and respond to new LS sites, we know that in most years there are areas that we do not have funding to visit or treat. There may be uncertainty around if eradication of LS is possible at some project locations (due to funding restrictions and longevity of the seed bank), but we do know that funds provided by CVLCF are going a long ways in preventing the spread of LS, and ensuring that negative impacts to wildlife (reduced biodiversity and forage quality and availability) and the agricultural community in particular (toxicity risk to livestock, reduced forage quality and availability) are negated as much as possible.

Recommended objectives for 2020 are:

1. Inventory and map all known and newly identified LS sites in the project area.
2. Create a comprehensive, multi-stakeholder invasive plant management plan for LS in the Columbia Valley, focusing on areas that are of high habitat value and pose the greatest threat to adjacent land managers (i.e., Wildlife Management Areas, conservation lands, Shuswap reserve lands, agricultural lands).
3. Treat identified high-priority LS infestations within 1km of private land within the project area. Additional treatments areas, funding permitting, will include:
 - a. Infestations that are adjacent to Shuswap Indian Band reserve lands to assist with on-reserve treatments.
 - b. Infestations that are on crown land near the CWWMA to prevent the further spread of LS away from the main areas of infestation.
4. Complete biocontrol agent inventory at previous release sites and identify two candidate sites for potential release (or re-release) of LS biocontrol agent.
5. Continue to communicate importance of LS control to stakeholders and community members within the Columbia Valley.

Additional details can be found in the 2020 SIPCOLS Project Proposal, submitted to the CVLCF in November 2019.

