

Summit CWMA Low Elevation Garlic Mustard Control in Summit County

January 2024

Prepared By: Ecology Bridge LLC
Sara Jo Dickens, PhD, Betsy Hochman, Stephanie Saladyga



PROJECT BACKGROUND

The Low Elevation Garlic Mustard ISM Weed Control program in Summit County is funded through the Utah Department of Agriculture and Food Invasive Species Mitigation Fund, Summit CWMA partner matching funds, and in-kind donations. The project focuses on the Class 1B state-listed noxious weed, garlic mustard (*Alliaria petiolate*).

The program area was selected based on over 12 years of garlic mustard control data in Western Summit County. The majority of the program area is within the Wildland-Urban Interface (WUI) where invasion of forests by noxious weeds is a growing problem; residential participation is essential to protecting the adjacent forest.

The project focuses on garlic mustard removal and the restoration of natural ecosystems for the protection of natural lands, watersheds and waterways. The program additionally works to protect and enhance pollinator and wildlife habitat through outreach and appropriate revegetation projects.

TREATMENT AND DATA COLLECTION

Inventory of areas previously not mapped for garlic mustard is accomplished through grid walks when possible or serpentine paths. ArcGIS Field Maps is used to capture new garlic mustard populations and other priority noxious weeds, and record treatment actions and herbicide rates. The app collects the following attributes: percent cover (or absence), dominant growth stage, control method, herbicide rates, contractor or partner that applied treatment, number of bags of garlic mustard pulled from a site, and notes. Sites previously mapped are monitored for status and control effect.

Because mechanical control is labor-intensive and costly, a combination of contractors, partner staff, and volunteers are used for thinning dense flowering garlic mustard populations and removal near sensitive habitat. All herbicide application is completed by licensed staff and commercial contractors.

In 2023, we introduced a new tool to our integrated weed management program: riparian vegetation thinning. It had become clear over the many years of this program that eradication of garlic mustard along riparian corridors would not be possible unless we could gain



2023 CONTRACTORS

INVENTORY/MONITORING

Ecology Bridge

MECHANICAL CONTROL

Ecology Bridge
 Ground Solutions
 Providia Management Group (PMG)

HERBICIDE

Ground Solutions
 Green Leaf
 EcoLawn
 EcoSolutions
 PMG

access to garlic mustard under thick dead and unhealthy vegetation. Thinning of this vegetation allows our crews to finally access these populations while also enhancing habitat quality and reducing fire risk.

OUTREACH

Garlic Mustard Games

The Summit CWMA Garlic Mustard Games (GMG) combines our knowledge of garlic mustard control with community volunteer events to reduce herbicide use on public and private land while successfully controlling garlic mustard and facilitating recovery of ecosystem health.

The GMG includes multiple weed-pull events with prizes

and opportunity drawings, and a food truck party for the individuals and teams that pulled the most garlic mustard over the course of the summer.

Official garlic mustard weeding event locations are selected based on proximity to waterways, trails, and popular recreation areas. These sites are considered at high risk of further garlic mustard spread. Additionally, participants weeded independently and reported their pounds of mustard using our survey QR code.

Noxious Weed Ambassador Program

The Ambassador Program was new in 2023 and follows a similar template to that of the garlic mustard games in that volunteer stations, outfitted with trash bags and tools needed to mechanically control noxious weeds are

GENERAL CONTROL METHODS

Mechanical Control



Two approaches enable us to reduce overall herbicide use while getting better results than with herbicide alone.

- Dense Patches: Weed flowering plants to thin the mustard canopy to prepare for herbicide - more complete herbicide coverage using less herbicide.
- Small and Backcountry Patches: Weeding of flowering and rosette stages.

Herbicide Treatment



Herbicide type and rates are chosen based on species treated, environmental condition and land use

- 2,4-D (Amine): 64oz/ac plus MSM 60: 1.5oz/ac
- Aquaneet: 2qt/ac
- Escourt XP (partner contractors)

Cultural Control



Revegetation is used to introduce competition and mulching used to cover garlic mustard and its seed until the seedbank ages and dies off.

- Revegetation: Native grass seeding
- Mulch: mulching in shaded residential areas

placed at popular trails and open space areas. The station signs show photographs of common noxious weeds and describes the best way a volunteer can help control them. With funding from UServeUT and assistance from Park City Municipal Corporation, these resources are provided in both English and Spanish. Volunteers pull weeds, bag them, and scan a QR code to enter to win prizes in a biweekly drawing. This program differs from the Garlic Mustard Games in that there are no official volunteer events and all noxious weeds are targeted. The CWMA and partners pick up the bags and track the total pounds of weeds pulled.

HOA Partnership Program

In Summit County, many of the HOAs own open space and/or are adjacent to some form of public open space. The Summit CWMA works to engage these HOAs at the WUI both to educate residents and also prevent/control noxious weeds in residential parcels and HOA open space. This is the fourth year we partnered with local HOAs to assist with member outreach and obtain access to HOA open space.

The Ranch Place, Northshore, Jeremy Ranch, Hidden Cove, The Oaks, and Solamere HOAs assist in advertising the program to their residents. In addition to advertising the program, the Moose Hollow HOA sign their open space up for treatment annually and assist in running GMG events so residents participate and provide in-kind labor match.

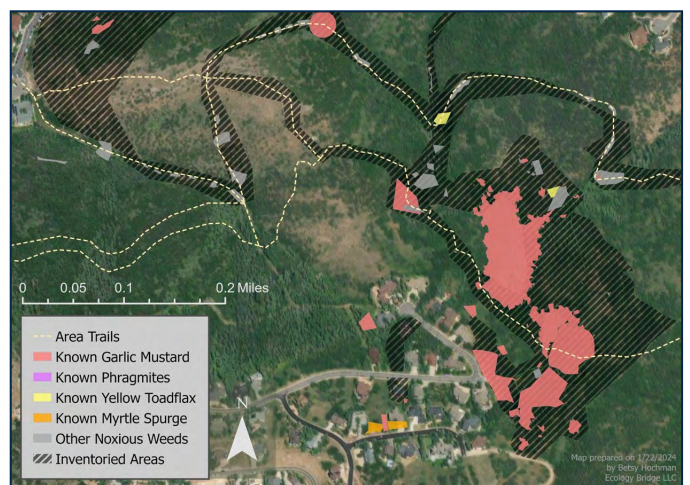
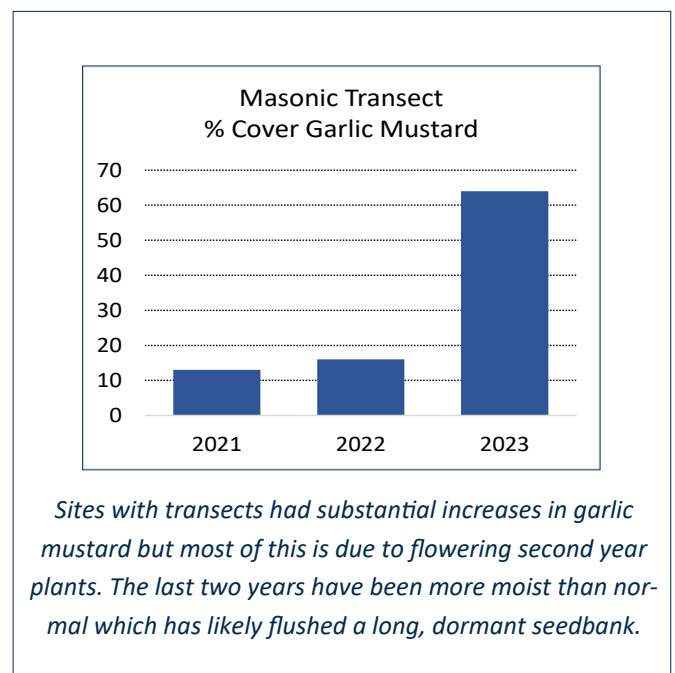
TREATMENT RESULTS

