

# Summit CWMA Knapweeds, Starthistle & Phragmites 2023 ISM Control Program Report

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## PROJECT OVERVIEW

Spotted knapweed (*Centaurea stoebe*), Russian knapweed (*Rhaponticum repens*) and common reed (*Phragmites australis*) are rapidly becoming more prevalent in Summit County. Meanwhile, yellow starthistle (*Centaurea solstitialis*) and diffuse knapweed (*Centaurea diffusa*) remain limited in distribution. Additionally, in 2023 a single population of squarrose knapweed (*Centaurea virgata*) was identified for the first time in Summit County.

All knapweeds are high priority in Summit County however, yellow starthistle, diffuse knapweed, Russian knapweed, and squarrose knapweed are treated as higher priority than spotted knapweed due to their more limited distribution. Phragmites has been added to the project because partners are increasingly concerned about its spread; additionally, some monitoring had already been completed through previous Invasive Species Mitigation (ISM) and Utah Weed Supervisors Association (UWSA) grants that indicates Phragmites was more widely

distributed than previously thought.

A large portion of the mapped populations of these noxious weeds in western Summit County are on private property and escaping to public lands. In order to facilitate control of these species and prevent spread into natural lands, cross jurisdictional efforts are essential. This Summit CWMA project assists in creating, maintaining and growing cross jurisdictional partnerships in order to strategically approach weed control.

## METHODS

The Summit CWMA implements an integrated approach to weed management that includes inventory/surveying, mapping, herbicide application, biological control, revegetation, and monitoring. We additionally provide outreach and support at partner outreach events to increase community awareness of both noxious weeds and proper control and revegetation methods.



*Phragmites creeping across a sidewalk*

Our management area includes private and public lands. The public lands, for the most part, participate annually in the program; however, private landowners are less consistent in program participation and, therefore, make anticipating annual control needs challenging.

Inventory is conducted to determine if species have spread to new locations. Often, inventory sites are selected based on reports of noxious weeds made to the CWMA or partners. Additionally, we focus inventory efforts on the lands adjacent to known populations to ensure we have accurately identified the full extent of each population and to prevent expansion. In the case of Phragmites, we aim to inventory up and downstream from known and newly found populations to determine how much of the stream/creek is impacted.

Treatment methods depend on population size, plant growth stage, accessibility of the site the natural resources of the site. Chemical control is our primary control method and is applied during rosette, flowering, and just prior to pre-dormant stages. Chemical applications primarily consisted of a Milestone (6oz/ac) for starthistles and knapweeds and AquaNeat for Phragmites along with an appropriate colorant and/or surfactant.

Mechanical control of knapweed is used only in a few locations, typically in gardens, in situations where mechanical control is necessary for prevention of seed spread, and at small, difficult-to-access patches. Mechanical control of Phragmites involves cutting the plant biomass to two feet from ground level and removing dead biomass, to the extent possible, to prepare for fall herbicide treatments.

Biological control is used for large populations of spotted and diffuse knapweed and in areas where high potential for off-target species damage or other environmental factors are a concern. Biological control agents (three weevil species - *Cyphocleonus achate*, *Bangasternus fausti*, and *Larinus minutus*) are supplied and applied by the Summit County Weed Division and landowners.








*2023 release of the knapweed root weevil at Treasure Hill.*

Due to control efforts in previous years, some partners have had success in reducing spotted and Russian knapweeds, and are revegetating to reduce reinvasion. Establishment of native grasses in these areas allows continued control with selective herbicide while facilitating native plant community reestablishment.

Monitoring is conducted for three main purposes: rechecking known populations for weed status, assessing revegetation status, and evaluating treatment effect.

