

Wildsight Golden's Community Invasive Plant Program

Annual Report 2024



Prepared by Ashley Lang
Community Invasive Plant Program Coordinator
August 2024

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	3
1. INTRODUCTION	4
2. PROGRAM OVERVIEW	5
3. INVASIVE PLANT MANAGEMENT	5
3.1 Priority Sites	5
3.2 Priority Invasive Species	6
3.3 Invasive Plant Surveys and Invasives BC	8
3.4 Removal Strategies	8
3.5 Tarps	9
3.6 Orange Hawkweed Treatment Method Using Natural Herbicide	11
3.7 Restoration	12
3.8 Biological Agents	12
3.9 Overlap of Areas Treated with Spectrum	12
4. PUBLIC OUTREACH	13
4.1 Online Outreach	13
4.2 In-Person Outreach	13
4.3 Private Landowner Outreach	14
4.4 GET WILD! Kids Day Camp	15
4.5 Signage	15
4.6 Media	16
5. COMMUNITY WEED PULLS	16
6. FUTURE RECOMMENDATIONS	19
6.1 Work Term and Hours	19
6.2 Public Outreach	19
6.3 Encouraging Management of Invasive Plants on Private Property	20
6.4 Volunteer Engagement	21

6.5 Future Community Weed Pull Routes	21
6.6 Plastic bags	22
6.7 Future Sites	23
7. CONCLUSION	23
8. APPENDICES	24
Appendix A. 2024 CIPP Invasive Plant Removal Locations and Number of Bags Pulled	25
Appendix B. 2024 CIPP Priority Site Map and Key	27
Appendix C. 2024 Golden IPMA Priority Plant List	28
Appendix D. CIPP Priority Sites Crossed-Referenced with 2024 Golden IPMA Priority Plant List	29
Appendix E. Removal Strategies Guide	31
Appendix F. Natural Orange Hawkweed Recipe	36
Appendix G. Creeping Bellflower Restoration Sign	37
Appendix H. Weedy Wednesday Facebook/Instagram Post	38
Appendix I. Landowner Outreach Letter - Orange Hawkweed	39
Appendix J. Schedule A, from the Property Maintenance Bylaw 1287, 2011	40
Appendix K. No Dumping Sign	41
Appendix L. Community Weed Pull Newspaper Article	42
Appendix M. Golden Star Newspaper Ads For Community Weed Pull	42
Appendix N. Community Weed Pull Poster	43

LIST OF FIGURES

Figure 1. Before and After of the Creeping Bellflower Infestation on Site 21

Figure 2: Black Henbane on Site 19

Figure 3. Tarp Covering Fixed Cypress Spurge Infestation by Site 15

Figure 4. Area of the Tarp Removed from the Creeping Bellflower Infestation by Site 15

Figure 5. New Tarp of Creeping Bellflower at Site 2

Figure 6: Before and After of the Natural Orange Hawkweed Herbicide Being Used

Figure 7. CIPP Display at the Golden Farmer’s Market

Figure 8. Volunteers Posing with Bags of Pulled Weeds After First Community Weed Pull Event

Figure 9. CIPP Coordinator Posing with the Volunteers and CSISS Representative at Second Community Weed Pull

ACKNOWLEDGEMENTS

Wildsight Golden's Community Invasive Plant Program (CIPP) gratefully acknowledges that the program operates within the traditional and unceded territory of the Ktunaxa and Secwépemc Nations, which is the current home to the Métis Nation Columbia River Society.

The CIPP also acknowledges our partners within the community including the Columbia Shuswap Invasive Species Society (CSISS), the Town of Golden, and the community members who supported the program by volunteering their time at the weedpulls. Thank you to the Town of Golden for continuing to fund this program, as well as for being a great help by picking up garbage bags full of invasive plants that the program coordinator collects. CSISS was also a great help to the 2024 coordinator on the use of BC's new provincial mapping database (InvasivesBC), landowner outreach, species identification, community weedpulls, and joining us at the Farmers Markets. Their presence was very supportive and knowledgeable on spreading awareness about invasive species. The program would not be as it is without all the wonderful volunteers. A total of 24 volunteers joined our 2024 Community Weedpull Events.

The CIPP would also like to thank all of the Wildsight Golden staff, everyone was very helpful and great to communicate and coordinate with. Including the Get Wild! Kids Day Camp Coordinator Steph Wiggins who was a pleasure to work with. Wildsight Golden Branch Manager Leslie Adams, and the Invasive Plant Program Manager Rachel Darvill, the program wouldn't have been possible without your support.

1. INTRODUCTION

Invasive plants are species that are not native to a specific ecosystem, and they tend to reproduce rapidly and spread aggressively, often causing harm (National Wildlife Federation, 2018). These species can displace native plants and disrupt the natural balance of the ecosystems they invade. They are often introduced without their natural predator. Invasive species can significantly alter habitats and outcompete native species for essential resources like moisture, food, and shelter (Invasive Species Strategy for British Columbia, n.d.). However, not all non-native species are considered invasive; they must also have negative environmental, economic, or social impacts to be classified as such (Invasive Species Centre. (n.d.).

Invasive species are the second-largest threat to global biodiversity, surpassed only by habitat loss. Once introduced, these species can continue to spread in their new environment, threatening ecosystems by increasing predation, altering habitats, and heightening competition for resources (Parks Canada Agency, G. of C., 2023). For example, invasive plants in agricultural fields and pastures cost an estimated \$2.2 billion annually due to reduced crop yields and quality, as well as increased weed control and harvesting expenses (Canadian Food Inspection Agency, 2016).

The spread of invasive species is primarily driven by human activities, such as the movement of whole plants, seeds, burs, root pieces, horticultural goods, transported goods, machinery, and vehicles. Soil erosion, overgrazing, off-roading, and other forms of soil disturbance can further contribute to their spread. Additionally, invasive plants can be spread by wind, water, livestock, wildlife, and even on footwear, clothing, and pets. To limit the spread of invasive plants, best practices include ensuring equipment and materials are free of invasive species and minimizing unnecessary soil disturbance (Invasive Species Strategy for British Columbia, n.d.).

Programs like Wildsight Golden's Community Invasive Plant Program (CIPP) are crucial for managing the harmful effects of invasive plants. These initiatives focus on promoting non-toxic removal methods and educating the public. Each year, the program targets and removes over a dozen invasive plant species.

2. PROGRAM OVERVIEW

Wildsight Golden's CIPP Program has been running since 2010, thus 2024 was the 15th season for the CIPP. This year the program ran from May 13- August 16 for a total of 420 hours of work. The program had approximately the same start/end as last year's season, which ran from May 15- August 18 (Beauchesne, 2023). The 2024 Invasive Plant Program Coordinator, Ashley Lang, was new to the program this year. The program worked to remove invasive plants throughout the Town of Golden using non-toxic methods, spread awareness about invasive plants through community outreach, support community members in removing invasive plants on their private property, and hosted community weedpulls. The Coordinator removed invasive plant species at 18 Priority Sites, including 1 new site. The CIPP Coordinator removed 106 bags in 2024 with the help of community volunteers and CSISS representatives, for a total of 2708 bags for the CIPP to date (August 14). Early to middle of the season, plant stems and roots like Diffuse and Spotted Knapweed, Mullein, and Common Burdock, were left to decompose. These particular plants only spread by seed and not roots or rhizomes. At this time these plants had no seeds and they were left to dry out in the sun. This strategy was followed from last year to reduce the use of plastic bags.

3. INVASIVE PLANT MANAGEMENT

3.1 Priority Sites

The CIPP has 21 Priority Sites located mostly in public parks and around walking trails and roadways in the Town of Golden (see Appendix B). One new Site was added to the Priority Site list in 2024. An infestation of Creeping Bellflower (*Campanula rapunculoides*) (see Figure 1). Site 21: Rotary Trail, on the corner of 14th Street South and 6th Avenue South. Of these Sites, 18 had invasive plants removed by the CIPP Coordinator.



Figure 1: Before and After of the Creeping Bellflower Infestation on Site 21.