In 2023, we aimed to inventory a number of areas adjacent to known garlic mustard populations. One of these areas was the Masonic Monster, an approximately two-acre population of garlic mustard first found near the Masonic Trail in 2019. After inventorying of the adjacent area, this population is now mapped at 6.10 acres. Due to thick vegetation below the original mapped area, it had gone unnoticed that the population was quickly moving downslope, likely aided by heavy wild game use. The original population was treated in 2023, and newer areas will be treated in 2024. Additional areas adjacent to this are a

priority for 2024 inventory.

The Poison Creek section of the Rail Trail was also a priority for inventory and monitoring. Assessing the current status of known populations and identifying areas of spread was necessary. Fortunately, these populations did not appear to have spread much, and few new and small populations were found. All were treated in 2023.

In order to ensure known populations were not spreading downstream, a portion of McLeod Creek was also a monitoring priority. No new populations were found, and the larger, old population appeared reduced. All known populations were treated.



The Masonic Monster, here in pinkish-red more than doubled both due to increased inventory work along the boundaries of the original populations and to rapid spread.

Portions of the Sun Peak HOA had been prioritized for mapping under the Low Elevation Garlic Mustard Program (the higher elevation areas were prioritized under the High Elevation Garlic Mustard Grant, which covers the majority of the Sun Peak HOA Open Space). Prioritization was due to recent fire mitigation in areas of known garlic mustard populations; additionally, the HOA was updating its weed plan and needed assistance identifying the current state of noxious weeds within its boundary. Sun Peak HOA, along with a UWSA Grant and a BIL Grant, assisted in inventorying all areas prioritized for the 2023 season.

In 2023, an additional 76 acres of Moose Hollow Open Space and a limited section of the adjacent 910 Ranch boundary were inventoried. This inventory work resulted in approximately 1 more acre of garlic mustard mapped in small, scattered populations at the 910

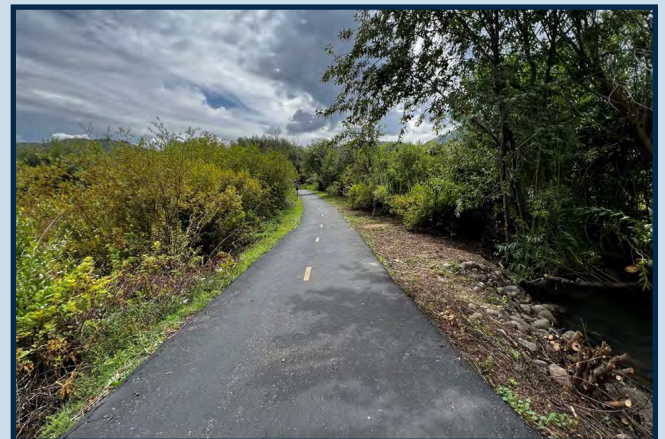
Ranch and Moose Hollow boundary. When considering all the newly inventoried areas in the program area as a whole, garlic mustard was found in an additional 5.49 acres.

Two surprising inventory findings in 2023 were populations of garlic mustard in Eastern Summit County. One location was in the Old Church Campground below the Rockport Dam. We will work with David Bingham, the Summit County Weed Supervisor, to contact the landowner and start control in 2024. This population is adjacent to the waterway; as such, it is especially important to treat this site and inventory up and downstream to ensure the garlic mustard does not spread.

The second surprising location was in Stevens Grove, a park in Oakley. This population was treated in 2023 and we will continue to work with Oakley City and

McLeod Creek 2023 Riparian Vegetation Thinning Program

Garlic Mustard treatment has occurred for over 15 years along McLeod Creek; however, populations within overgrown and dead riparian vegetation could not be accessed for treatments. In 2023, we thinned 11,200 lbs. of dead, woody vegetation on .86 acres of the creek (behind the Park City Fire Department and behind the Park City Police Department). Large, dense garlic mustard populations were exposed and treated for the first time. We intend to thin additional areas along the creek in 2024 and may establish transects in newly uncovered garlic mustard populations.



Left: Polygons in maroon are the historic distribution of garlic mustard and pink polygons the current distribution. Right: The McLeod Creek trail showing a recently thinned section on the right of the trail and the overgrown riparian habitat on the left of the trail prior to treatment.



A small patch of garlic mustard was identified and controlled in Stevens Grove. A population this small can be eradicated which makes it a high priority for control in 2024.



begin to work with South Summit Trails to ensure this population does not spread.

Thanks to our dedicated volunteers and contactors, approximately 13 acres were hand weeded in 2023, making herbicide treatment more effective with less volume of herbicide used. In addition to the acres weeded, 60 acres were treated with herbicide.

Additionally, a total of 15.97 acres were reseeded with native bunchgrass to reestablish a competitive native community in areas previously invaded by garlic mustard.

We continue to use the ArcGIS Field Maps app to increase efficiency in management of control crews by digitally assigning treatment work and monitoring crews in real time. However, some contractors still struggle to accurately map control areas; accordingly, regular monitoring of the data and follow up with crews regarding data is necessary.

Virginia Mine: Common St Johnswort Control and Revegetation



Description: Common St Johnswort dominated the looser slopes of the historic Virginia Mine site in 2017. Three years of mechanical control reduced the Common St Johnswort to less than 10% cover; however, native vegetation was not recovering. To reestablish native vegetation, seeding of native grasses was applied. On steeper slopes, seeding was followed by installation of erosion matting. The tops of slopes and more gradual slopes were treated with a compost/biochar soil amendment and then seeded.