2019 LS Treatments

Site ID	Site Created Date	Mapsheet	UTM Zone	UTM Easting	UTM Northing	Decimal Latitude	Decimal Longitude	Invasive Plant	Treatment Date	Herbicide	Method	Area Treated	Amount of Mix Used	Application Rate	Delivery Rate	Amount of Undiluted Herbicide Used
15883	1900-01-02	082G053	11	609460	5489194	49.54545	-115.48685	Leafy spurge (EUPH ESU)	2019-06-11	Tordon 22K	Back Pack	0.0327	11.00000	4.50	336	0.1473
15883	1900-01-02	082G053	11	609460	5489194	49.54545	-115.48685	Leafy spurge (EUPH ESU)	2019-09-20	Tordon 22K	Boomless Nozzle	0.9000	180.00000	2.25	200	2.0250
15883	1900-01-02	082G053	11	609460	5489194	49.54545	-115.48685	Leafy spurge (EUPH ESU)	2019-09-20	Tordon 22K	Boomless Nozzle	0.9000	180.00000	2.25	200	2.0250
45428	2018-10-12	082K070	11	562126	5606400	50.60618	-116.12204	Leafy spurge (EUPH ESU)	2019-10-02	Tordon 22K	Boomless Nozzle	0.0750	15.00000	4.50	200	0.3375
45445	2018-10-10	082K060	11	567333	5603270	50.57746	-116.04903	Leafy spurge (EUPH ESU)	2019-09-27	Aspect	Hand Gun	0.0400	8.00000	4.50	200	0.1800
45463	2018-10-11	082K060	11	561494	5605700	50.59995	-116.13108	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
45473	2018-10-11	082K070	11	561862	5605770	50.60054	-116.12587	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Hand Gun	0.1250	25.00000	4.50	200	0.5625
45506	2018-09-20	082K060	11	568184	5602350	50.56909	-116.03718	Leafy spurge (EUPH ESU)	2019-09-19	Tordon 22K	Boomless Nozzle	0.0400	8.00000	4.50	200	0.1800
45511	2018-10-11	082K060	11	561878	5605610	50.59910	-116.12567	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Boomless Nozzle	0.0400	8.00000	4.50	200	0.1800
45585	2018-10-10	082K060	11	567826	5602290	50.56859	-116.04224	Leafy spurge (EUPH ESU)	2019-09-20	Aspect	Hand Gun	0.0150	3.00000	4.50	200	0.0675
45732	2018-10-12	082K070	11	562581	5608170	50.62205	-116.11531	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Hand Gun	0.0100	2.00000	4.50	200	0.0450
45787	2018-10-10	082K060	11	567473	5603279	50.57752	-116.04705	Leafy spurge (EUPH ESU)	2019-09-27	Aspect	Hand Gun	0.0200	4.00000	4.50	200	0.0900
45788	2018-10-09	082K060	11	567272	5603184	50.57669	-116.04990	Leafy spurge (EUPH ESU)	2019-09-27	Aspect	Boomless Nozzle	0.0750	15.00000	4.50	200	0.3375
45789	2018-10-09	082K060	11	567251	5603257	50.57735	-116.05019	Leafy spurge (EUPH ESU)	2019-09-20	Aspect	Hand Gun	0.0100	2.00000	4.50	200	0.0450
45789	2018-10-09	082K060	11	567251	5603257	50.57735	-116.05019	Leafy spurge (EUPH ESU)	2019-09-27	Aspect	Hand Gun	0.0900	18.00000	4.50	200	0.4050
45792	2018-10-09	082K060	11	566872	5603455	50.57917	-116.05550	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Boomless Nozzle	0.0500	10.00000	4.50	200	0.2250
45795	2018-10-09	082K060	11	567081	5603385	50.57852	-116.05257	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Hand Gun	0.1250	25.00000	4.50	200	0.5625
45796	2018-10-09	082K060	11	566857	5603533	50.57988	-116.05570	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Boomless Nozzle	0.1000	20.00000	4.50	200	0.4500
45849	1995-08-09	082K070	11	562867	5608448	50.62452	-116.11122	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Hand Gun	0.0600	12.00000	4.50	200	0.2700
45904	2018-10-10	082K060	11	561870	5603390	50.57914	-116.12615	Leafy spurge (EUPH ESU)	2019-08-22	Tordon 22K	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
116333	1998-07-28	082J041	11	571000	5594000			Leafy spurge (EUPH ESU)	2019-08-07	Milestone	Back Pack	0.0020	0.20000	1.00	400	0.0002
128201	2018-10-09	082K060	11	566971	5603275	50.57754	-116.05414	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Boomless Nozzle	0.1250	25.00000	4.50	200	0.5625
128201	2018-10-09	082K060	11	566971	5603275	50.57754	-116.05414	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Boomless Nozzle	0.1500	30.00000	4.50	200	0.6750
210402	2005-12-15	082K060	11	570150	5599350	50.54193	-116.00999	Leafy spurge (EUPH ESU)	2019-06-24	Clearview	Boomless Nozzle	0.1225	24.50000	0.14	200	0.0172
210426	2018-10-12	082K070	11	562595	5606571	50.60767	-116.11538	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Boomless Nozzle	0.1750	35.00000	4.50	200	0.7875
210427	2018-10-11	082K070	11	561498	5606244	50.60484	-116.13094	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200	0.0225
210430	2018-10-11	082K070	11	561807	5605916	50.60186	-116.12662	Leafy spurge (EUPH ESU)	2019-10-02	Tordon 22K	Boomless Nozzle	0.2850	57.00000	4.50	200	1.2825
210434	2018-10-09	082K060	11	566895	5603519	50.57975	-116.05517	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Boomless Nozzle	0.1250	25.00000	4.50	200	0.5625
210448	2018-07-16	082K060	11	561837	5604410	50.58832	-116.12645	Leafy spurge (EUPH ESU)	2019-06-28	Aspect	Boomless Nozzle	0.0300	6.00000	4.50	200	0.1350
210956	2018-05-30	082J033	11	570936	5596402	50.51528	-115.99946	Leafy spurge (EUPH ESU)	2019-06-26	Tordon 22K	Boomless Nozzle	0.1050	21.00000	4.50	200	0.4725