3.2 Priority Invasive Species

The 2024 Coordinator used the priority site list from the previous Coordinator for invasive plant species in priority sites.

Site 19: the walking trail from the traffic bridge was closed due to construction, unable to treat that part of the site.

Regional EDRR plant species: Black Henbane (*Hyoscyamus niger*) was spotted on Site 19 and removed (see Figure 2). There was only a single plant in that area. However, this species is a high priority as it's classified as a regional prevention species in the Golden area. The goal when it is listed as an EDRR is to catch the plant species early so it does not establish and cause harm. In the future if Black Henbane is spotted, it should be sent immediately to [ReportInvasives](#). This ensures the province receives these high priority reports immediately. You can report the plant species with a photo; online, the Report Invasive BC mobile app or emailing (invasive.plants@gov.bc.ca). A photo allows Provincial specialists to confirm the identification and be able to accurately record the information that is submitted (Reporting Invasive Species - Province of British Columbia, 2019).

High priority species that were removed include: Cypress Spurge (*Euphorbia cyparissias*), Common Tansy (*Tanacetum vulgare*), Diffuse Knapweed (*Centaurea diffusa*), Leafy Spurge (*Euphorbia esula*), Spotted Knapweed (*Centaurea stoebe*), and Baby's Breath (*Common gypsophila*). Lower priority species that were removed include; Orange Hawkweed (*Pilosella aurantiaca*), Bull Thistle (*Cirsium vulgare*), Common Burdock (*Arctium minus*), Canada Thistle (*Cirsium arvense*), Common Comfrey (*Symphytum officinale*), Hounds Tongue (*Cynoglossum officinale*), Western Goat's Beard (*Tragopogon dubius*), Wormwood (*Artemisia absinthium*), Dame's Rocket (*Hesperis matronalis*), Dalmatian Toadflax (*Linaria dalmatic*) and Yellow Toadflax (*Linaria vulgaris*).

Creeping Bellflower (*Campanula rapunculoides*) is not yet listed as an invasive species in British Columbia. As it is found mainly in peoples gardens and back alleys. However, Creeping Bellflower is listed as a noxious weed in the nearby province of Alberta (Alberta Invasive Species Council, n.d.).



Figure 2: Black Henbane on Site 19.

3.3 Invasive Plant Surveys and Invasives BC

The online provincial government program used to input invasive plant species distribution and removal methods changed in 2023, from the Invasive Alien Plant Program to InvasivesBC. In 2024 the CIPP Coordinator conducted invasive plant surveys on paper for each priority site prior to removal and recorded the density and distribution of each invasive plant. This information was then inputted into Invasives BC at the end of the year as well as the type of treatment method.

The species Creeping Bellflower (*Campanula rapunculoides*) is not listed in Invasives BC yet so no data was entered for Sites 6, 15, and 21.

3.4 Removal Strategies

The 2024 CIPP Coordinator used the Removal and Disposal Strategies guide, developed by the 2022 Coordinator, to effectively manage the removal and disposal of invasive plants (see Appendix E). The primary treatments employed were manual methods, mainly digging, but also hand pulling and deadheading. The choice of manual removal method was determined by the plant type and whether or not it had seeded. For example, plants that spread via roots, like Knapweed, were dug up, while plants that spread by seed, such as Burdock, had their burrs collected and bagged. Biennial plants that hadn't yet seeded, like Burdock rosettes, were often left to be deadheaded the following year.

Following advice from the 2023 Coordinator, the 2024 Coordinator was able to reduce plastic waste by prioritizing the removal of plants that hadn't yet gone to seed, like Knapweed, earlier in the season. These plants were dug up and left to decompose on the ground. This season it was a very wet and cold spring and subsequently plants seeded later than usual. Once plants started seeding the Coordinator started bagging all parts of the invasive plants. A natural herbicide to treat Orange Hawkweed was also used, similar to previous Coordinators (see section 3.6). Tarps were also used as well (see section 3.5).

3.5 Tarps

Tarped sites are in place to help stop isolated infestations of an invasive plant. Cypress Spurge, Creeping Bellflower, and Dalmatian Toadflax are the invasive species tarped throughout the town. The tarps placed on the ground suppress plant growth by blocking light, which is required for growth, and by stimulating (some) seed germination, by maintaining moist conditions. When seeds emerge from the soil, they quickly die due to the lack of light thereby reducing the population in the soil seed bank. The tarps are left in place for months to years, depending on the species being treated and ability to grow.

Tarps had been put up by the previous Coordinator at Site 15 to control a Cypress Spurge infestation. These tarps seem to be working and helping control the spread. Only one or two Cypress Spurge plants were found around the site. The tarp on the east end was found completely off the area in the trees. Both tarps were left on for another summer to use up the seed bank and were re-secured and given a new sign for winter (see Figure 3). It is recommended to remove both tarps in Summer of 2025 to test if the tarps are an effective prevention for stopping the spread of Cypress Spurge.

In 2023 a new tarp was also put up in the Riverglen Drive alleyway (by Site 15) to control a Creeping Bellflower infestation. However, this tarp was removed because most of the Creeping Bellflower infestation was growing on private property and not taken care of by landowner. Making the tarp ineffective (see Figure 4).

The tarp at Alexander Park to control Dalmatian Toadflax. Was also flipped around, it was re-secured and was given a new sign. There were lots of Dalmatian Toadflax sprouting far around the tarp, these were dug up at the Community weedpull. It is recommended for the 2025 coordinator to survey for next year and see if the tarp is working for this species.

A new tarp was added to help control the spread of a small infestation of Creeping Bellflower along the Rotary Trail on Site 2. This should be monitored in the 2025 season and left on till Summer of 2026 or 2027 (see Figure 5).



Figure 3. Tarp covering fixed Cypress Spurge infestation by Site 15.



Figure 4: Area of the tarp removed from the Creeping Bellflower infestation by Site 15.



Figure 5: New tarp of Creeping Bellflower at Site 2.

3.6 Orange Hawkweed Treatment Method Using Natural Herbicide

A natural herbicide to treat Orange Hawkweed has been used by previous Coordinators. However, they have not recorded the long-term effectiveness of the natural Orange Hawkweed herbicide. An area on Site 7 has been staked out to test if the herbicide was effective for the removal of Orange Hawkweed. After a week since the herbicide was first applied the CIPP Coordinator went back to the Site and noticed that the herbicide stopped the growth of the plant so it didn't go to seed. (see Figure 6). It is recommended for next year CIPP to check the Site and see if there are any growing changes when the natural herbicide is applied. The natural Orange Hawkweed herbicide recipe was from the previous coordinator (see Appendix F).



Figure 6: Before and After of the Natural Orange Hawkweed Herbicide being used.

3.7 Restoration

The restoration process used here is the process of re-seeding disturbed areas with native plant seeds to discourage the invasive plants from re-claiming the site. Wherever the removal of plant species required extensive digging like digging up the Common Burdock rosettes, the CIPP will restore the site with native grass seed. The grass seed mixture consisted of Northern Wheatgrass, Slender Wheatgrass, Annual Ryegrass, Idaho Fescue, Rocky Mountain Fescue, Tufted Hairgrass, Junegrass, and Spike Trisetum. Thank you to the Town of Golden for providing the grass seed for this program.

3.8 Biological Control Agents

There are two biological control agents that have been monitored by the CIPP in the Town of Golden, but monitoring by the CIPP was not done in 2024. The first is the root-feeding weevil (*Cyphocleonus achates*) at Site 11 along the Kicking Horse River from the Oso Building to the CP train bridge. The root-feeding weevil feeds on the roots of Spotted and Diffuse Knapweed. The second biological control agent is the stem-mining weevil (*Mecinus janthinformis*) to control Dalmatian Toadflax in Alexander Drive Park.

3.9 Overlap of Areas Treated with Spectrum

In previous years there was overlap between CIPP work areas and pesticide treatment by Spectrum Resource Group Inc. (SRGI). SRGI is a private contractor hired by the Town of Golden to mechanically/chemically treat invasive plant species. With good communication at the start of the year with Spectrum's Project Manager there was no overlap this year. The CIPP Coordinator used the detailed map and key of the CIPP (Appendix B) work areas to send to SRGI so they could see what areas to avoid in their work.