Current Results: Grasses remain patchy in distribution,

OUTREACH PROGRAM RESULTS



The Garlic Mustard Games brought in 121 volunteers program wide and removed over 4,000 lbs. of garlic mustard.

Volunteers of the new county-wide Noxious Weed Ambassador Program removed a total of 475 lbs. of multiple noxious weed species, 400 lbs. of which occurred in the Low Elevation Garlic Mustard Control Program area, musk thistle and burdock in particular. This new program is the first outreach/volunteer program we have implemented on the more eastern side of Summit County. Top volunteers of this program included volunteers from Stevens Grove, Trish Murphy-Cone and Round Valley, Ruth Lloyd, both areas within the Low Elevation Garlic Mustard Games Control Program management area. An Ambassador station was installed at Stevens Grove Park where 100 pounds of thistles and burdock were removed by volunteers. We hope to work with South Summit Trails Association to identify appropriate locations for additional stations in 2024.



Stevens Grove
Ambassador Station

however, grasses are increasing in cover. Greater establishment has occurred on less steep slopes. Additional seeding is necessary and the use of amendments appears to be crucial in these mining-contaminated soils.

CHALLENGES IN 2023

The record breaking winter and wet spring delayed germination and growth of garlic mustard; then, an early summer hot spell caused plants to quickly flower and go to seed. These conditions resulted in a drastically reduced control season for second year plants. With such a short season, volunteers had only just begun weeding for the Garlic Mustard Games when plants started to develop seeds. The Garlic Mustard Games had to end six weeks early to prevent volunteers from accidentally spreading seed while pulling plants.



Late spring flooding at Rotary Park

Inconsistent participation of individual landowners continues to be a challenge. Each time a property goes two or more years without treatment, we see recovery of garlic mustard populations.

The late start of the season also lead to challenges with getting herbicide contractors on the ground. To ensure work for their staff in the spring, many contractors took on extra work at lower elevations. When we needed them to start, they were still finishing work at lower elevation sites of Salt Lake County and, thus, unavailable. In order to address this challenge, we brought on a contractor we work with in Sundance Canyon for other noxious weed programs. This increased our contractor pool to 6 companies getting as much work done as possible.

Some contractors continue to be inconsistent with the use of the ArcGIS App. This reduced the efficiency of communication and slowed planning of contractor assignments. We will continue to work with supervisors

to increase data entry on site before moving to the next treatment assignment.

CONTRIBUTORS TO SUCCESS

The following is a list of the project components we found most effective.

- Increasing the number of contractors - timelier treatment
- Survey 123 for electronic collection of consent forms for treatment on private property
- Advertising on the Summit CWMA and Summit County websites
- Use of the Arc Field Maps - coordinates contractors and makes data available to partners
- Partnering with HOAs - increases success of outreach programs and number of resident participants
- Consistent partners and treatment
- Pre-treatment monitoring/survey - increases herbicide crew efficiency
- Post treatment monitoring - assess treatment effects and new growth
- Local government and weed department support

FUTURE TREATMENT PLANS

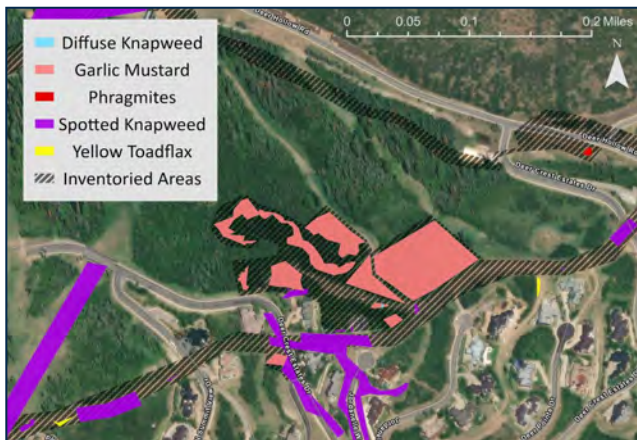
Management Area

The level of control and the difficulty of control needed in the High Elevation Control Program management area far exceeds that of the Lower Elevation Garlic Mustard Control Program management area; so, we are altering the management boundary of the Low Elevation Garlic Mustard Control Program to officially include areas previously in the High Elevation Garlic Mustard Control Program. Rotary Park and areas of the adjacent neighborhood are a few of these areas. This will allow us to distribute our efforts and volunteer events more evenly between the two programs to increase potential for success. We also will extend our management area to

include the two new garlic mustard sites in Eastern Summit County to ensure they are treated annually.

Inventory

In 2024, a primary goal will be to inventory around known garlic mustard populations in Deer Valley (the Keetley population), along Ontario Canyon Rd, areas of the Lost Prospector and Gamble Oaks trail system, on Quarry Mountain, and the southern boundary between the Moose Hollow HOA open space and the 910 Ranch. On the eastern side of Summit County, we will inventory at Stevens Grove Park in Oakley and downstream from the Old Church Campground to the extent that we can obtain consent.



The original Keetley population at Deer Valley has substantially lower garlic mustard cover, however, the population is moving down slope.

Monitoring

We will continue monitoring the previous restorations, trials and transects. This includes the treatment transects at the Masonic Trail, the newer seeding trials at Masonic Trail and Rotary Park as well as the Virginia Mine revegetation post Common St Johnswort control. We will also monitor older garlic mustard populations to update boundaries along McLeod Creek and the Virginia Mine Claim.

Vegetation Thinning

We will again request funding to allow us to thin overgrown riparian vegetation in Willow Creek and along

McLeod Creek. This thinning not only increased access to greater extents of creekside garlic mustard populations, but also improved habitat and reduced flooding risk. McLeod Creek has flooded the last two springs due to high snowpack and accumulation of dead vegetation in and adjacent to the stream.

Outreach

The Summit CWMA website will continue to be used to advertise events along with the use of Facebook and Nextdoor. The Garlic Mustard Games will be held again in 2024; events will begin in May and continue through September when the annual Food Truck Party takes place. We will also expand the Noxious Weed Ambassador Program to additional locations.