225971	2007-06-30	082G025	11	635342	5451765	49.20412	-115.16667	Leafy spurge (EUPH ESU)	2019-05-29	Tordon 22K	Back Pack	0.0400	0.20000	4.50	5	0.1800
230770	2007-01-11	082K070	11	565984	5609784	50.63619	-116.06692	Leafy spurge (EUPH ESU)	2019-10-22	Tordon 22K	Hand Gun	0.0800	16.00000	4.50	200	0.3600
230778	2007-01-12	082K070	11	561757	5606059	50.60315	-116.12731	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Hand Gun	0.0150	3.00000	4.50	200	0.0675
230781	2018-10-11	082K070	11	561455	5606152	50.60402	-116.13156	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Boomless Nozzle	0.2250	45.00000	4.50	200	1.0125
230782	2018-10-11	082K070	11	561503	5606028	50.60290	-116.13090	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200	0.0225
230783	2018-10-12	082K070	11	561954	5606056	50.60656	-116.12446	Leafy spurge (EUPH ESU)	2019-10-02	Tordon 22K	Boomless Nozzle	0.0400	8.00000	4.50	200	0.1800
230784	2007-01-12	082K070	11	562589	5608485	50.62488	-116.11514	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Boomless Nozzle	0.1750	35.00000	4.50	200	0.7875
230785	2007-01-12	082K070	11	562464	5608390	50.62404	-116.11692	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Hand Gun	0.2100	42.00000	4.50	200	0.9450
230786	2018-10-12	082K070	11	562514	5608290	50.62313	-116.11623	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Hand Gun	0.0300	6.00000	4.50	200	0.1350
230788	2018-10-12	082K070	11	562524	5606425	50.60636	-116.11641	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Boomless Nozzle	0.0150	3.00000	4.50	200	0.0675
230789	2007-01-12	082K070	11	561154	5606201	50.60449	-116.13580	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Hand Gun	0.0050	1.00000	4.50	200	0.0225
230791	2018-10-12	082K070	11	562243	5608290	50.62316	-116.12007	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Boomless Nozzle	0.0050	1.00000	4.50	200	0.0225
230792	2018-10-12	082K070	11	562425	5606400	50.60615	-116.11781	Leafy spurge (EUPH ESU)	2019-10-02	Tordon 22K	Hand Gun	0.0050	1.00000	4.50	200	0.0225
230793	2018-10-12	082K070	11	562143	5606837	50.61011	-116.12172	Leafy spurge (EUPH ESU)	2019-10-03	Tordon 22K	Hand Gun	0.0350	7.00000	4.50	200	0.1575
230795	2007-01-12	082K060	11	570251	5599121	50.53981	-116.00861	Leafy spurge (EUPH ESU)	2019-06-25	Tordon 22K	Boomless Nozzle	0.4500	90.00000	4.50	200	2.0250
230809	2018-10-10	082K060	11	562474	5603992	50.58359	-116.11754	Leafy spurge (EUPH ESU)	2019-10-22	Tordon 22K	Boomless Nozzle	0.1000	20.00000	4.50	200	0.4500
231495	2007-01-23	082G053	11	609388	5489317	49.54657	-115.48781	Leafy spurge (EUPH ESU)	2019-06-11	Tordon 22K	Back Pack	0.0149	5.00000	4.50	336	0.0670
231495	2007-01-23	082G053	11	609388	5489317	49.54657	-115.48781	Leafy spurge (EUPH ESU)	2019-09-20	Tordon 22K	Boomless Nozzle	0.0500	10.00000	2.25	200	0.1125
231495	2007-01-23	082G053	11	609388	5489317	49.54657	-115.48781	Leafy spurge (EUPH ESU)	2019-09-20	Tordon 22K	Boomless Nozzle	0.0500	10.00000	2.25	200	0.1125
232353	2006-10-27	082G053	11	609336	5489089	49.54453	-115.48859	Leafy spurge (EUPH ESU)	2019-09-20	Tordon 22K	Boomless Nozzle	0.0500	10.00000	2.25	200	0.1125
232353	2006-10-27	082G053	11	609336	5489089	49.54453	-115.48859	Leafy spurge (EUPH ESU)	2019-09-20	Tordon 22K	Boomless Nozzle	0.0500	10.00000	2.25	200	0.1125
243672	2018-10-10	082K060	11	563832	5603721	50.58191	-116.09839	Leafy spurge (EUPH ESU)	2019-06-28	Aspect	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
243615	2018-06-15	082K070	11	564843	5611712	50.65365	-116.08271	Leafy spurge (EUPH ESU)	2019-06-17	Tordon 22K	Boomless Nozzle	0.1400	28.00000	4.50	200	0.6300
243628	2018-06-18	082K080	11	562720	5617174	50.70300	-116.11182	Leafy spurge (EUPH ESU)	2019-08-29	Tordon 22K	Hand Gun	0.0050	1.00000	4.50	200	0.0225
243947	2018-10-09	082K060	11	567269	5603447	50.57906	-116.04990	Leafy spurge (EUPH ESU)	2019-09-27	Aspect	Hand Gun	0.0250	5.00000	4.50	200	0.1125
243947	2018-10-09	082K060	11	567269	5603447	50.57906	-116.04990	Leafy spurge (EUPH ESU)	2019-09-27	Aspect	Boomless Nozzle	0.0600	12.00000	4.50	200	0.2700
243980	2018-09-20	082K060	11	568164	5602831	50.57341	-116.03737	Leafy spurge (EUPH ESU)	2019-09-20	Aspect	Boomless Nozzle	0.0150	3.00000	4.50	200	0.0675
243984	2018-10-09	082K060	11	566990	5603463	50.57923	-116.05384	Leafy spurge (EUPH ESU)	2019-10-01	Aspect	Boomless Nozzle	0.0750	15.00000	4.50	200	0.3375
244681	2018-09-20	082K060	11	568320	5602344	50.56902	-116.03526	Leafy spurge (EUPH ESU)	2019-09-19	Tordon 22K	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
244784	2018-09-20	082K060	11	568230	5602301	50.56864	-116.03654	Leafy spurge (EUPH ESU)	2019-09-19	Tordon 22K	Boomless Nozzle	0.2250	45.00000	4.50	200	1.0125
251413	2018-10-11	082K060	11	561657	5605501	50.59815	-116.12881	Leafy spurge (EUPH ESU)	2019-10-02	Aspect	Hand Gun	0.0050	1.00000	4.50	200	0.0225
251451	2018-07-16	082K060	11	561844	5604155	50.58602	-116.12639	Leafy spurge (EUPH ESU)	2019-10-22	Tordon 22K	Boomless					