4. PUBLIC OUTREACH

4.1 Online Outreach

The CIPP Coordinator helped promote the program and educational information about invasive plants through online outreach including weekly 'Weedy Wednesday' posts on the Wildsight Golden Facebook and Instagram page (see Appendix H), and answering any comments that were left on the CIPP social media posts. Eblasts were also sent out monthly to the Wildsight Golden email list. The content included different information on invasive plant species and how to remove them, invasive plant food recipes, Get Wild! Kids Day Camp, work updates on the CIPP program and information and promotion of future events such as Community Weed Pulls.

4.2 In-Person Outreach

The 2024 Coordinator took part in three Golden Farmers Markets in June and July. CSISS was in attendance for two of the three markets. The CSISS staff were extremely valuable to have at the Farmers Markets as they are very knowledgeable on invasive species. CSISS brought interactive displays about invasive species such as the "Spin-the-wheel" facts game that attracted many kids to come learn about invasive species. In their set up they also had an American Bullfrog in a jar, then toys of Zebra Mussels, Goldfish, and a Red-eared slider turtle. Their props and games were very effective at attracting people to interact with the booth. At the booth there were also informational pamphlets on invasive species, including identification, and removal methods. At the one farmer's market that CSISS did not attend, the CIPP Coordinator set out a table of common invasive plant species throughout Golden, invasive species flower bouquet, and more information pamphlets about invasive species. This was a great way to attract people to the booth and get them asking questions about the species and learning ways how to remove them from their yard (see Figure 7).



Figure 7. CIPP Display at the Golden Farmer's Market

4.3 Private Landowner Outreach

Five houses on Riverglen Drive were visited by the CIPP Coordinator about Orange Hawkweed infestations in the neighborhood (see Appendix I). The outbreak of Orange Hawkweed has been growing in neighborhoods in Golden. It was observed by the CIPP coordinator that many houses along 9th Street South (by Lady Grey Elementary School) have an infestation of Orange Hawkweed; those houses were also visited and were given an information sheet about Orange Hawkweed. Many people came up to the CIPP during the Farmers Markets and asked how to get rid of Orange Hawkweed on their property.

4.4 GET WILD! Kids Camp

The CIPP Coordinator spent one day and two afternoons with Wildsight Golden's GET WILD! kids day camp playing fun educational games and activities about invasive plants. By playing 'Stop the Spread Freeze Tag', the kids learned how invasive species have adaptations that help them spread quickly and take over the environment (such as the sticky velcro-like seed burs on Common Burdock). The coordinator also showed the importance of early detection and rapid response to stop the spread and explored how the spread of invasive species can be affected by different variables, including exposure time, the number of invasive species introduced, and early detection. Then the 'Here or Away' game was played with the kids where a picture of an animal/plant was shown and the kids had to guess if it was from here (native) or away (invasive). They also played "Invasive Species Prime Suspect" where they were given a card of a description of an invasive species then they had to go around the park and find the photo that matched the description. This helped the kids learn about different invasive species in the area and how to identify them. During lunch, the kids made up their own invasive plant game by pretending the camp counselor was an invasive plant and the kids were "first responders" chasing them all over the park. While going on a walk the kids participated in a scavenger hunt and learned to identify different invasive plants such as Western Goatsbeard, Common Burdock, Oxeye Daisy, and Common Tansy. As we finished our outdoor adventure, we practiced the simple steps of PlayCleanGo and used a tool to remove plants and mud from our boots and gear to stop the spread of invasive species.

4.5 Signage

Any damaged or old signs from last year were replaced with new signs to help inform the public on specific things. For instance, "No Dumping" signs were replaced at Site 13 behind the Dojo Center, Site 1 at Alexander Park Drive, and Site 2 by 14th Street on the Rotary Trail. (see Appendix K) Restoration signs were also added and updated. Both signs of the Cypress Spurge restoration area on Site 15 were replaced and the Creeping Bellflower restoration sign on Site 15 was removed. The Dalmatian Toadflax restoration sign on Site 1 at Alexander Park Drive was also replaced. At Site 2 a Creeping Bellflower restoration sign was added as well as a tarp for the small infestation. (see Appendix G).

4.6 Media

A press release on Wildsight Golden's Community Invasive Plant Program was published in the Golden Star Newspaper on May 30, 2024 (see Appendix L). This article included information on invasive plant species, the CIPP and the new Coordinator. Two ads were sent to the Golden Star Newspaper about the Community Weed Pull Events (see Appendix M).

5. Community Weed Pulls

Two Community Weed Pull Events were held during the summer of 2024. The locations were the same as the 2023 season. The events were promoted through posters (see Appendix N), Golden Star Ads (see Appendix L), social media and eblasts, as well as the Farmers Market.

The first Community Weed Pull Event took place at Alexander Park Drive (Site 1) on Saturday, July 13th Friday from 10:00 am-2:00 pm. Thirteen volunteers attended, as well as two representatives from CSISS. (see Figure 8) Twenty-four bags of Western Goatsbeard, Wormwood, Common Burdock, Dalmatian Toadflax, Mullein, Canada Thistle, and Spotted and Diffuse Knapweed were collected. Pizza was purchased by Wildsight Golden from a local restaurant (The Turning Point) and was provided for free to all the volunteers for lunch.



Figure 8: Volunteers posing with bags of pulled weeds after the first Community Weed Pull Event.

The second Community Weed Pull took place on Saturday August 10th from 10:00am - 2:00pm at the Golden Disc Golf course (Site 16), this event was a great success. Eleven volunteers participated, including three new families to the community and three returning participants. One representative from CSISS in attendance for a total of thirteen people, including CIPP Coordinator (see Figure 9). All invasive plants except Burdock rosettes were removed, the Burdock seeds were cut from the plant and immediately bagged. We were able to collect twenty-four bags of invasive plants including Common Burdock, Canada and Bull Thistle, Mullein, Sulfur Cinquefoil, Western Goatsbeard, and Spotted and Diffuse Knapweed. After pulling weeds, Wildsight Golden provided volunteers with a free and delicious burrito to all volunteers, which were purchased by Wildsight Golden and made by Resposados.



Figure 9: CIPP Coordinator Posing with the Volunteers and CSISS Representative At Second Community Weed Pull.

6. FUTURE RECOMMENDATIONS

6.1 Work Term and Hours

The work terms for the 2024 CIPP Coordinator was 14 weeks (420 hours), the same as the previous Coordinator. The previous Coordinator recommended the summer Office Assistant help the CIPP Coordinator in the field a few hours a week to make it easier for the Coordinator to remove all invasive plant species in the work sites, both high priority and lower priority sites. However, there was no summer Office Assistant hired by Wildsight Golden in 2024 as there was no funding available to do so.

6.2 Public Outreach

The CIPP Coordinator attended the Golden Farmer's Market three times throughout the summer. Public outreach is very important to share and educate people on invasive plant species. It is recommended that the CIPP continues to attend Golden Farmers Markets. The CIPP should make an effort to stay in contact and invite CSISS to join the Farmers Markets. They were a great help in attracting people to the booth and have vast knowledge about invasive species that they were able to share. If CSISS is not present the CIPP coordinator should make efforts to design some interesting props to attract people attending the market. The table set up with common invasive plants and the bouquet was a great simple way to attract people and physically show them some common invasive plants throughout the Golden area.

The Golden Star is a good way to get the word out about invasive plant species. One press release and two ads about the Community Weedpulls were sent out. Social media posts were also very successful and had many Facebook and Instagram comments asking more about invasive plants. Free food for Community Weed Pull volunteers was also highlighted in future advertisements.