PROJECT PARTNERS

Thank you so much to our partners and sponsors for their contribution to this program. Thanks to the Utah Department of Agriculture and Food for funding this project. Thanks to the following partners and contractors for their participation:

Government Partners

Oakley City - Tom Smart

Park City Municipal Corporation - Logan Jones

Snyderville Basin Special Rec District - Matt Bengé

Summit County - Dave Bingham, Dan Pena, Jessica Kirby

Non-Profit & Academic Partners

Swaner EcoPreserve - Nell Larson

Utah State University Extension - Elizabeth Cohen

Utah Weed Supervisors Association - Jerry Caldwell, Amber Mendenhall

Park City Film - Kate Wang

Park City Museum - Morgan Pierce

Recycle Utah - Carolyn Wawra

Local Business Partners

Copper Moose Farms - Ben Smaha

Deer Valley - Laura Sexton and Paul Hedman

Ecology Bridge - Sara Jo Dickens

Ground Solutions - Sterling Graham

Providia Management Group - Scott Prescott

Vail Resorts - John Sale

Private Sponsors

Woodward Park City

Arcade

Kate's Real Food

Home Depot

Dakine

Reliance

Alpine Distillery

Savoury Kitchen

Mountain Town Olive Oil Company

HOA Partners

Crescent Ridge HOA - Carla Maupin

Hidden Cove HOA - Erin Ferguson

Jeremy Ranch HOA - Tom Spencer

Moose Hollow HOA - Ryan Dickey

North Shore HOA - Brenda Lake

Ranch Place HOA - Brenda Lake

The Oaks and Solamere HOAs - Tom Mohor

CONCLUSIONS

Treatment is reducing garlic mustard density overall, however two wet years have allowed garlic mustard to reinvade some areas. The new Summit CWMA Garlic Mustard Games and Ambassador Programs are increasing awareness and participation in garlic mustard removal. Revegetation efforts continue to show increasing native grass cover though some need additional restoration efforts.

FINANCIAL SUMMARY

The Low Elevation Garlic Mustard ISM Program focuses on the control of garlic mustard. The program was awarded \$80,000 for July 1, 2023 to June 30, 2024 and had an additional \$43,102.90 from the 2022-23 grant

ISM Grant funded expenses for the 2023 growing season.

Low Elev GM 2023 Costs		
Expensed January 1 - June 30, 2023		
Line Item	Description	Expensed
Administration (Fiscal)	Administration (Fiscal)	\$ 2,048.65
Administration (Project Management)	Administration (Project Management)	\$ 3,299.00
Contractors	Inventory and Mapping	\$ 6,621.40
	Monitoring Contractor	\$ 4,156.25
	Mechanical Control	\$ 9,055.50
	Herbicide Contractor	\$ 13,345.00
	GIS Specialist	\$ 2,720.00
Supplies	Herbicide	\$ 610.00
Supplies	Native Grass Seed	\$ 1,247.10
Expensed July 1 - December, 2023		
Restoration	Seed and soil amendments	\$ 1,845.00
Equipment - Rental	Dump Trailer, chainsaws	\$ 1,902.35
Outreach	Outreach Labor and Supplies	\$ 2,914.50
Contractors	Mechanical Weed Removal	\$ 7,803.95
	Mechanical Thinning and Mulching	\$ 6,059.76
	Inventory and Mapping	\$ 3,816.70
	Monitoring	\$ 1,556.50
	Herbicide Treatment	\$ 12,624.40
	Revegetation	\$ 3,348.80
	Arc GIS Data Management/Mapping	\$ 1,842.50
Administration (Fiscal)	Administration (Fiscal)	\$ 3,997.00
Administration (Project Management)	Administration (Project Management)	\$ 1,041.30
Total		\$91,338.85

earmarked for work conducted between January 1 - June 30, 2023. A total of \$ 48,752.76 of the granted \$80,000 was spent in 2023 leaving \$31,247.24 to be spent spring of 2024. In total, \$91,855.66 in ISM grant funding was spent in 2023.

The ISM Grant funds were matched in part by the Garlic Mustard Control and Riparian Habitat Enhancement BIL Grant, portions of the Utah Weed Supervisor Association Noxious Weed Grant, the UServeUT community Grant and Partner in-kind matches.

Along with staff time and equipment in-kind matches, Summit County has continued to provide assistance in

contacting residents with properties needing treatment, donating space for training, teaching the biological control portion of the training, providing fiscal agent services and providing the Summit County weed book. USU Extension continues to provide their noxious weed book and assists with outreach events. Many of the remaining partners provide in-kind matches via in-house labor and materials. In 2023, 242 volunteer hours were donated by the public via the Garlic Mustard Games and other independent hand weeding. Overall, the ISM grant funds were matched at a rate of 41% .

Grant and partner matches for the ISM Grant for the 2023 growing season.

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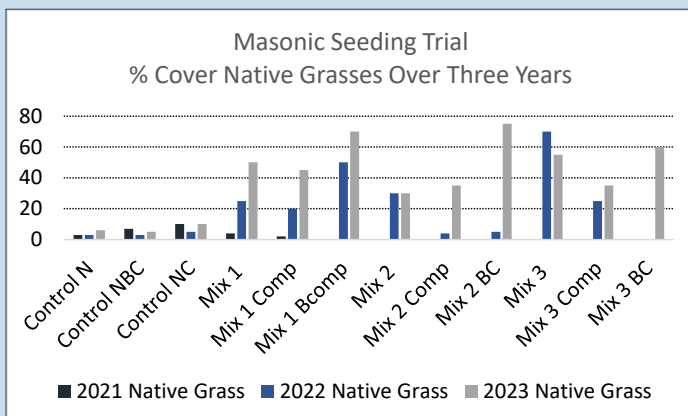
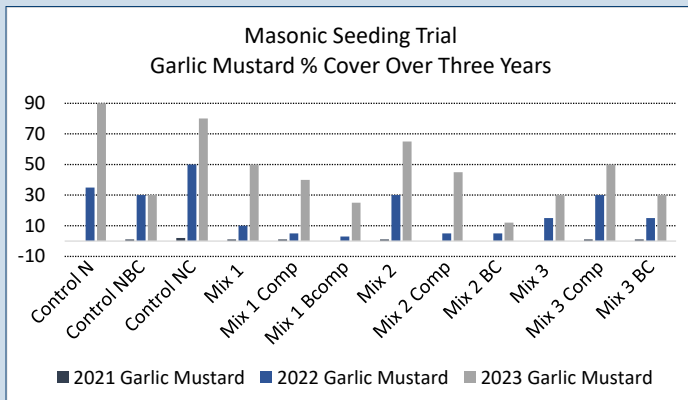
SPECIAL PROJECTS

Masonic Trail and Rotary Park Seeding Trials

The Summit CWMA was awarded funding from the Utah Weed Supervisors Association for revegetation seed mix, soil amendments and biochar trials to address shady sites previously invaded by garlic mustard. Shady sites were difficult to revegetate due to the lack of an effective seed mix and possible soil legacy effects of garlic mustard allelopathy. However, these trials have identified effective seed mixes and methods to address garlic mustard soil legacies.