2018 LS Treatments

										Amount of Unutilized						
Site ID	Site Created Date	Mapsheet	UTM Zone	UTM Easting	UTM Northing	Decimal Latitude	Decimal Longitude	Invasive Plant	Treatment Date	Herbicide	Method	Area Treated	Amount of Mix Used	Application Rate	Delivery Rate	Herbicide Used
291647	2018-05-28 08ZK060		11	570151	5599342	50.54181		-116.00997 Leaky spurge (EUPH ESU)	2018-05-28 Tordon 22K	Boomless Nozzle		0.3063	61.25000	4.50	200	1.3781
115901	2018-05-28 08ZK060		11	570500	5597950	50.52925		-116.00531 Leaky spurge (EUPH ESU)	2018-05-28 Tordon 22K	Boomless Nozzle		0.7150	143.00000	4.50	200	3.2175
295848	2019-08-31 08ZG052		11	589328	5495980	49.55223		-115.76499 Leaky spurge (EUPH ESU)	2018-05-29 Grazon	Back Pack		0.0044	2.00000	4.67	450	0.0208
278176	2018-05-28 08ZK060		11	568799	5601955	50.56546		-116.02857 Leaky spurge (EUPH ESU)	2018-05-29 Milestone	Boomless Nozzle		0.0450	9.00000	0.50	200	0.0225
210955	2018-05-30 08ZK033		11	570936	5596042	50.51528		-116.05846 Leaky spurge (EUPH ESU)	2018-05-30 Tordon 22K	Hand Gun		0.1500	30.00000	4.50	200	0.3750
251459	2018-05-31 08ZK070		11	566023	5607001	50.61116		-116.06786 Leaky spurge (EUPH ESU)	2018-05-31 Tordon 22K	Hand Gun		0.0750	15.00000	0.50	200	0.3375
291660	2018-05-31 08ZJ041		11	573083	5590452	50.46151		-115.97034 Leaky spurge (EUPH ESU)	2018-05-31 Milestone	Boomless Nozzle		0.0700	14.00000	0.50	200	0.0350
270302	2010-06-21 08ZG052		11	589967	5493903	49.59011		-115.75519 Leaky spurge (EUPH ESU)	2018-06-01 Tordon 22K	Back Pack		0.0001	0.05000	4.50	450	0.0005
231024	2018-06-02 08ZJ041		11	576268	5586972	50.42981		-115.92619 Leaky spurge (EUPH ESU)	2018-06-02 Milestone	Boomless Nozzle		0.1150	23.00000	0.50	200	0.0575
15883	1900-01-02 08ZG053		11	609460	5489194	49.54545		-115.48685 Leaky spurge (EUPH ESU)	2018-06-08 Tordon 22K	Back Pack		0.0167	7.50000	4.50	450	0.0750
324127	2019-10-04 08ZG052		11	592532	5490021	49.55571		-115.72060 Leaky spurge (EUPH ESU)	2018-06-12 Tordon 22K	Back Pack		0.0060	2.70000	4.50	450	0.0270
251510	2018-06-15 08ZK070		11	565454	5609646	50.63500		-116.07444 Leaky spurge (EUPH ESU)	2018-06-15 Tordon 22K	Hand Gun		0.2063	41.25000	4.50	200	0.9281
206793	2018-06-18 08ZK070		11	562257	5615629	50.68915		-116.11863 Leaky spurge (EUPH ESU)	2018-06-18 Tordon 22K	Hand Gun		0.0250	5.00000	4.50	200	0.1125
309531	2019-08-29 08ZK080		11	562136	5619005	50.71952		-116.11978 Leaky spurge (EUPH ESU)	2018-06-18 Tordon 22K	Hand Gun		0.0050	1.00000	4.50	200	0.0225
116333	1998-07-28 08ZJ041		11	571000	5594000			Leaky spurge (EUPH ESU)	2018-06-27 Clearview	Hand Gun		0.0200	4.00000	0.20	200	0.0040
274889	2018-07-11 08ZK099		11	553861	5621848	50.80256		-116.23565 Leaky spurge (EUPH ESU)	2018-07-11 Tordon 22K	Hand Gun		0.0050	1.00000	4.50	200	0.0225
316711	2019-06-13 08ZK049		11	553866	5589916	50.45879		-116.24367 Leaky spurge (EUPH ESU)	2018-07-12 Tordon 22K	Back Pack		0.0092	4.12500	4.50	450	0.0413
210448	2018-07-16 08ZK060		11	561837	5604410	50.58832		-116.12545 Leaky spurge (EUPH ESU)	2018-07-16 Clearview	Boomless Nozzle		0.0100	2.00000	0.20	200	0.0020
291653	2018-07-16 08ZK099		11	547691	5635222	50.86671		-116.32228 Leaky spurge (EUPH ESU)	2018-07-16 Tordon 22K	Boomless Nozzle		0.0050	7.00000	4.50	200	0.1575
251451	2018-07-16 08ZK060		11	561844	5604155	50.58602		-116.12639 Leaky spurge (EUPH ESU)	2018-07-16 Clearview	Boomless Nozzle		0.0050	1.00000	0.20	200	0.0010
323986	2019-08-09 08ZK090		11	557217	5622554	50.75194		-116.18890 Leaky spurge (EUPH ESU)	2018-07-24 Aspect	Boomless Nozzle		0.1400	28.00000	4.50	200	0.6300
339200	2018-07-24 08ZK090		11	556982	5622568	50.75209		-116.19223 Leaky spurge (EUPH ESU)	2018-07-24 Aspect	Back Pack		0.0400	8.00000	4.50	200	0.1800
339197	2018-07-24 08ZK080		11	556498	5622341	50.75010		-116.19913 Leaky spurge (EUPH ESU)	2018-07-24 Aspect	Boomless Nozzle		0.0600	12.00000	4.50	200	0.2700
339134	2018-07-24 08ZK090		11	556452	5622273	50.74949		-116.19979 Leaky spurge (EUPH ESU)	2018-07-24 Aspect	Hand Gun		0.1350	27.00000	4.50	200	0.6075
291054	2018-07-30 08ZG052		11	580907	5489840	49.55460		-115.76812 Leaky spurge (EUPH ESU)	2018-07-30 Aspect	Boomless Nozzle		0.9767	210.00000	4.67	215	4.5614
300452	2018-09-13 08ZK060		11	566641	5598074	50.53082		-116.05973 Leaky spurge (EUPH ESU)	2018-07-30 Tordon 22K	Back Pack		0.0100	2.00000	4.50	200	0.0450
324112	2019-03-09 08ZK060		11	566641	5601652	50.56299		-116.05909 Leaky spurge (EUPH ESU)	2018-09-19 Grazon	Back Pack		0.0256	11.50000	4.67	450	0.1193
244681	2018-09-20 08ZK060		11	568320	5602344	50.56902		-116.03526 Leaky spurge (EUPH ESU)	2018-09-20 Tordon 22K	Boomless Nozzle		0.2000	40.00000	4.50	200	0.9000
243982	2018-09-20 08ZK060		11	568177	5602637	50.57167		-116.03723 Leaky spurge (EUPH ESU)	2018-09-20 Tordon 22K	Boomless Nozzle		0.0188	3.75000	4.50	200	0.0844
300660	2018-09-20 08ZK060		11	568164	5602269	50.57340		-116.03737 Leaky spurge (EUPH ESU)	2018-09-20 Tordon 22K	Hand Gun		0.0300	6.00000	4.50	200	0.1350