6.3 Encouraging Management of Invasive Plants on Private Property

The CIPP program is limited to managing invasive plants on Town of Golden property. Unfortunately, this means that some infestations cannot be removed as they are on private land. This is especially frustrating when the infestations cannot be removed as they are on private land adjacent to priority sites in Golden. For example, on Site 11 on the other side of the road is private property and they have an infestation of Spotted and Diffuse Knapweed that seeds and spreads to the other side of the road where Site 11 is. Also, the Creeping Bellflower infestation by Site 15 the tarp was removed because the yards up against the fence had a huge infestation of Creeping Bellflower. It is recommended to visit those sites and houses to encourage management of invasive plants in 2025. The Orange Hawkweed outbreak along 9th Street South should also be re-visited next year as this is a new area of private landowner outreach. The CIPP Coordinator did private landowner outreach to residents at Riverglen Drive about Orange Hawkweed, this should also be re-visited next year. In Site 6 there is visibly Common Tansy and Burdock on private property that isn't being controlled by landowners.

No letters were sent to the landowners about invasive plant removal as multiple letters were sent by previous Coordinators for several years but have been ineffective. There is a bylaw in Golden that is able to enforce the management of noxious weeds on private property (see Appendix J). However, even though Common Tansy is listed as a Regional Noxious Weed by the BC Weed Control Act, it is not listed as a noxious weed under the local bylaw. It is recommended that the 2025 Coordinator send out another letter to the private property houses that are affected by invasive plants. The 2025 Coordinator should visit Site 6 earlier in the season to assess the situation and advocate for Common Tansy to be added to the Noxious Weed list of this bylaw so that its removal can be enforced by the Town of Golden.

It is also recommended to monitor and document the effectiveness of experimental treatments that the CIPP has implemented at different sites. For instance, all tarped Sites (1,2, and 15) be visited at the beginning of the 2025 field season to document variables such as: the size of the tarped areas at each site, the invasive species' present at each site, date tarp was installed (and removed), abundance and distribution prior to tarps being laid (using the BCInvasives site where necessary). Additionally, Site 7 where the natural herbicide was applied to the Orange Hawkweed should also be monitored and documented in excel format.

6.4 Volunteer Engagement

The Community Weed Pull Events were great in helping educate and engage the public about invasive plant species/removal, as well as to help the Coordinator remove large quantities of invasive plants from priority sites; 48 bags were collected between the two events in 2024. There was great attendance for volunteers this year. We had 24 volunteers total for both weed pulls. It is recommended to attend Farmers Markets close to the weedpull dates, since this was where most of the volunteers signed up for the weedpull. We also had a couple new families say they saw the event posted on Golden Tourism's social media page. The previous Coordinator recommended a potential 3rd Community Weed Pull Event. This would be beneficial as it would help remove a large number of invasive plants from a 3rd priority site. However, the CIPP Coordinator didn't think there was another priority site that was worth hosting another weedpull later in the season. The first community weedpull was on July 13th if next year CIPP wanted to host a third it is recommended to have it earlier in the season. If earlier in the season talk to Golden's Elementary or High Schools and see if they would like to learn and participate in the weedpulls.

6.5 Future Community Weed Pull Routes

The 2024 CIPP Coordinator used the previous Coordinator's locations for the Community Weed Pull Events: Alexander Drive Park and Hole #1 at the Golden Disc Golf course. These sites were surveyed beforehand, as well as the sites for previous Community Weed Pulls at Site 17, 18 and 19, of which all had very little amounts of invasive plants. Site 2 and 13 were also surveyed and considered for the weedpull. However, Alexander Park and the Golden Disc Golf Course had a sizable number of invasive plants, so these sites were chosen for the 2024 weed pull events.

Alexander Park was a good location as there were sufficient invasive plant species to work on throughout the event, as well it had a good variety of invasive plant species to teach people about. Alexander Park is also a good location as there are picnic tables and sufficient shade available. Alexander Park should be explored as another option for a weed pull event in 2025, if there are sufficient invasive plants to work on. There was lots of Common Burdock, Spotted and Diffuse Knapweed, Canada Thistle, Western Goatsbeard, and Wormwood growing in that area.

The Golden Disc Golf course was also a great location for the weed pull; there were facilities nearby which was convenient. Some of the invasive species collected were Knapweed, Mullein, Canada Thistle, and Sulfur Cinquefoil. However, most of the invasive species were Burdock rosettes and seeds. Volunteers worked on cutting off all the Common Burdock seeds and bagging immediately. The rosettes were left for next year's coordinator, when those Burdock rosettes flower next year, there will be sufficient work for another weedpull.

Site 2 could be explored as an option for a future weed pull as there are a lot of invasive plant species and of different varieties. This site would be great for a potential 3rd weedpull earlier in the season to involve the schools. Site 21 is also close to the area and can have them work on the Creeping Bellflower infestation in the trees. However, the area lacks any amenities or facilities.

6.6 Plastic Bags

This year the Coordinator had sufficient plastic bags to last throughout the season, so the Coordinator didn't have to get anymore. This year at the end of the season we are running low on plastic bags, so next year will have to get more. The previous Coordinator noticed at the Community Weed Pull Events the bags brought by CSISS were labeled certified compostable. The bags seemed durable and seemed identical to the bags the Coordinator normally used. After doing some research, the previous Coordinator found out there were several companies with certified compostable plastic bags that are advertised as being durable, with good reviews. It is highly recommended that the future Coordinator pursue this option at the beginning of the 2025 work term in order to reduce the amount of plastic waste the CIPP is producing. This can also be talked about at Community Weed Pull events so volunteers can feel better about the amount of waste they are producing (Beauchesne, 2023).

6.7 Future Sites

It is recommended that Site 6 be removed from the priority list, as almost the whole area is on private land. However, private landowner outreach is encouraged in that area for the future Coordinator. Site 21 was added and should be kept and monitored because of a big infestation of Creeping Bellflower. Creeping Bellflower is very hard to get rid of once established because it spreads from the roots and rhizomes, therefore it is recommended to visit the site many times throughout the season. Site 3 should continue to be monitored for Himalayan Balsam, but no invasive plants were found, besides some Burdock rosettes.

7. CONCLUSION

Overall, the 2024 CIPP season was successful. The program was able to remove a significant amount of invasive plants using non-toxic methods, interact with the community and educate people about invasive species through Golden Farmers Markets, Get Wild! Kids Day Camp, Community Weed Pull Events, door to door outreach on private property, and people stopping by to say hello and ask questions while the CIPP was pulling weeds. Besides the face-to-face interactions there were also social media posts, emails, and newspaper articles to spread awareness about invasive plants. With the help of many wonderful volunteers the program was able to remove 106 bags of invasive plants in 2024.

8. REFERENCES

Alberta Invasive Species Council. (n.d.). Creeping Bellflower. Retrieved from

<https://abinvasives.ca/factsheet/creeping-bellflower/>

Beauchesne, C. (2023). Wildsight Golden Annual Report 2023: Golden's Community Plant Program. Technical Report. Wildsight Golden.

Canadian Food Inspection Agency. (2016). *Invasive plants in Canada - inspection.canada.ca*. Canada.ca.

Retrieved from <https://inspection.canada.ca/en/plant-health/invasive-species/invasive-plants>

Forests, M. of. (n.d.). *Invasive plants - Province of British Columbia*. Wwww2.Gov.bc.ca. Retrieved from

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/management/plants>

Invasive Species Centre. (n.d.). *Learn about invasive Species*. Invasive Species Centre. Retrieved from

<https://www.invasivespeciescentre.ca/learn/>

Invasive Species Strategy for British Columbia. (n.d.). Retrieved from

<https://bcinvasives.ca/wp-content/uploads/2024/07/Invasive-Species-Strategy-for-British-Columbia-2024-2028-WEB.pdf>

National Wildlife Federation. (2018). *Invasive species*. The National Wildlife Federation; National Wildlife

Federation. Retrieved from <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Threats-to-Wildlife/Invasive-Species>

Parks Canada Agency, G. of C. (2023, July 10). *Care for the land: Parks Canada works to control invasive*

alien species - Nature and science. Parks.canada.ca. Retrieved from <https://parks.canada.ca/nature/science/especies-species/especies-envahissantes-invasive-species>

Reporting Invasive Species - Province of British Columbia. (2019). Gov.bc.ca.