Native bunchgrass cover remains high with two dominant species (blue wild rye and wheatgrass) at both sites. Seeding of native forbs resulted in minimal establishment; however, the species used, which tend to prefer partial shade to sun, may have been the issue. Seeding with a shade forb mix may be more effective but such a seed is currently not available.

Seeding of grasses may be aiding in preventing garlic mustard from reinvading these sites. Unfortunately, nearly season-long flooding of Rotary Park plots prevented 2023 monitoring until too late in the season. Only the Masonic Trail site can be reported on. Plots with higher native grass cover tended to have lower garlic mustard cover and vice versa. Soil amendments may be helping; however, it is impossible to tease apart the role of increased competition from the grasses from the role the soil amendments may have played. It is possible that the amendments aided grass establishment and growth which, in turn, increased the competition experienced by garlic mustard. Native grass mix 1 is the most effective mix if soil amendments are used, and seed mix 3 is the most effective mix when soil amendments are not used. (See Appendix for seed mixes). Additional research using individual grass species and, if available, forbs may help simplify seeding and reduce cost.



C - Compost, N = No Seed, B = Biochar

Masonic Trail: Due to two consecutive years of higher than normal rainfall and longer springs, garlic mustard is reinvading.

LOW ELEVATION GARLIC MUSTARD CONTROL QUICK SUMMARY



\$80,000

ISM Grant Funds
Awarded 2023-24 FY

\$3,000

UWSA Noxious Weed Grant
Funds Awarded 2023-24 FY

\$13,628.89

BIL Grant Funds
Awarded 2023-FY



3rd Annual

Garlic Mustard Games



lbs

4,600 Pounds

Of Garlic Mustard Pulled
for the Garlic Mustard Games



121 Volunteers



11 Weed Pull Events



16 Backpack Sprayers

Worth of Herbicide Not Used

**Garlic Mustard Games metrics cover high and low elevation garlic mustard programs.



Fiscal Agent

Summit County



Project Manager

Ecology Bridge



8 HOA Partners

5 Years

Partnering with HOAs

25 Residents

Reached Through HOA Communications

5 HOA Participants

In the Garlic Mustard Games



11 Years

Of ISM Grant Funding
Garlic Mustard Control



9 Years

Using Spring and Fall Treatments



6 Years

Thinning Thick Populations



6 Years

Weeding Remote Locations

TREATMENT SUMMARY



73.54 Total Acres Treated



241.45 Acres Inventoried



12.99 Acres Weeded



**59.71 Acres Treated
with Herbicide**



15.97 Acres Revegetated

FIVE YEAR PLAN

Garlic mustard control began in 2010 as a partnership between the Summit CWMA, Salt Lake County and the Salt Lake Watershed. Garlic mustard has been treated using hand weeding, mulching, herbicide and restoration. Since the program began, over 1804 acres have been inventoried and 44 acres revegetated/restored. Each year we anticipate needing to control more acres as more populations are found during monitoring, but we also anticipate the treatment efforts can be reduced in areas that have been treated for more than 10 years allowing us to continue to treat a similar number of acres with less effort.

2021

Acres Revisited / Controlled: 407 / 221
Acres Inventoried: 146
Acres Revegetated: 37

In addition to treatment, restoration and monitoring for new populations, we monitored one transect at the Masonic Trail to track control success and the UWSA funded seeding trials.

2022

Acres Revisited / Controlled: 46.39
Acres Inventoried: 12.75
Acres Revegetated: 2.23

In addition to treatment, restoration and monitoring for new populations, we monitor one transect at the Masonic Trail and the UWSA funded seeding trials. Implemented 3 Garlic Mustard Games Events.

2023

Acres Revisited / Controlled: 74
Acres Inventoried: 242
Acres Revegetated: 16

In addition to treatment, restoration and monitoring for new populations, we monitored the Masonic transect and seeding trials. Continue to monitor restoration progress.

Added thinning of unhealthy/dead riparian woody vegetation to gain access to previously untreated garlic mustard populations.

2024

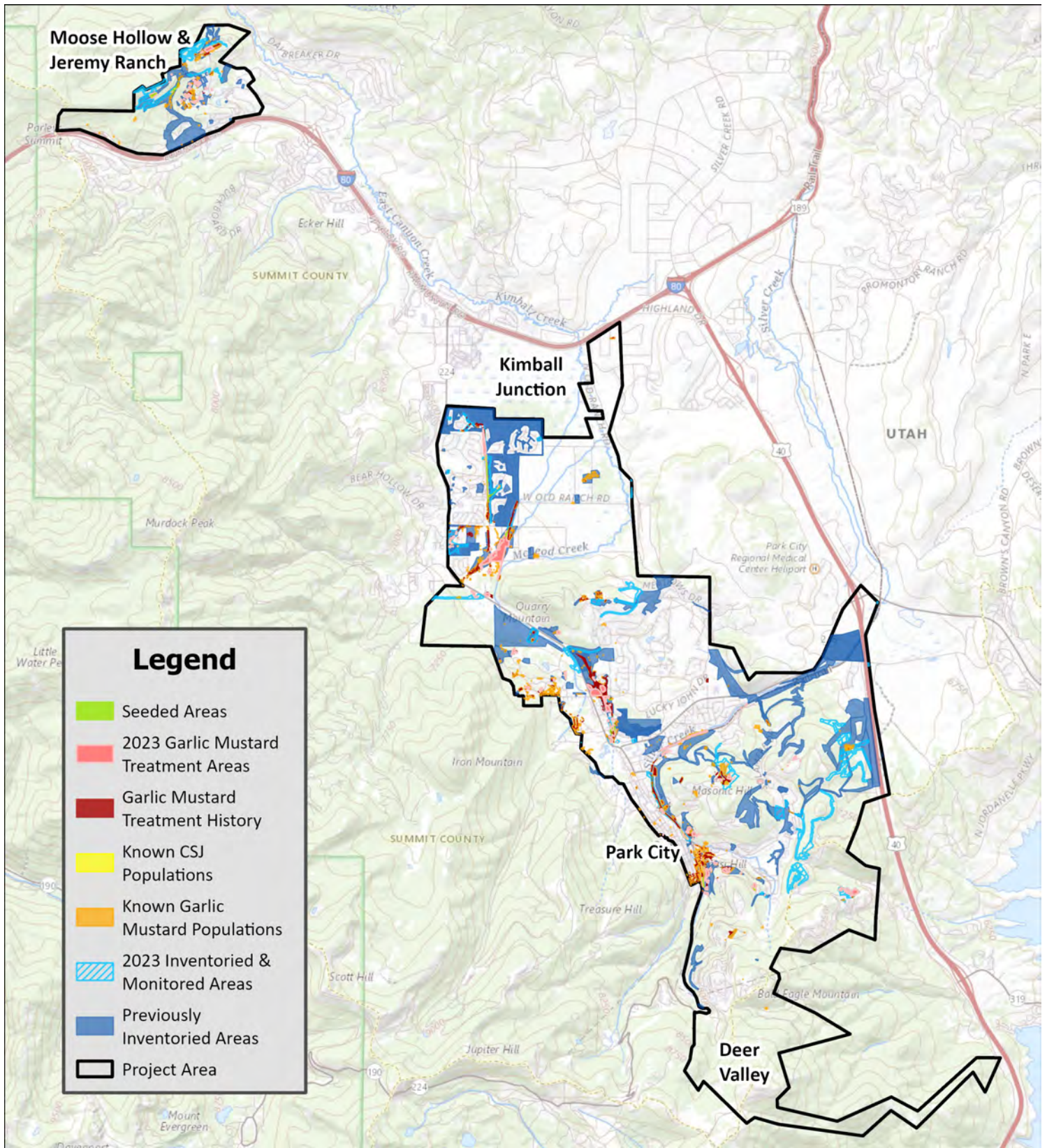
Acres Control Goal: 460
Acres Inventory Goal: 200
Acres Restoration Goal: 1