243980	2018-09-20 08ZK060		11	568164	5602851	50.57341		-116.03737 Leaky spurge (EUPH ESU)	2018-09-20 Tordon 22K	Hand Gun		0.0250	5.00000	4.50	200	0.1125
231495	2007-01-23 08ZG053		11	609388	5498317	49.54657		-115.48781 Leaky spurge (EUPH ESU)	2018-09-24 Grazon	Back Pack		0.0393	13.75000	4.67	350	0.1835
284855	2018-09-28 08ZK060		11	567456	5603990	50.58392		-116.04716 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Hand Gun		0.0250	5.00000	4.50	200	0.1125
284856	2018-09-28 08ZK060		11	567071	5604703	50.59037		-116.05247 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Boomless Nozzle		0.0900	18.00000	4.50	200	0.4050
128203	2018-09-28 08ZK060		11	567068	5603777	50.58205		-116.05268 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Hand Gun		0.1500	30.00000	4.50	200	0.6750
243985	2018-09-28 08ZK060		11	567007	5603801	50.58227		-116.05354 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Hand Gun		0.0700	14.00000	4.50	200	0.3150
284858	2018-09-28 08ZK060		11	567435	5603918	50.58327		-116.04747 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Hand Gun		0.0500	10.00000	4.50	200	0.2250
309525	2018-09-28 08ZK060		11	567063	5604191	50.58577		-116.05267 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Hand Gun		0.1000	20.00000	4.50	200	0.4500
284857	2018-09-28 08ZK060		11	567151	5604240	50.58620		-116.05142 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Boomless Nozzle		0.0400	8.00000	4.50	200	0.1800
309534	2018-09-28 08ZK060		11	567062	5604293	50.58669		-116.05267 Leaky spurge (EUPH ESU)	2018-09-28 Aspect	Hand Gun		0.1500	30.00000	4.50	200	0.6750
210450	2018-09-30 08ZK060		11	567867	5604728	50.59158		-116.18248 Leaky spurge (EUPH ESU)	2018-09-30 Aspect	Hand Gun		0.0250	5.00000	4.50	200	0.1125
339152	2018-09-30 08ZK070		11	561041	5607276	50.61417		-116.13722 Leaky spurge (EUPH ESU)	2018-09-30 Aspect	Boomless Nozzle		0.0100	2.00000	4.50	200	0.0450
290813	2018-10-01 08ZK070		11	566147	5606965	50.60065		-116.06528 Leaky spurge (EUPH ESU)	2018-10-01 Aspect	Boomless Nozzle		0.0500	10.00000	4.50	200	0.2250
45798	2018-10-09 08ZK060		11	567314	5603415	50.57876		-116.04927 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.0050	1.00000	4.50	200	0.0225
284862	2018-10-09 08ZK060		11	567375	5603034	50.57533		-116.04848 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.1150	23.00000	4.50	200	0.5175
263635	2018-10-09 08ZK060		11	567370	5602902	50.57414		-116.04857 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.0700	14.00000	4.50	200	0.3150
262958	2018-10-09 08ZK060		11	567433	5602873	50.57388		-116.04769 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.0150	3.00000	4.50	200	0.0675
278014	2018-10-09 08ZK060		11	567441	5602820	50.57340		-116.04758 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.0750	15.00000	4.50	200	0.3375
243955	2018-10-09 08ZK060		11	567537	5603449	50.57904		-116.04611 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.1450	29.00000	4.50	200	0.6525
45476	2018-10-09 08ZK060		11	567404	5603559	50.58005		-116.04797 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0600	12.00000	4.50	200	0.2700
262954	2018-10-09 08ZK060		11	567496	5602623	50.57162		-116.04684 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.0200	4.00000	4.50	200	0.0900
263709	2009-09-11 08ZK060		11	567579	5602721	50.57249		-116.04565 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.2350	47.00000	4.50	200	1.0575
284860	2018-10-09 08ZK060		11	566685	5603624	50.58072		-116.05811 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0200	4.00000	4.50	200	0.0900
45793	2018-10-09 08ZK060		11	566831	5603499	50.57957		-116.05608 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0250	5.00000	4.50	200	0.1125
45796	2018-10-09 08ZK060		11	566857	5603533	50.57989		-116.05570 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.2100	42.00000	4.50	200	0.9450
45792	2018-10-09 08ZK060		11	566872	5603455	50.57917		-116.05560 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0700	14.00000	4.50	200	0.3150
210434	2018-10-09 08ZK060		11	566895	5603519	50.57975		-116.05517 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0800	16.00000	4.50	200	0.3600
243984	2018-10-09 08ZK060		11	566990	5603463	50.57923		-116.05384 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.1700	34.00000	4.50	200	0.7650
128201	2018-10-09 08ZK060		11	566971	5603275	50.57754		-116.05414 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0950	19.00000	4.50	200	0.4275
45794	2018-10-09 08ZK060		11	566979	5603308	50.57784		-116.05402 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.1850	37.00000	4.50	200	0.8325
45795	2018-10-09 08ZK060		11	567081	5603385	50.57852		-116.05257 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Hand Gun		0.0750	15.00000	4.50	200	0.3375
243947	2018-10-09 08ZK060		11	567269	5603447	50.57906		-116.04990 Leaky spurge (EUPH ESU)	2018-10-09 Aspect	Boomless Nozzle		0.0650	13.00000	4.50	200	0.2925
45789	2018-10-09 08ZK060		1													