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/reporting-invasive-species>

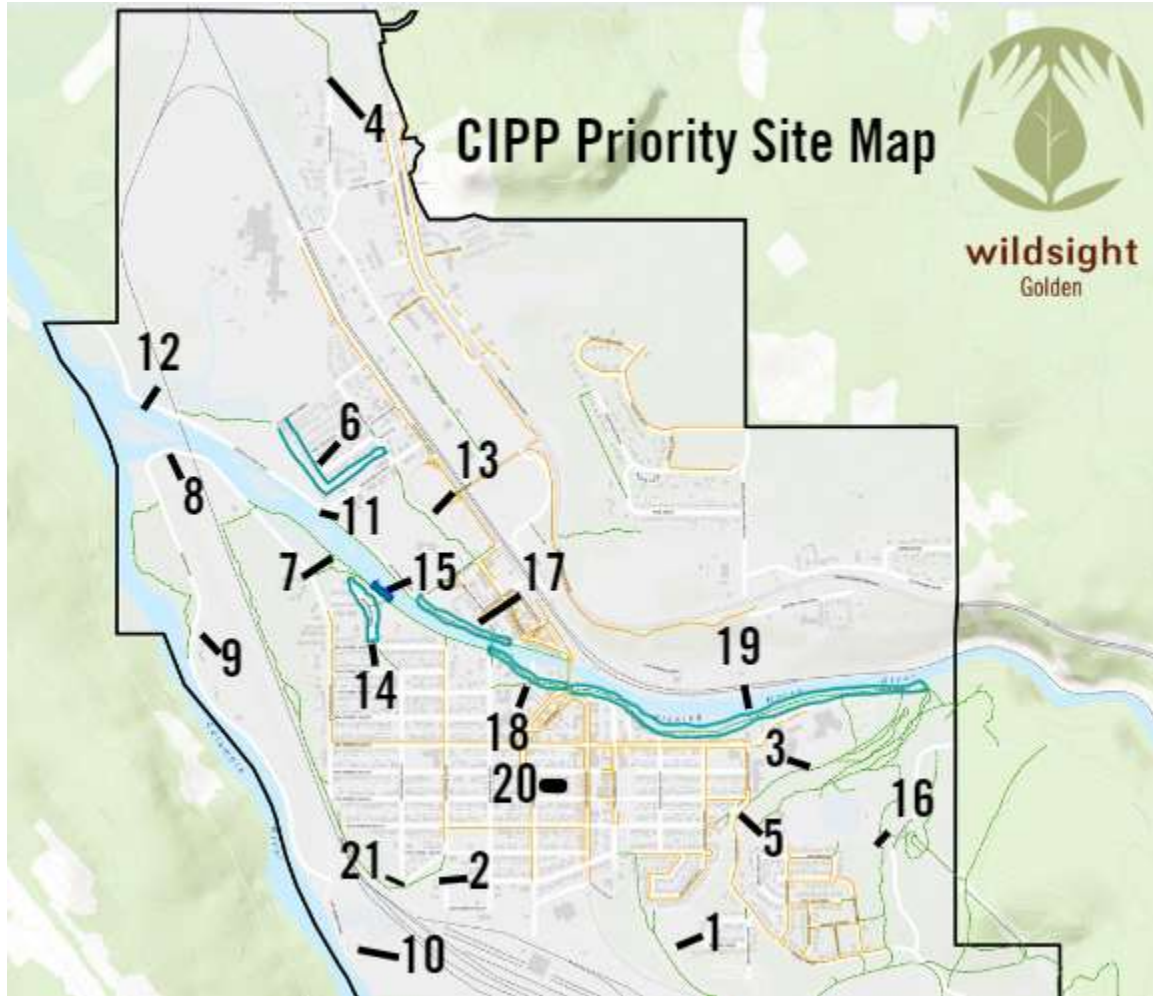
8. Appendix A. 2024 CIPP Invasive Plant Removal Locations and Number of Bags Pulled

Site Number	Location	Invasive Plants Removed	# of bags
1	Alexander Drive Park	Spotted and Diffuse Knapweed, Western Goat's Beard, Wormwood, Mullein, Common Burdock, Dalmatian Toadflax, Canada Thistle,	25
2	Rotary Trail, 14th St S to 6th Ave S	Western Goatsbeard, Common Tansy, Common Burdock, Canada Thistle, Mullein, Dames Rocket,	6
3	Rotary Trail and area behind High School	N/A	0
4	Edelweiss Slough, along the parking lot and the trail	Common Burdock, Canada Thistle	1
5	Rotary Trail, 11th St S by Well #3	Spotted/Diffuse Knapweed	2
6	Alleyway and walking path behind King Crescent	Common Tansy, Spotted and Diffuse Knapweed	14
7	Rotary Trail, CP Bridge to Pedestrian Bridge	Spotted and Diffuse Knapweed, Leafy Spurge, Mullein, Orange Hawkweed, Yellow/Common Toadflax	4
8	CP Bridge to Confluence, on the River side of the road	Spotted/Diffuse Knapweed, Common Tansy	2
9	Confluence to the Airport, along Fisher Rd	Spotted Knapweed, Common Comfrey, Canada Thistle, Mullein, Western Goatsbeard	3
10	From the Little Mittens building to the Barn Swallow building, between the Private Driveway and the Columbia River	Common Burdock, Common Tansy, Canada Thistle, Yellow Toadflax	6.5
11	Kicking Horse Drive, 9th St N to CP Bridge, the side of the road by the river	Spotted/Diffuse Knapweed, Mullein, Yellow Toadflax	4

Golden's Community Invasive Plant Program Annual Report 2024

12	Kicking Horse Drive, CP Bridge to the Ski Hill Bridge, the side of the road by the river	Spotted/Diffuse Knapweed, Mullein	4
13	Walking Trail, from behind the Dojo to 7th St N	Canada Thistle, Common Burdock	3
14	Riverglen Drive	Orange Hawkweed, Creeping Bellflower	N/A
15	South bank of the Rotary Trail, encompasses the backs of the first 3 houses in from the Riverglen Drive pathway	Glandular Baby's Breath, Creeping Bellflower, Cypress Spurge, Mullein, Western Goatsbeard	2.5
16	Golden Disc Golf Course, area around Hole #1	Canada Thistle, Mullein, Sulphur Cinquefoil, Spotted Knapweed, Common Burdock, Yellow Toadflax	24
17	Spirit Square to Oso Building, along Kicking Horse River	Spotted/Diffuse Knapweed, Western Goatsbeard	1
18	Pedestrian Bridge to Traffic Bridge, along Kicking Horse River	Common Burdock, Mullein, Western Goatsbeard	0.5
19	Traffic Bridge to Municipal Campground (end of trail), along Kicking Horse River	Western Goat's Beard, Mullein, Wormwood	1
20	Alleyways between 12th Street S and 9th Street S	Common Burdock	0
21	Rotary Trail, on the corner of 14th Street South and 6th Avenue South.	Creeping Bellflower	2.5
Total # bags			106