Continue monitoring all 4 transect sites and seeding trials. Continue to monitor restoration progress. Establish 2 Restorations.

2025

Acres Control Goal: 475
Acres Inventory Goal: 200
Acres Restoration Goal: 1

Continue monitoring all 4 transect sites and seeding trials. Continue to monitor restoration progress. Establish 2 Restorations.

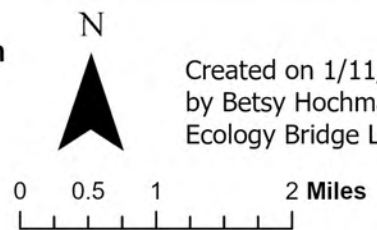


Legend

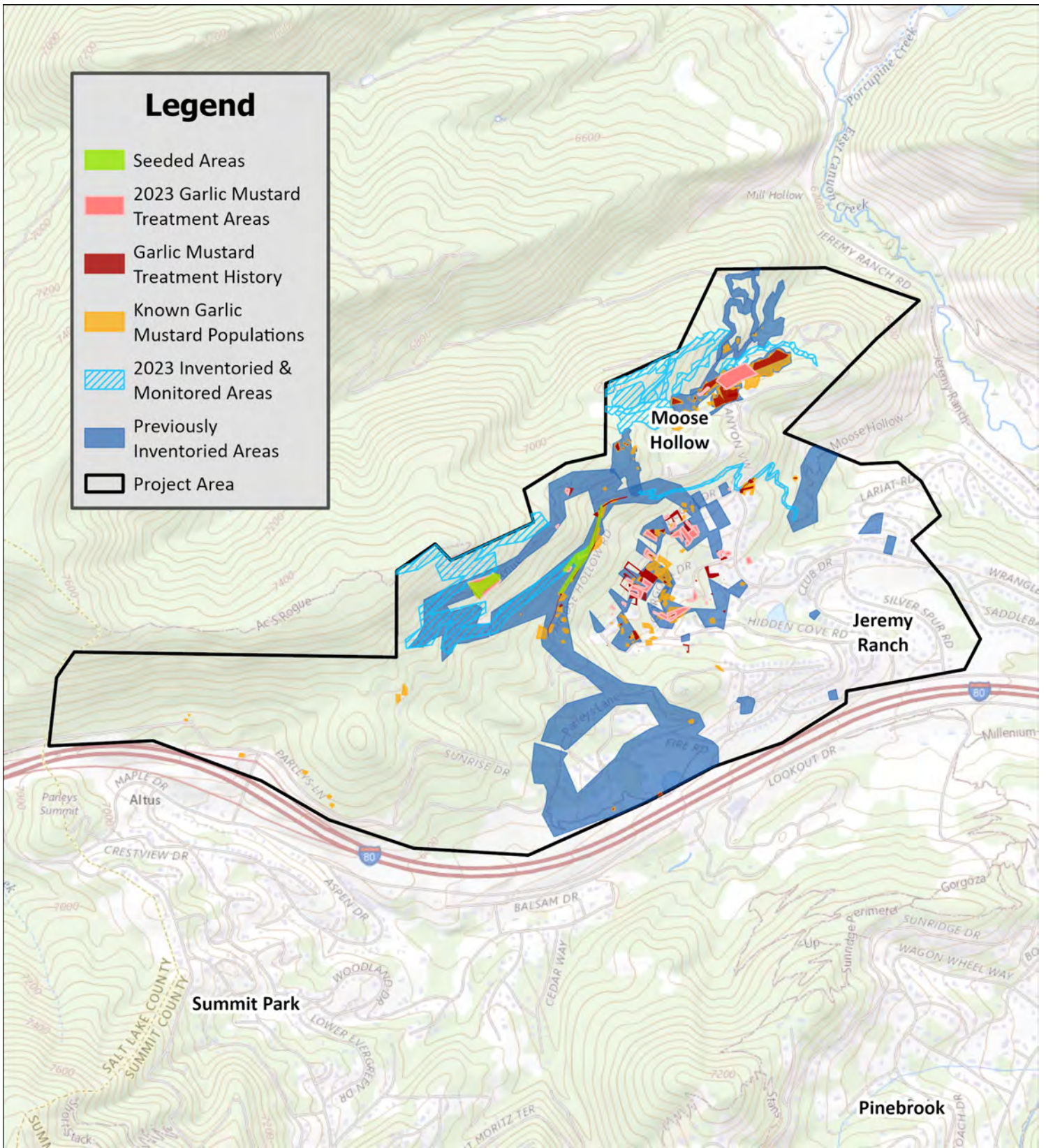
- Seeded Areas
- 2023 Garlic Mustard Treatment Areas
- Garlic Mustard Treatment History
- Known CSJ Populations
- Known Garlic Mustard Populations
- 2023 Inventoried & Monitored Areas
- Previously Inventoried Areas
- Project Area

2023 Summit CWMA Low Elevation Garlic Mustard Control Program

Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of garlic mustard within the full low elevation project area. Known populations data are cumulations of data since 2018.