2017 LS Treatments

Site ID	Site Created Date	Mapsheet	UTM Zone	UTM Easting	UTM Northing	Decimal Latitude	Decimal Longitude	Invasive Plant	Treatment Date	Herbicide	Method	Area Treated	Amount of Mix Used	Application Rate	Delivery Rate	Amount of Undiluted	
																Herbicide Used	
15883	1900-01-02	082G053	11	609460	5489194	49.54545	-115.48685	Leafy spurge (EUPH ESU)	2017-07-05	Grazon	Back Pack	0.0080	2.00000	3.70	250		0.0296
45428	2018-10-12	082K010	11	562126	5606400	50.60618	-116.12204	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Hand Gun	0.0050	1.00000	4.50	200		0.0225
45445	2018-10-10	082K060	11	567333	5603270	50.57746	-116.04903	Leafy spurge (EUPH ESU)	2017-10-14	Aspect	Hand Gun	0.0600	12.00000	4.50	200		0.2700
45473	2018-10-11	082K070	11	561862	5605770	50.60054	-116.12587	Leafy spurge (EUPH ESU)	2017-10-25	Aspect	Hand Gun	0.0250	5.00000	4.50	200		0.1125
45476	2018-10-09	082K060	11	567404	5603559	50.58005	-116.04797	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Boomless Nozzle	0.0150	3.00000	4.50	200		0.0675
45732	2018-10-12	082K070	11	562581	5608170	50.62205	-116.11531	Leafy spurge (EUPH ESU)	2017-10-27	Aspect	Hand Gun	0.0250	5.00000	4.50	200		0.1125
45768	1994-11-15	082K070	11	562656	5608350	50.62366	-116.11422	Leafy spurge (EUPH ESU)	2017-10-27	Aspect	Hand Gun	0.0150	3.00000	4.50	200		0.0675
45769	1994-11-15	082K070	11	562648	5608427	50.62435	-116.11432	Leafy spurge (EUPH ESU)	2017-10-27	Aspect	Boomless Nozzle	0.0500	10.00000	4.50	200		0.2250
45780	2018-10-11	082K070	11	561428	5605893	50.60170	-116.13198	Leafy spurge (EUPH ESU)	2017-10-25	Aspect	Boomless Nozzle	0.0100	2.00000	4.50	200		0.0450
45787	2018-10-10	082K060	11	567473	5603279	50.57752	-116.04705	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Back Pack	0.0100	2.00000	4.50	200		0.0450
45788	2018-10-09	082K060	11	567272	5603184	50.57669	-116.04990	Leafy spurge (EUPH ESU)	2017-10-14	Aspect	Hand Gun	0.0500	10.00000	4.50	200		0.2250
45789	2018-10-09	082K060	11	567251	5603257	50.57735	-116.05019	Leafy spurge (EUPH ESU)	2017-10-14	Aspect	Hand Gun	0.0450	9.00000	4.50	200		0.2025
45792	2018-10-09	082K060	11	566872	5603455	50.57917	-116.05550	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Boomless Nozzle	0.0650	13.00000	4.50	200		0.2925
45793	2018-10-09	082K060	11	566831	5603499	50.57957	-116.05608	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Boomless Nozzle	0.0400	8.00000	4.50	200		0.1800
45794	2018-10-09	082K060	11	566979	5603308	50.57784	-116.05402	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Boomless Nozzle	0.0100	2.00000	4.50	200		0.0450
45795	2018-10-09	082K060	11	567081	5603385	50.57852	-116.05257	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Hand Gun	0.0400	8.00000	4.50	200		0.1800
45798	2018-10-09	082K060	11	567314	5603415	50.57876	-116.04927	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Hand Gun	0.0200	4.00000	4.50	200		0.0900
45857	2018-10-10	082K060	11	567991	5603240	50.57711	-116.03974	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Boomless Nozzle	0.0250	5.00000	4.50	200		0.1125
116333	1998-07-28	082J041	11	571000	5594000			Leafy spurge (EUPH ESU)	2017-07-25	Grazon	Boomless Nozzle	0.2500	50.00000	4.50	200		1.1250
128201	2018-10-09	082K060	11	566971	5603275	50.57754	-116.05414	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Boomless Nozzle	0.0500	10.00000	4.50	200		0.2250
128202	2004-10-26	082K060	11	567048	5603798	50.58224	-116.05296	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Hand Gun	0.0200	4.00000	4.50	200		0.0900
128203	2018-09-28	082K060	11	567068	5603777	50.58205	-116.05268	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Hand Gun	0.0250	5.00000	4.50	200		0.1125
206793	2018-06-18	082K070	11	562257	5615629	50.68915	-116.11863	Leafy spurge (EUPH ESU)	2017-07-29	Tordon 22K	Back Pack	0.0350	7.00000	4.50	200		0.1575
210426	2018-10-12	082K070	11	562595	5606571	50.60767	-116.11538	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Boomless Nozzle	0.0400	8.00000	4.50	200		0.1800
210430	2018-10-11	082K070	11	561807	5605916	50.60186	-116.12662	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Boomless Nozzle	0.0250	5.00000	4.50	200		0.1125
210432	2005-12-15	082K060	11	568353	5602995	50.57487	-116.03467	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Boomless Nozzle	0.0025	0.50000	4.50	200		0.0113
210434	2018-10-09	082K060	11	566895	5603519	50.57975	-116.05517	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Boomless Nozzle	0.0500	10.00000	4.50	200		0.2250
210448	2018-07-16	082K060	11	561837	5604410	50.58832	-116.12645	Leafy spurge (EUPH ESU)	2017-08-17	Tordon 22K	Back Pack	0.0060	1.20000	4.50	200		0.0270
210956	2018-05-30	082J033	11	570936	5596402	50.51528	-115.99946	Leafy spurge (EUPH ESU)	2017-08-04	Tordon 22K	Boomless Nozzle	0.1550	31.00000	4.50	200		0.6975
210964	2005-12-27	082J023	11	574103	5590446	50.46133	-115.95598	Leafy spurge (EUPH ESU)	2017-06-29	Tordon 22K	Boomless Nozzle	0.0463	9.25000	4.50	200		0.2081
230770	2007-01-11	082K070	11	565984	5609784	50.63619	-116.06692	Leafy spurge (EUPH ESU)	2017-07-12	Aspect	Back Pack	0.0150	3.00000	4.50	200		0.0675
230773	2018-10-11	082K060	11	561837	5605405	50.59726	-116.12628	Leafy spurge (EUPH ESU)	2017-10-25	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200		0.0225
230781	2018-10-11	082K070	11	561455	5606152	50.60402	-116.13156	Leafy spurge (EUPH ESU)	2017-10-25	Aspect	Boomless Nozzle	0.0500	10.00000	4.50	200		0.2250
230783	2018-10-12	082K070	11	561954	5606440	50.60656	-116.12446	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200		0.0225
230784	2007-01-12	082K070	11	562589	5608485	50.62488	-116.11514	Leafy spurge (EUPH ESU)	2017-10-27	Aspect	Boomless Nozzle	0.1000	20.00000	4.50	200		0.4500
230785	2007-01-12	082K070	11	562464	5608390	50.62404	-116.11692	Leafy spurge (EUPH ESU)	2017-10-27	Aspect	Hand Gun	0.0500	10.00000	4.50	200		0.2250
230786	2018-10-12	082K070	11	562514	5608290	50.62313	-116.11623	Leafy spurge (EUPH ESU)	2017-10-27	Aspect	Boomless Nozzle	0.0400	8.00000	4.50	200		0.1800
230788	2018-10-12	082K070	11	562524	5606425	50.60636	-116.11641	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Hand Gun	0.0050	1.00000	4.50	200		0.0225
230793	2018-10-12	082K070	11	562143	5606837	50.61011	-116.12172	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200		0.0225
230809	2018-10-11	082K060	11	562474	5603892	50.58359	-116.11754	Leafy spurge (EUPH ESU)	2017-10-26	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200		0.0225
230884	2007-01-14	082J041	11	573167	5590492	50.46186	-115.96915	Leafy spurge (EUPH ESU)	2017-06-29	Tordon 22K	Boomless Nozzle	0.0513	10.25000	4.50	200		0.2306
230887	2018-06-04	082J031	11	579131	5582231	50.38680	-115.88688	Leafy spurge (EUPH ESU)	2017-08-05	Tordon 22K	Boomless Nozzle	0.3950	79.00000	4.50	200		1.7775
231495	2007-01-23	082G053	11	609388	5489317	49.54657	-115.48781	Leafy spurge (EUPH ESU)	2017-07-05	Grazon	Back Pack	0.0040	1.00000	3.70	250		0.0148
239718	2007-06-12	082G005	11	642660	5430435	49.01031	-115.04911	Leafy spurge (EUPH ESU)	2017-09-10	Clearview	Boomless Nozzle	0.0233	5.00000	0.20	215		0.0047
243947	2018-10-09	082K060	11	567269	5603447	50.57906	-116.04990	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Boomless Nozzle	0.0300	6.00000	4.50	200		0.1350
243963	2018-10-10	082K060	11	567869	5603239	50.57712	-116.04146	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Hand Gun	0.0300	6.00000	4.50	200		0.1350
243980	2018-09-20	082K060	11	568164	5602831	50.57341	-116.03737	Leafy spurge (EUPH ESU)	2017-10-19	Aspect	Boomless Nozzle	0.0050	1.00000	4.50	200		0.0225
243983	2018-10-10	082K060	11	567745	5603100	50.57588	-116.04324	Leafy spurge (EUPH ESU)	2017-10-14	Aspect	Hand Gun	0.0200	4.00000	4.50	200		0.0900
243984	2018-10-09	082K060	11	566990	5603463	50.57923	-116.05384	Leafy spurge (EUPH ESU)	2017-10-24	Aspect	Boomless Nozzle	0.0250	5.00000	4.50	200		