Appendix B. 2024 CIPP Priority Site Map and Key



Appendix C. 2024 Golden IPMA Priority Plant List

Golden IPMA Priority Plant List		
<p>PREVENT – High priority species not currently known in the IPMA and/ or within the region. Management objective is to prevent the introduction and establishment. Bolded species indicate Provincial EDRR</p>		
<ul style="list-style-type: none"> - Bighead knapweed - Black henbane - Black knapweed (BC) - Brown knapweed - Buffalobur - Bur chervil - Colt's foot - Field scabious - Garlic mustard - Giant hogweed - Giant knotweed - Gorse 	<ul style="list-style-type: none"> - Greater knapweed - Himalayan blackberry - Himalayan knotweed - Hoary cress - Japanese butterbur - Longspine sandbur - Marsh plume thistle - Nodding thistle - North Africa grass - Plumeless thistle - Puncturevine - Rush skeletonweed (BC) 	<ul style="list-style-type: none"> - Russian knapweed - Scotch broom - Scotch thistle - Spurge laurel - Tansy ragwort - Teasel - Tree of heaven - Wild chervil - Wood sage - Yellow archangel - Yellow flag iris
<p>REGIONAL EDRR – High priority species extremely limited in extent (less than 10 very small sites) within the Columbia Shuswap Regional District boundary. Management objective is eradication.</p>		
<ul style="list-style-type: none"> - Common bugloss - Cypress spurge 	<ul style="list-style-type: none"> - Short-fringed knapweed 	<ul style="list-style-type: none"> - Wild parsnip
<p>ANNUAL CONTROL – Species with limited extent and/ or significant potential to spread. Management objective is to prevent further expansion into new areas with the ultimate goal of reducing the overall extent.</p>		
<ul style="list-style-type: none"> - Baby's breath - Blueweed - Bohemian knotweed - Common Tansy 	<ul style="list-style-type: none"> - Diffuse knapweed (BC) - Hoary alyssum - Japanese knotweed - Leafy spurge (BC) 	<ul style="list-style-type: none"> - Meadow knapweed (BC) - Poison hemlock - Policeman's helmet - Scentsless chamomile (BC)
<p>CONTAINMENT – Species is established or with high potential for spread. Management objective is to prevent further expansion into new areas within the region through establishment of containment lines and identification of occurrences outside the line to control.</p>		
<p>Contain to gardens:</p> <ul style="list-style-type: none"> - Butterfly bush - Common periwinkle - English holly - English ivy - Garden yellow loosestrife 	<ul style="list-style-type: none"> - Goutweed - Mountain bluet - Myrtle spurge - Russian olive - Salt cedar/ Tamarisk - Siberian elm 	<p>Contain to northern portion of IPMA - treat south of containment line:</p> <ul style="list-style-type: none"> - Spotted knapweed (BC)
<p>MANAGEMENT – Species is more widespread but may be of concern in specific situations with certain high values - e.g., conservation lands, specific agriculture crops. Management objective is to reduce the invasive species impacts locally or regionally, where resources are available.</p>		
<ul style="list-style-type: none"> - Bull thistle (BC) - Burdock - Canada thistle (BC) - Caraway - Chicory - Common comfrey 	<ul style="list-style-type: none"> - Dalmatian toadflax (BC) - Hound's tongue (BC) - Meadow buttercup - Orange Hawkweed - Oxeye daisy - Purple loosestrife (BC) 	<ul style="list-style-type: none"> - St. John's Wort (BC) - Western goat's beard - Wormwood - Yellow hawkweed spp. - Yellow toadflax (BC)
<p>INSUFFICIENT INFORMATION – Species have insufficient information on their distribution, impacts, potential for spread and/or feasibility of control. Further information is required.</p>		
<ul style="list-style-type: none"> - Bachelor's button - Black locust - Carpet burweed - Cheatgrass/downy brome - Creeping buttercup - Curly leaf pondweed - Dame's rocket - Eurasian water milfoil 	<ul style="list-style-type: none"> - Eyebright - Field bindweed - Flat peavine - Fragrant water lily - Greater celandine - Green foxtail - Kochia - Lady's thumb 	<ul style="list-style-type: none"> - Meadow goat's beard - Nightshade - Queen Anne's Lace - Russian thistle - Sulphur cinquefoil - Sweet fennel - Wild four o'clock - Woolly vetch

BC – biocontrol

Appendix D. CIPP Priority Sites Cross-Referenced with 2024 Golden IPMA Priority Plant List

IPMA Color Codes:

Prevent, **Regional EDRR**, **Eradication/Annual Control**, **Containment**, **Management**, **Insufficient Information**

Site Number	Location	Invasive Plants Found
1	Alexander Drive Park	Spotted and Diffuse Knapweed, Common Burdock, Western Goatsbeard, Wormwood, Dalmatian Toadflax, Canada Thistle, Mullein
2	Rotary Trail, 14th St S to 6th Ave S	Common Tansy, Common Burdock, Western Goatsbeard, Canada Thistle, Dame’s Rocket
3	Rotary Trail and area behind High School	N/A
4	Edelweiss Slough, along the parking lot and the trail	Common Burdock, Canada Thistle
5	Rotary Trail, 11th St S by Well #3	Spotted Knapweed
6	Alleyway and walking path behind King Crescent	Common Tansy, Spotted/Diffuse Knapweed, Canada Thistle, Common Burdock, Common Comfrey, Creeping Bellflower
7	Rotary Trail, CP Bridge to Pedestrian Bridge	Leafy Spurge, Spotted and Diffuse Knapweed, Common Tansy, Orange Hawkweed, Western Goatsbeard, Mullein
8	CP Bridge to Confluence, on the River side of the road	Spotted/Diffuse Knapweed, Common Tansy, Mullein
9	Confluence to the Airport, along Fisher Rd	Spotted/Diffuse Knapweed, Western Goatsbeard, Common Comfrey, Canada Thistle, Mullein
10	From the Little Mittens building to the Barn Swallow building, between the Private Driveway and the Columbia River	Common Tansy, Common Burdock, Yellow/Common Toadflax, Canada Thistle,

Golden's Community Invasive Plant Program Annual Report 2024

11	Kicking Horse Drive, 9th St N to CP Bridge, the side of the road by the river	Spotted and Diffuse Knapweed, Western Goatsbeard, Canada Thistle, Common Burdock, Yellow Toadflax, Mullein
12	Kicking Horse Drive, CP Bridge to the Ski Hill Bridge, the side of the road by the river	Spotted/Diffuse Knapweed, Western Goatsbeard, Mullein
13	Walking Trail, from behind the Dojo to 7th St N	Canada Thistle, Common Burdock
14	Riverglen Drive	Orange Hawkweed, Creeping Bellflower
15	South bank of the Rotary Trail, encompasses the backs of the first 3 houses in from the Riverglen Drive pathway	Cypress Spurge, Glandular Baby's Breath, Orange Hawkweed, Western Goatsbeard, Creeping Bellflower, Mullein,
16	Golden Disc Golf Course, area around Hole #1	Spotted Knapweed, Common Burdock, Western Goatsbeard, Canada Thistle, Sulphur Cinquefoil, Mullein
17	Spirit Square to Oso Building, along Kicking Horse River	Spotted/Diffuse Knapweed, Canada Thistle, Western Goatsbeard, Mullein
18	Pedestrian Bridge to Traffic Bridge, along Kicking Horse River	Common Burdock, Canada Thistle, Western Goatsbeard, Mullein
19	Traffic Bridge to Municipal Campground (end of trail), along Kicking Horse River	Black Henbane, Spotted Knapweed, Common Burdock, Bull Thistle, Western Goatsbeard, Canada Thistle, Wormwood, Mullein
20	Alleyways between 12th Street S and 9th Street S	Common Burdock
21	Rotary Trail, on the corner of 14th Street South and 6th Avenue South.	Creeping Bellflower

Appendix E. Removal Strategies Guide

**Wildsight Golden's Community Invasive Plant Program - Invasive Plant Removal Strategies
August 2022**

Invasive Species	Spreads By:	CIPP Removal Strategies	Treatment Effectiveness	Disposal Strategies
Baby's Breath	Seed	Hand pull - grab the whole plant from the crown to remove the whole root. Loosen the ground with a pitchfork before pulling, if necessary.	Hand pulling is very effective - the site must be returned to yearly due to the seed bank	Dispose of the entire plant to ensure no flowers or seeds have been left behind.
Bull Thistle	Seed	Cut the tap root just below the root crown, ideally before it has bolted and flowered.	Cutting below the root crown is effective for permanent removal.	Dispose of any flowers or seed heads. The whole plant may be left out to decompose if it hasn't flowered or gone to seed.
Dalmatian Toadflax	Seed Root Rhizomes	Hand pull before it flowers.	Handpulling does not remove the plant - it only stops seed production.	Dispose of the entire plant.
Dames Rocket	Seed	Hand pull.	Hand pulling is very effective - the site must be returned to yearly due to the seed bank	Dispose of flowers and seed heads.
Canada Thistle	Seed Root Rhizomes	Repeated hand cutting. Hand pulling may increase infestations.	Cutting does not remove the plant permanently - it only stops seed production.	Dispose of the entire plant.
Common Burdock	Seed	Cut the plant down after it has bolted and produced purple	Both cutting the plant down after it has	Dispose of the seeds / burs.