Created on 1/11/2024
by Betsy Hochman
Ecology Bridge LLC

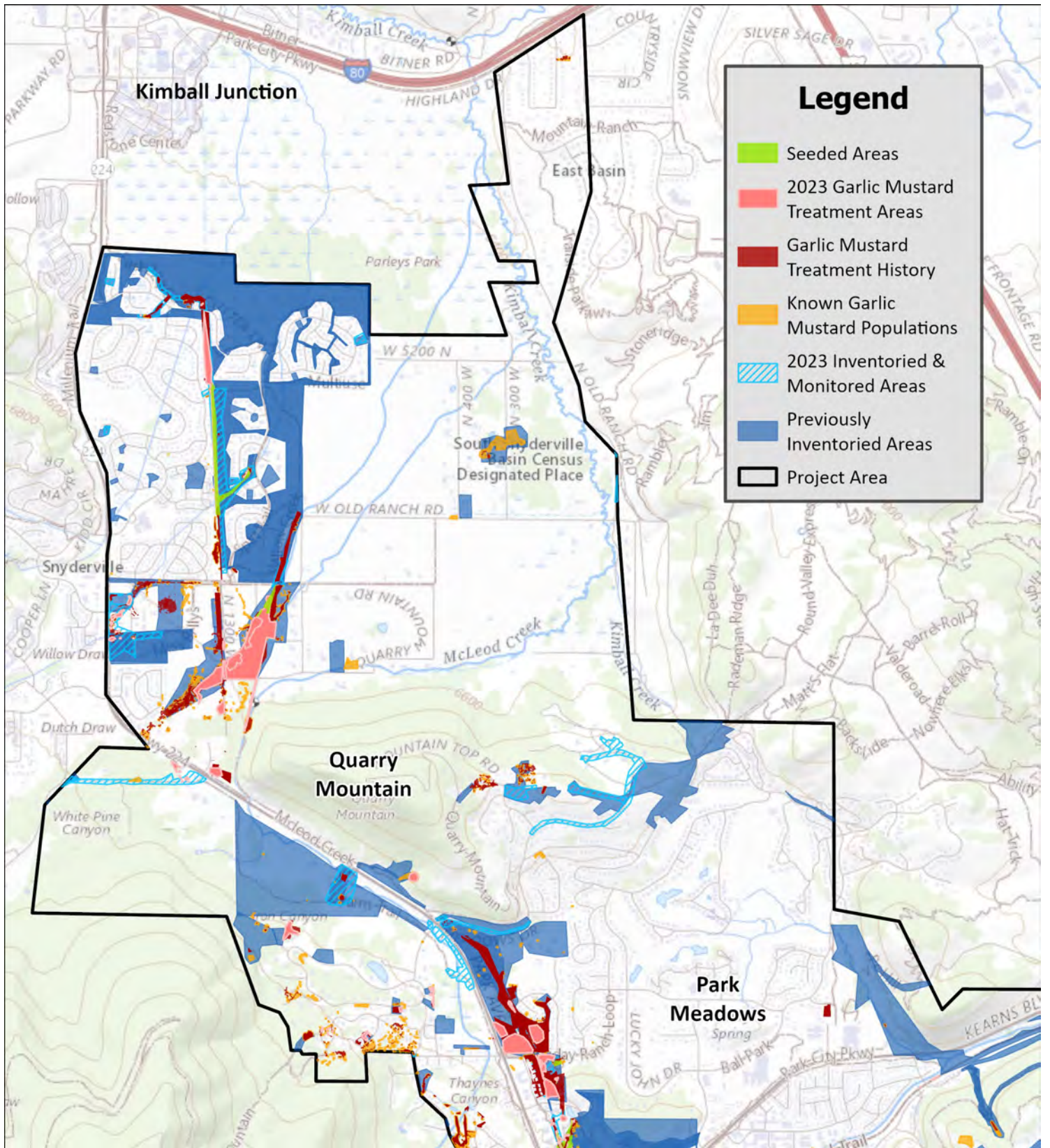


2023 Summit CWMA Low Elevation Garlic Mustard Control Program

Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of garlic mustard within Jeremy Ranch and Moose Hollow residential areas and open space. Known populations data are cumulations of data since 2018.

N
 Created on 1/11/2024
 by Betsy Hochman
 Ecology Bridge LLC

0 0.13 0.25 0.5 Miles

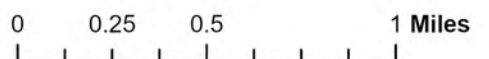


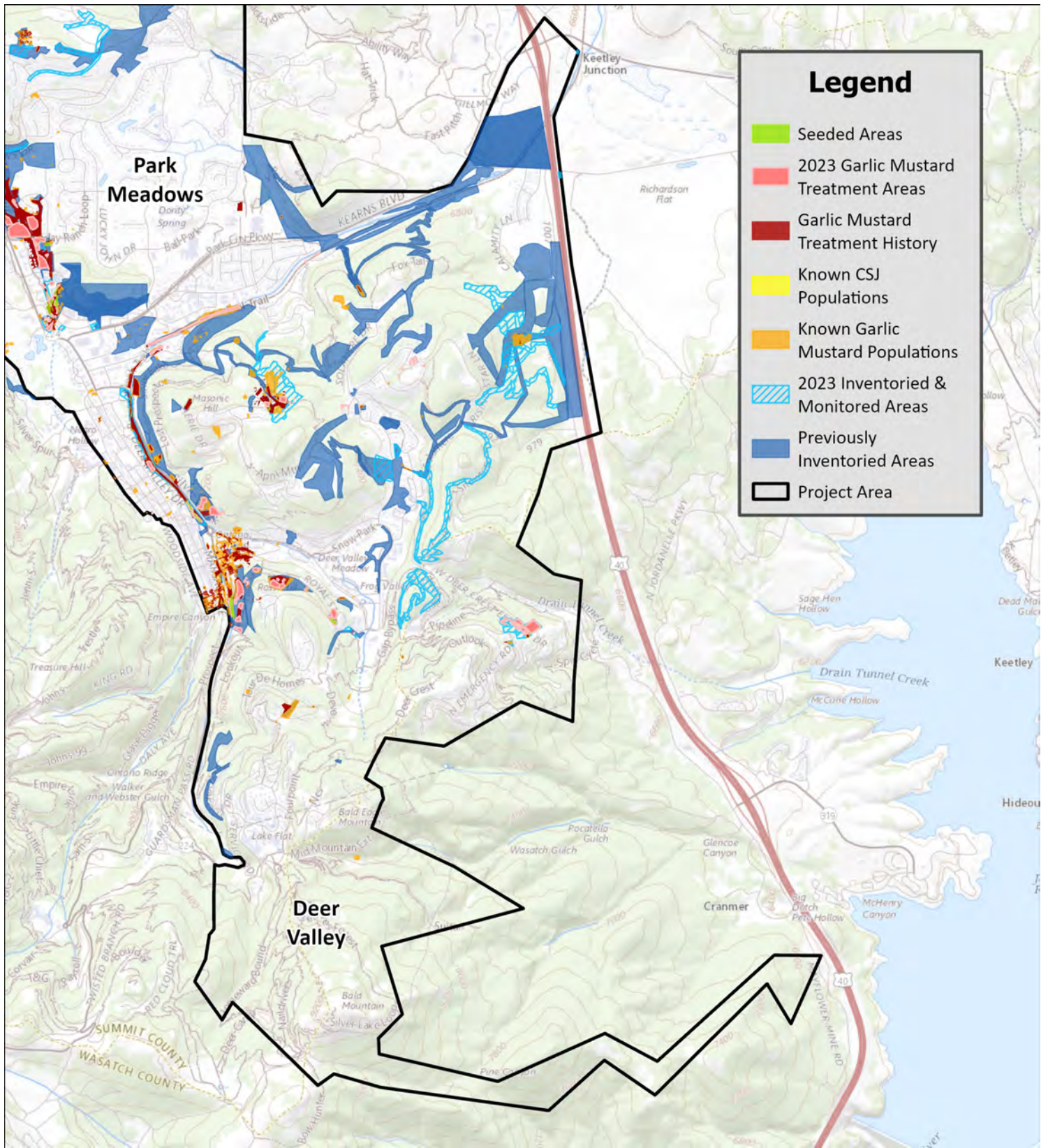
2023 Summit CWMA Low Elevation Garlic Mustard Control Program

Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of garlic mustard within Snyderville Basin and Park City open space and residential areas. Known populations data are cumulations of data since 2018.



Created on 1/11/2024
by Betsy Hochman
Ecology Bridge LLC





Legend

- Seeded Areas
- 2023 Garlic Mustard Treatment Areas
- Garlic Mustard Treatment History
- Known CSJ Populations
- Known Garlic Mustard Populations
- 2023 Inventoried & Monitored Areas
- Previously Inventoried Areas
- Project Area

2023 Summit CWMA Low Elevation Garlic Mustard Control Program

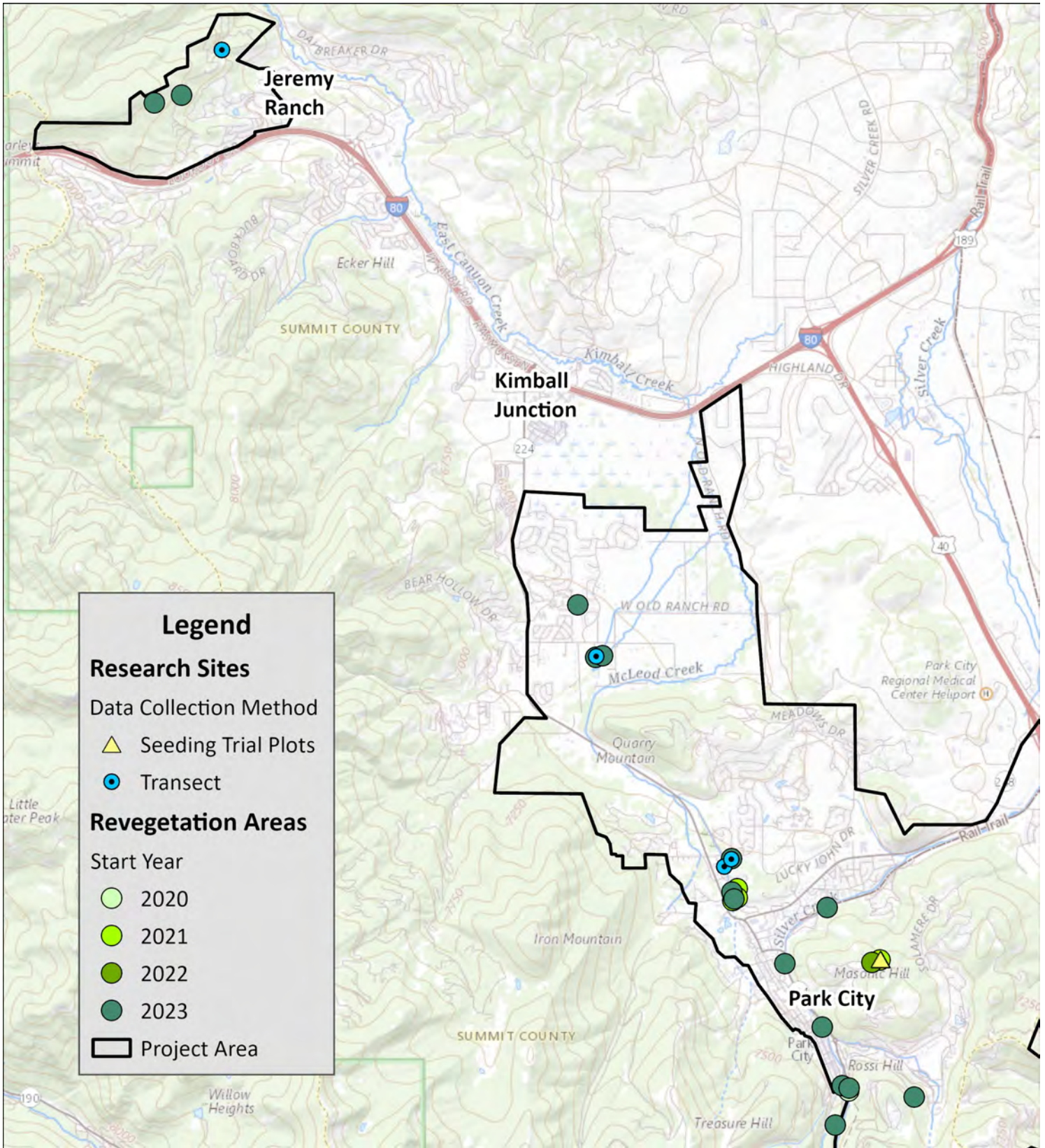
Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of garlic mustard within Park City proper. Known populations data are cumulations of data since 2018.



Created on 1/11/2024
by Betsy Hochman
Ecology Bridge LLC

0 0.25 0.5 1 Miles





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Research sites and ongoing restoration areas within the low elevation garlic mustard project area. Restoration sites established in previous years were assessed in 2023 and received supplemental seed, soil amendments, or other treatment where necessary.



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Ecology Bridge LLC