2016 LS Treatments

													Amount of Undiluted			
Site ID	Site Created Date	Mapsheet	UTM Zone	UTM Easting	UTM Northing	Decimal Latitude	Decimal Longitude	Invasive Plant	Treatment Date	Herbicide	Method	Area Treated	Amount of Mix Used	Application Rate	Delivery Rate	Herbicide Used
15883	1990-01-02 082G053		11	609460	5489194	49.54545	-115.48695	Leafy spurge (EUPH ESU)	2016-07-04	Grazon	Boomless Nozzle	0.4750	95.00000	3.00	200	1.4250
45428	2019-10-12 082K070		11	562126	5606400	50.60618	-116.12204	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.0500	10.00000	4.50	200	0.2250
45445	2019-10-10 082K060		11	567333	5603270	50.57746	-116.09033	Leafy spurge (EUPH ESU)	2016-08-16	Grazon	Hand Gun	0.1500	30.00000	4.50	200	0.6750
45473	2019-10-11 082K070		11	561862	5605770	50.60054	-116.12587	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Hand Gun	0.0500	10.00000	4.50	200	0.2250
45511	2019-10-11 082K060		11	561878	5605610	50.59910	-116.12567	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Hand Gun	0.2250	45.00000	4.50	200	1.0125
45733	1994-11-15 082K070		11	562676	5607308	50.61429	-116.11411	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
45768	1994-11-15 082K070		11	562656	5608350	50.62366	-116.11422	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Hand Gun	0.0750	15.00000	4.50	200	0.3375
45769	1994-11-15 082K070		11	562648	5608427	50.62435	-116.11432	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Boomless Nozzle	0.0750	15.00000	4.50	200	0.3375
45780	2019-10-11 082K070		11	561428	5605893	50.60170	-116.13198	Leafy spurge (EUPH ESU)	2016-08-11	Grazon	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
45787	2019-10-10 082K060		11	567473	5603279	50.57752	-116.04705	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Hand Gun	0.1750	35.00000	4.50	200	0.7875
45789	2019-10-09 082K060		11	567251	5603257	50.57735	-116.05019	Leafy spurge (EUPH ESU)	2016-08-16	Grazon	Hand Gun	0.2750	55.00000	4.50	200	1.2375
45849	1995-08-09 082K070		11	562867	5608448	50.62452	-116.11122	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Hand Gun	0.0500	10.00000	4.50	200	0.2250
45857	2019-10-10 082K060		11	567891	5603240	50.57711	-116.03874	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
45904	2019-10-10 082K060		11	561870	5603390	50.57914	-116.12615	Leafy spurge (EUPH ESU)	2016-08-10	Grazon	Boomless Nozzle	0.0500	10.00000	4.50	200	0.2250
115274	1993-09-06 082K060		11	570400	5599200	50.54050	-116.00649	Leafy spurge (EUPH ESU)	2016-05-31	Tordon 22K	Boomless Nozzle	0.1000	20.00000	4.50	200	0.4500
206793	2019-06-18 082K070		11	562257	5615629	50.68915	-116.11863	Leafy spurge (EUPH ESU)	2016-06-06	Tordon 22K	Back Pack	0.0100	2.00000	4.50	200	0.0450
210404	2005-12-15 082K060		11	570889	5596443	50.51565	-116.00011	Leafy spurge (EUPH ESU)	2016-05-31	Tordon 22K	Boomless Nozzle	1.0500	210.00000	4.50	200	4.7250
210426	2019-10-12 082K070		11	562595	5606571	50.60767	-116.11538	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.2000	40.00000	4.50	200	0.9000
210427	2019-10-11 082K070		11	561498	5606244	50.60484	-116.13094	Leafy spurge (EUPH ESU)	2016-08-11	Grazon	Boomless Nozzle	0.5000	100.00000	4.50	200	2.2500
210430	2019-10-11 082K070		11	561807	5605916	50.60186	-116.12662	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.8750	175.00000	4.50	200	3.9375
210448	2019-07-16 082K060		11	561837	5604410	50.58832	-116.12645	Leafy spurge (EUPH ESU)	2016-07-18	Tordon 22K	Back Pack	0.0400	8.00000	4.50	200	0.1800
230770	2007-01-11 082K070		11	565984	5609784	50.63619	-116.06692	Leafy spurge (EUPH ESU)	2016-06-28	Tordon 22K	Hand Gun	0.0400	8.00000	4.50	200	0.1800
230773	2019-10-11 082K060		11	561837	5605405	50.59726	-116.12628	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Hand Gun	0.0050	1.00000	4.50	200	0.0225
230782	2019-10-11 082K070		11	561503	5606028	50.60290	-116.13090	Leafy spurge (EUPH ESU)	2016-08-11	Grazon	Boomless Nozzle	0.0150	3.00000	4.50	200	0.0675
230783	2019-10-12 082K070		11	561954	5606440	50.60656	-116.12446	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.0750	15.00000	4.50	200	0.3375
230784	2007-01-12 082K060		11	562589	5606385	50.62488	-116.11514	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Boomless Nozzle	0.1750	35.00000	4.50	200	0.7875
230785	2007-01-12 082K070		11	562464	5606390	50.62404	-116.11692	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Hand Gun	0.0500	10.00000	4.50	200	0.2250
230786	2019-10-12 082K070		11	562514	5606290	50.62313	-116.11623	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Hand Gun	0.0900	18.00000	4.50	200	0.4050
230787	2007-01-12 082K070		11	562577	5607832	50.61901	-116.11542	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Boomless Nozzle	0.0050	1.00000	4.50	200	0.0225
230788	2019-10-12 082K070		11	562524	5606425	50.60636	-116.11641	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.0100	2.00000	4.50	200	0.0450
230790	2007-01-12 082K070		11	562289	5607894	50.61960	-116.11948	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Boomless Nozzle	0.0050	1.00000	4.50	200	0.0225
230791	2019-10-12 082K070		11	562243	5608290	50.62316	-116.12007	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
230792	2019-10-12 082K070		11	562425	5606400	50.60615	-116.11781	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.0500	10.00000	4.50	200	0.2250
230793	2019-10-12 082K070		11	562143	5606837	50.61011	-116.12172	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.0250	5.00000	4.50	200	0.1125
230809	2019-10-10 082K060		11	562474	5603892	50.58359	-116.11754	Leafy spurge (EUPH ESU)	2016-08-10	Grazon	Boomless Nozzle	0.2350	47.00000	4.50	200	1.0575
231495	2007-01-23 082G053		11	609388	5489317	49.54657	-115.48781	Leafy spurge (EUPH ESU)	2016-07-04	Grazon	Boomless Nozzle	0.0750	15.00000	3.00	200	0.2250
232353	2006-10-27 082G053		11	609336	5489089	49.54453	-115.48859	Leafy spurge (EUPH ESU)	2016-07-04	Grazon	Boomless Nozzle	0.0500	10.00000	3.00	200	0.1500
243666	2019-10-10 082K060		11	563602	5603251	50.57771	-116.10172	Leafy spurge (EUPH ESU)	2016-08-10	Grazon	Hand Gun	0.0100	2.00000	4.50	200	0.0450
243667	2007-06-12 082K060		11	563532	5603074	50.57612	-116.10274	Leafy spurge (EUPH ESU)	2016-08-11	Grazon	Hand Gun	0.8000	160.00000	4.50	200	3.6000
243672	2019-10-10 082K060		11	563832	5603721	50.58191	-116.09839	Leafy spurge (EUPH ESU)	2016-08-10	Tordon 22K	Back Pack	0.0050	1.00000	4.50	200	0.0225
243828	2019-06-18 082K080		11	562720	5611714	50.70300	-116.11182	Leafy spurge (EUPH ESU)	2016-07-20	Tordon 22K	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
243963	2019-10-10 082K060		11	567869	5603239	50.57712	-116.04146	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Boomless Nozzle	0.0240	4.80000	4.50	200	0.1080
244681	2019-09-20 082K060		11	568320	5602344	50.56902	-116.03526	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Boomless Nozzle	0.0375	7.50000	4.50	200	0.1688
244784	2019-09-20 082K060		11	568230	5602301	50.56864	-116.03654	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Boomless Nozzle	0.1000	20.00000	4.50	200	0.4500
251413	2019-10-11 082K060		11	561657	5605501	50.59815	-116.12881	Leafy spurge (EUPH ESU)	2016-08-11	Grazon	Hand Gun	0.0250	5.00000	4.50	200	0.1125
251421	2019-07-06 082J021		11	581041	5561592	50.20096	-115.86445	Leafy spurge (EUPH ESU)	2016-05-30	Barnel II	Hand Gun	0.0113	2.25000	3.00	200	0.0338
251436	2008-07-18 082K070		11	565181	5610738	50.64485	-116.07811	Leafy spurge (EUPH ESU)	2016-06-28	Tordon 22K	Boomless Nozzle	0.1800	36.00000	4.50	200	0.8100
251459	2019-05-31 082K070		11	566023	5607001	50.61116	-116.06686	Leafy spurge (EUPH ESU)	2016-07-14	Lontrel	Boomless Nozzle	0.2000	20.00000	0.70	200	0.0700
251506	2019-10-11 082K060		11	561234	5605650	50.59953	-116.13476	Leafy spurge (EUPH ESU)	2016-08-11	Grazon	Boomless Nozzle	0.3500	70.00000	4.50	200	1.5750
251510	2019-06-15 082K070		11	565454	5609646	50.63500	-116.07444	Leafy spurge (EUPH ESU)	2016-06-28	Tordon 22K	Back Pack	0.0900	18.00000	4.50	200	0.4050
262713	2009-07-04 082G052		11	590057	5489064	49.54748	-115.75503	Leafy spurge (EUPH ESU)	2016-06-28	Clearview	Hand Gun	0.0116	2.50000	0.20	215	0.0023
263397	2019-10-11 082K070		11	561683	5606105	50.60057	-116.12834	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Hand Gun	0.0600	12.00000	4.50	200	0.2700
263463	2019-10-10 082K060		11	567773	5603415	50.57871	-116.04279	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Boomless Nozzle	0.0200	4.00000	4.50	200	0.0900
265138	2019-09-29 082K089		11	547966	5634882	50.86363	-116.31842	Leafy spurge (EUPH ESU)	2016-06-13	Clearview	Boomless Nozzle	0.0425	8.50000	0.14	200	0.0060
274889	2019-07-11 082K089		11	553861	5628148	50.80256	-116.23565	Leafy spurge (EUPH ESU)	2016-06-08	Tordon 22K	Back Pack	0.0050	1.00000	4.50	200	0.0225
284839	2011-06-26 082K060		11	570457	5596431	50.51559	-116.00621	Leafy spurge (EUPH ESU)	2016-07-20	Tordon 22K	Boomless Nozzle	0.0225	4.50000	4.50	200	0.1013
284846	2019-10-11 082K070		11	560967	5606576	50.60789	-116.13838	Leafy spurge (EUPH ESU)	2016-08-12	Grazon	Boomless Nozzle	0.0350	7.00000	4.50	200	0.1575
284859	2019-10-10 082K060		11	567573	5603041	50.57537	-116.04568	Leafy spurge (EUPH ESU)	2016-08-15	Grazon	Hand Gun	0.0050	1.00000	4.50	200	0.0225
284874	2011-06-30 082G052		11	589227	5489725	49.55355	-115.76635	Leafy spurge (EUPH ESU)	2016-07-26	Tordon 22K	Hand Gun	0.0628	13.50000	4.50	215	0.2826
290798	2019-10-12 082K070		11	562440	5608110	50.62152	-116.11731	Leafy spurge (EUPH ESU)	2016-08-13	Grazon	Back Pack	0.0250	5.00000	4.50	200	0.1125
291647	2019-05-28 082K060		11	570151	5599342	50.54181	-116.00997	Leafy spurge (EUPH ESU)	2016-05-31	Tordon 22K	Boomless Nozzle	0.0450	9.00000	4.50	200	0.2025
291659	2013-03-04 082J031		11	581336	5576553	50.335										