**Wildsight Golden's Community Invasive Plant Program - Invasive Plant Removal Strategies
August 2022**

		flowers (burs). Only second year plants produce seeds. The plant can be dug up if it has not yet flowered. Remove the entire tap root or it will regrow.	flowered and digging the plant up are very effective ways of removing Burdock. Waiting to cut plants down seems to be more efficient than digging them up.	
Common Comfrey	Seed Root	Dig out the entire root system.	Removing all the roots is effective in removing Common Comfrey. Leaving the roots in the ground will allow new plants to sprout.	Dispose of the entire plant.
Common Tansy	Seed Root Rhizomes	Dig out the entire root system. There taproots as well as creeping roots and rhizomes. Return several times a season since regrowth is rapid.	Removing all the roots is effective in removing Common Tansy. Leaving any roots in the ground will allow new plants to sprout.	Dispose of the entire plant.
Cypress Spurge	Seed Root	Dig the plant and it's roots up. Lay a tarp over an infestation for long term removal. Wear gloves - Cypress Spurge can cause skin irritation (rashes, blisters) and blindness if it gets in your eyes. Return several times a summer.	Digging only helps to stop the spread of the plant as it's roots can grow up to several metres deep.	Dispose of the entire plant.

**Wildsight Golden's Community Invasive Plant Program - Invasive Plant Removal Strategies
August 2022**

Diffuse Knapweed	Seed	Hand pull to remove the entire tap root. Best to manage early season before it flowers - that way you don't have to dispose of any part of the plant. Bio-agent - root-feeding weevil (<i>Cyphocleonus achates</i>)	If the whole root is removed, the treatment is very effective. Areas will still have to be treated yearly due to the seed bank.	Dispose of any flowers or seed heads. The whole plant may be left out to decompose if it hasn't flowered or gone to seed.
Glandular Baby's Breath	Seed	Hand pull. Remove as much root as possible.	Hand pulling is very effective for removal. Areas will still have to be treated yearly due to the seed bank.	Dispose of the entire plant.
Hound's Tongue	Seed	Hand pull. Remove as much of the root as possible to prevent regrowth. Wear gloves to prevent skin irritation.	Hand pulling is very effective for removal. Areas will still have to be treated yearly due to the seed bank.	Dispose of burr-like nutlets (seeds). The rest of the plant can be left to decompose.
Himalayan Balsam	Seed	Hand pull. If it has already gone to seed, put a bag over the plant before you pull it as the seed pods can explode and spread seeds several metres.	Hand pulling is very effective for removal as the root system is very shallow. Areas will still have to be treated yearly due to the seed bank.	Dispose of the entire plant to ensure no seeds are being spread.

**Wildsight Golden's Community Invasive Plant Program - Invasive Plant Removal Strategies
August 2022**

Leafy Spurge	Seed Root	Dig the plant and it's roots up. Wear gloves - Leafy Spurge can cause skin irritation (rashes, blisters) and blindness if it gets in your eyes. Return several times a summer.	Digging only helps to stop the spread of the plant as it's roots can grow up to several metres deep.	Dispose of the entire plant.
Mullein	Seed	Hand pull. Remove the entire tap root.	Hand pulling is very effective.	Dispose of the yellow flower stalk. The rest of the plant can be left to decompose.
Orange Hawkweed	Seed Root Rhizomes	Cut flower heads and use a natural herbicide on the rest of the plant. OR dig up the plants and the roots. Return several times a summer. <input type="checkbox"/> Natural Orange Hawkwe...	The herbicide treatment seems to be effective in killing the foliage of the plants. More data is needed to measure the long term effectiveness. Digging is effective as long as all of the roots are removed.	Dispose of the entire plant.
Oxeye Daisy	Seed Root Rhizomes	Hand pull to reduce the spread of seeds, however to remove the plant entirely the whole root system must be dug up (it is possible to get most of the roots by hand pulling depending on the density and moisture level of the soil).	Removing the entire roots system seems to be effective.	Dispose of the entire plant.
Spotted Knapweed	Seed	Hand pull to remove the entire tap root. Best to manage early	If the whole root is removed, the treatment	Dispose of any flowers or seed heads. The whole

**Wildsight Golden's Community Invasive Plant Program - Invasive Plant Removal Strategies
August 2022**

		season before it flowers - that way you don't have to dispose of any part of the plant. Bio-agent - root-feeding weevil (<i>Cyphocleonus achates</i>)	is very effective. Areas will still have to be treated yearly due to the seed bank.	plant may be left out to decompose if it hasn't flowered or gone to seed.
Sulphur Cinquefoil	Seed	Hand pull. Remove the entire root.	Hand pulling for small infestations is effective.	Dispose of any flower/seed heads.
Western Goatsbeard	Seed	Hand pull.	Hand pulling is effective as long as the root is removed (they come out very easily).	Dispose of any flower/seed heads.
Wormwood	Seed Root	Hand pull or dig out (depending on the soil).	Removing all of the roots is very effective.	Dispose of any roots or flower/seed heads.
Yellow Hawkweed	Seed Root Stolons	Hand pull the entire plant including stolons (above ground runners).	Hand pulling is effective to prevent seed production, however it does not prevent the plant from growing back the following year.	Dispose of the entire plant.
Yellow Toadflax	Seed Root Rhizomes	Hand pull before it flowers. Bio-agent - stem-mining weevil (<i>Mecinus janthinformis</i>)	Hand pulling will prevent seed production. Repeated hand pulling can be effective if done for up to 10 years.	Dispose of the entire plant.

Appendix F. Natural Orange Hawkweed Recipe



Community Invasive Plant Program

Natural Orange Hawkweed Herbicide

This is an easy recipe you can make at home to combat Orange Hawkweed infestations on your property.

This natural herbicide was made by infusing orange peels in concentrated vinegar cleaner, adding some dish soap and applying directly to the orange hawkweed. This recipe takes two weeks to complete. If you are interested in making and applying this herbicide but orange hawkweed has already flowered on your property, while you are waiting for the herbicide to be ready to apply, cut off the flower heads and dispose of them, double bagged, to the landfill. For any questions or comments, please email wildsightweedprogram@gmail.com

Ingredients:

- 2.5L 10% Concentrated vinegar cleaner (Allen's Double Strength Cleaning Vinegar available at home hardware)
- 10-15 Citrus peels (orange, lemon, lime, grapefruit - citrus peels contain the naturally occurring terpene compound D-Limonene that is extracted by the vinegar) or use 1 oz D-Limonene, if available.
- 1/4C Dish Soap

Directions:

Soak citrus peels in vinegar solution for up to 2 weeks. Skip this step if you have access to D-Limonene.

After two weeks of infusing orange peels in vinegar, strain out peels and with gloves, pour vinegar into a spray bottle. Add dish soap to solution. The dish soap will help the herbicide "stick" to the orange hawkweed.

Spray on orange hawkweed and use care as the vinegar will also kill any other plants it comes into direct contact with. Keep out of reach of children and use gloves to avoid any skin irritation the vinegar solution may cause.



Left: Orange peels soaking in vinegar. Top to Bottom Right: Before and After images of where Herbicide was applied on Orange Hawkweed. T. Hockett (June, 2020)

Appendix G. Creeping Bellflower Restoration Sign



RESTORATION SITE

This site is currently undergoing
invasive plant control to help restore
the native plant ecology.

At this location: Creeping Bellflower



Tarps have been staked down in an effort to permanently remove Creeping Bellflower in this area. Creeping Bellflower is a noxious invasive plant that is very high on our priority list for removal. If you see Creeping Bellflower in other areas, please report it to wildsightweedprogram@gmail.com.



Learn more at
www.wildsight.ca/invasivespecies



Appendix H. Weedy Wednesday Facebook/Instagram Post



... **wildsightgolden** Weedy Wednesday: When preparing and planting your garden, it's important to avoid introducing or spreading invasive plant species. Invasive plants can have harmful effects on humans, animals, and ecosystems. They can establish and spread quickly, overrunning native plant species and become a biodiversity hazard. To prevent this, choose native plants that are well-suited to the local climate and soil conditions. Native plants don't require extra watering, pesticides, or fertilizers. When purchasing plants for your garden, some plant nurseries and garden centers may unknowingly sell invasive plants, so it is important to do your research before making a purchase. This is especially important when purchasing "wildflower" seed mixes. These often contain invasive species like bachelor's button and baby's breath. Check out the link for Grow Me Instead for a list of commonly sold invasive species and some great alternatives to plant instead.

Appendix I. Landowner Outreach Letter - Orange Hawkweed



Wildsight Golden's
Community Invasive Plant Program



Dear Landowner,

Please find enclosed information about an invasive plant of concern in your area. We have noticed that you have **Orange Hawkweed** on your property and have provided information below on how to control this plant effectively. Please contact wildsightweedprogram@gmail.com if you need more information on where the plant is located on your property and how to treat it effectively. A full invasive plant survey of your property is also available upon request.



As you may know, a few garden ornamental species are known to escape cultivated areas and may move into native ecosystems such as river edges, wetlands and grasslands. Without natural predators to keep them under control, these plant species can form dense monocultures and negatively impact habitat for native plants, fish, birds, amphibians and other animals. Once established, these plants are extremely difficult – if not impossible – to eradicate. In addition, invasive species can have detrimental impacts on our economies, including the agricultural industry, land values, and social/recreational values.

There are several ways of removing **Orange Hawkweed**. If it is a small infestation digging up the plant can be successful. Make sure all of the roots are removed as the plant will come back the following year if they are not. For a dense infestation, the best option is to cut all the flower heads off and put a tarp over the affected area for the whole summer. This will remove the seeds and kill the plants. A third option is to make your own natural herbicide to control the plant. If you'd like the recipe please contact us. The last option is to simply cut all of the flower heads off before they go to seed. This will not remove the plant, as it will still spread by it's roots, but it will help to control the spread.

We encourage you to separate invasive plant waste from your compost waste, double bag, and dispose of it accordingly at the local CSRD landfill or transfer station. As of 2018, it is now free to dispose of yard waste and weeds. Please inform the landfill attendant that you have invasive/noxious plant material to ensure proper disposal in deep burial. Do not compost or yard waste invasive plants.

If you have any further questions or concerns, please do not hesitate to contact us.

Sincerely,

Invasive Plant Program Coordinator
wildsightweedprogram@gmail.com

Appendix J. Schedule A, from the Property Maintenance Bylaw 1287, 2011

*Town of Golden Bylaw No. 1287, 2011
Property Maintenance*

PROPERTY MAINTENANCE BYLAW NO.1287, 2011

SCHEDULE A

The following plants are noxious weeds:

Annual Sow Thistle	(Sonchus oleraceus)
Blueweed	(Echium vulgare)
Burdock	(Arctium spp.)
Canada Thistle	(Cirsium arvense)
Common Crupina	(Crupina vulgaris)
Common Toadflax	(Linaria vulgaris)
Dalmatian Toadflax	(Linaria dalmatica)
Diffuse Knapweed	(Centaurea diffusa)
Dodder	(Cuscuta spp.)
Gorse	(Ulex europaeus)
Hoary Cress	(Cardaria spp.)
Hound's-tongue	(Cynoglossum officinale)
Jointed Goatgrass	(Aegilops cylindrica)
Leafy Spurge	(Euphorbia esula)
Meadow Knapweed	(Centaurea pratensis)
Orange Hawkweed	(Hieracium aurantiacum)
Perennial Sow Thistle	(Sonchus arvensis)
Purple Nutsedge	(Cyperus rotundus)
Rush Skeletonweed	(Chondrilla juncea)
Scentless Chamomile	(Matricaria maritima)
Spotted Knapweed	(Centaurea maculosa)
Sulphur Cinquefoil	(Potentilla recta)
Tansy Ragwort	(Senecio jacobaea)
Velvetleaf	(Abutilon theophrasti)
Wild Oats	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)
Yellow Starthistle	(Centaurea solstitialis)

Appendix K. No Dumping Sign

NO DUMPING

**NO YARD WASTE
NO LITTERING**

Effective February 1, 2018, all yard waste and garden waste is **FREE** to dispose of at any CSRD refusal disposal site year-round.



Appendix L. Golden Star Newspaper Article



Wildsight Golden: 15th Annual Community Weed Program Starts

As our summer season begins, so does Golden's 15th Annual Community Weed Program. This seasonal program was initiated through Wildsight Golden in partnership with the Town of Golden and the Columbia Shuswap Invasive Species Society (CSISS).

The program aims at decreasing invasive plant populations while increasing public awareness of invasives within the Town of Golden. This is done through non-toxic removal such as hand-pulling of invasive plants in high-priority areas, offering invasive plant inventories to private landowners on their land, conducting Community Weed Pull Events and by providing information on invasive plant identification and removal to the public at the local Farmer's Markets.

Invasive weeds can rapidly take over large areas, altering native ecosystems and pushing out native plants and animals. Invasive species are considered to be the second largest threat to biodiversity worldwide, after habitat loss. They can degrade scenic beauty, disrupt recreational activities, ruin agricultural areas and poison domestic animals. But how can you recognize them? And what can you do about them so they don't take over? There are many things that one can do!

Invasive plants can be managed at a local level in a relatively easy way (consistent hand pulling) if there is a focused and dedicated effort. Many areas require repeat pulling year after year to remove tens of thousands of seeds that are released from each plant annually. If you see an infestation, we would like to hear about it.

We encourage locals to become familiar with the plants on their property so that residents can do their part to start removing invasive weeds from their own backyards. Invasive plants like Dame's Rocket, Orange Hawkweed and Creeping Bluebell are cultivated by many in the Town of Golden. They are beautiful, but they are invasive.

Residents of Golden can arrange for a free invasive plant survey of their yard by emailing wildsightweedprogram@gmail.com or by signing up at the Golden Farmer's Market. After you sign up, Golden's Invasive Plant Program Coordinator Ashley Lang will contact you for a convenient time to meet with residents and walk with them through their yard, identifying invasive plants and offering advice on non-toxic methods you can use to manage and limit their spread.

For more information on Golden's Community Invasive Plant Program, or to learn more about invasive plants on or off your property, please contact Ashley Lang at wildsightweedprogram@gmail.com. Or visit <https://wildsight.ca/branches/golden/invasive-weeds-community-program/>

If you're interested in more stories like this, check out our local community stories [here](#).

Appendix M. Golden Star Newspaper Ads For Community Weed Pull

What's happening in Golden this week

• Sat, Aug 10th •
15th Annual Community Weed Pull Event, dress for the weather, bring some water, gloves, and come ready to work in exchange for good times and free food! Please email wildsightweedprogram@gmail.com to RSVP and to find out the location!

Appendix N. Community Weed Pull Poster



The poster features a teal background with a large white circle containing the event title and date. To the right, there are logos for Wildsight and Golden, and a 'Supported by' section with logos for Golden and CSISS. Below the title, there is a photograph of a group of people standing behind several large black bags filled with pulled weeds. The bottom section contains text about the event's purpose and contact information.


wildsight
solutions

**GOLDEN'S 15th
ANNUAL
COMMUNITY
WEED PULL EVENT**

Saturday, August 10th 10:00am - 2:00pm

FREE BURRITOS WILL
BE PROVIDED FOR
ALL VOLUNTEERS!

**Come join us to help
reduce the spread of
invasive plants growing
within Golden. Dress
for the
weather, bring some
water, gloves, and
come ready to work in
exchange for good
times and free food!**

Please email wildsightweedprogram@gmail.com to RSVP (so we know your burrito order) and to find out the location!

Supported by


GOLDEN
COMMUNITY DEVELOPMENT


CSISS
COMMUNITY SERVICES
INSTITUTIONS