Appendix 2: EKISC SIPCOLS News



EKISC is partnering for its 9th year with the Columbia Valley Local Conservation Fund (CVLCF) on its Strategic Invasive Plant Control of Leafy Spurge, or SIPCOLS Project.

The SIPCOLS Project has allowed EKISC to work with partners across the Columbia Valley (including the Canadian Wildlife Service and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development) to reduce the infestation size and prevent further spread of [leafy spurge](#). Leafy spurge, originally introduced to the Columbia Valley in the 1960's, poses a threat to grasslands, pastures, and native ecosystems due to its ability to aggressively out-compete desirable plant species. Leafy spurge can also be toxic to livestock and wildlife if ingested at high-enough quantities, and is historically a very difficult species to manage. Due to its incredible ability to quickly spread into neighbouring areas once established, it is important to locate and treat new infestations as soon as possible, and make sure containment lines are in place.

Funding from the [CVLCF](#) has supported both the treatment of existing leafy spurge populations, and the inventory and mapping of new infestations. This allows EKISC to make better informed decisions regarding leafy spurge management planning for the Columbia Valley. The SIPCOLS Project has not only been successful in raising awareness about leafy spurge for land managers and user groups, but has also actively worked to reduce leafy spurge populations in the region. This success would not have been possible without the generous support of CVLCF! We are also grateful for the ongoing support of the Kootenay Conservation Program in administering the CVLCF.

Figure 1 Screenshot of EKISC September Newsletter, highlighting support from CVLCF.



EKISC has now completed its 9th year of administering the **Strategic Invasive Plant Control of Leafy Spurge**, or SIPCOLS, Project. The SIPCOLS Project has allowed EKISC to work with partners across the Columbia Valley to reduce the infestation size and prevent further spread of Leafy Spurge, a vigorous invader that was first introduced into the Columbia Valley in the 1960's. Leafy spurge is a great threat to grasslands, pastures, and native ecosystems as it not only aggressively outcompetes desirable plant species, but can also be toxic to livestock and wildlife if ingested at high-enough quantities.

Though the SIPCOLS project is largely made possible by support from the Columbia Valley Local Conservation Fund (CVLCF), EKISC also partners with other organizations to apply a coordinated approach to Leafy Spurge management in the Columbia Valley. This includes the Village of Radium, BC Parks, Ministry of Transportation, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, FortisBC and the Fish and Wildlife Compensation Program. The goal each year is to not only treat existing Leafy Spurge populations, but also inventory and map new infestations. In 2019, a total of 99 Leafy Spurge sites were treated under this project, covering nearly 10 hectares of treatment area; over half of these were directly funded by CVLCF. Although each year we do add new Leafy Spurge sites to our records (due to a combination of the plant being easily introduced to new areas and our capacity to inventory additional locations), this project is helping us to achieve our long term objectives of working with land managers to collaboratively limit the current extent of Leafy Spurge populations, decrease the size of existing infestations, prevent new infestations from establishing, and increase stakeholder engagement.

The [Columbia Valley Local Conservation Fund](#) is a partnership between the Kootenay Conservation Program and Regional District of East Kootenay that provides funding for projects that benefit conservation in the area from Spillimacheen to Canal Flats.

PHOTO: Jeff Van Tine; Rocky Mountain Front Weed Roundtable's Biological Control Program

Figure 2 Screenshot of EKISC January Newsletter, highlighting support from CVLCF.