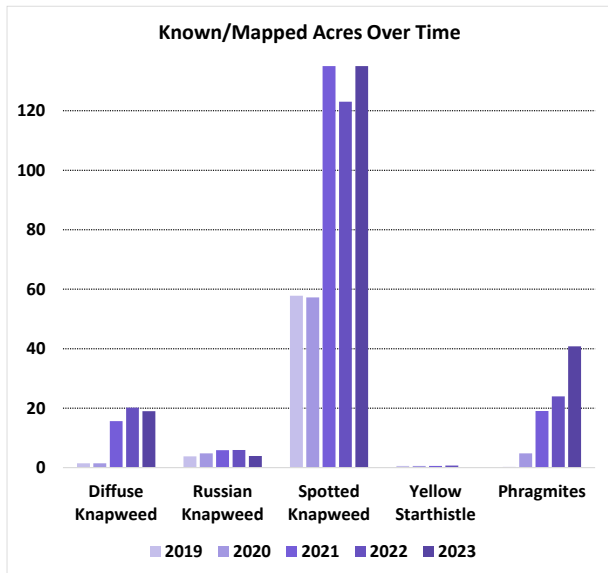
**174  
ACRES  
TREATED  
IN 2023**

<b>11</b>	<b>0.5</b>	<b>120.1</b>	<b>0</b> (Eradicated)	<b>43.1</b>
				
Diffuse Knapweed	Russian Knapweed	Spotted Knapweed	Yellow Starthistle	Phragmites

**RESULTS**

In 2023, 4,008 acres were inventoried, bringing the total acres inventoried for these species since 2018 to 9,697 acres. The number of acres of knapweeds and Phragmites has increased both due to spread and (mainly) due to our inventory efforts identifying locations that had previously gone unmapped. The unusually high number of acres inventoried in 2023 is largely due to a high proportion of inventory areas being assessed by vehicle and funds from a matching BIL grant supporting additional labor hours.

Diffuse knapweed has significantly increased; the Treasure Hill population that was once only 4 acres has now reached 19 acres. This population is located on large stretches of ski runs that contain significant amounts of bare ground. The site is also situated at a fairly high elevation on an exposed slope. As such, wind dispersal is likely to occur. Mowing of ski runs may also have contributed to the spread; resort crews have been notified of the issue so that, in the future, they can be more careful using machinery in the area. Additionally, two new populations of diffuse knapweed were found along East Canyon Creek (each consisting of only a few individuals).



*The number of known populations significantly increased with expanded monitoring efforts and access to additional lands.*



*Treasure Hill - knapweed has increased substantially in just the last 4 years. Garlic mustard is also present but declining.*

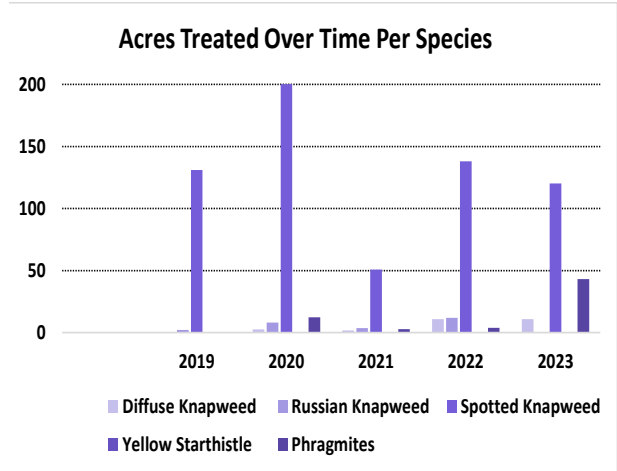


*New spotted knapweed population identified between the Canyons Resort and adjacent HOA.*

Russian knapweed is remaining low or absent where treatment has nearly eradicated it and revegetation efforts are in progress. However, new, small populations continue to be found.

Percent cover of spotted knapweed in some of the largest populations has been greatly reduced. This is particularly true at some of the sites that previously had the densest populations, such as at the Canyons Golf Course, Summit Center, The Avenues, and Round Valley. The spotted knapweed at Quarry Mountain has been reduced to 5% cover site-wide and all yellow starthistle is eradicated. No new yellow starthistle populations were found. However, project-wide, spotted knapweed is increasing. This is particularly true at Treasure Hill, Park City Mountain, Canyons Resort, limited areas of Deer Valley Resort where recent infrastructure upgrades exposed soil, and at the Glenwild and Preserve HOAs.

In total, just over 40 acres of Phragmites are currently mapped — an increase of more than 15



*Almost all Russian Knapweed, diffuse knapweed, and Phragmites populations were treated. Many spotted knapweed populations have gone untreated due to access issues and funding limitations.*

acres in a single year. This increase may partially be due to expanded invasion; however, it is likely that the majority of newly mapped populations have been present but undetected for several years.

In general, Phragmites populations that the Summit CWMA and Summit County Weed Department are aware of and have treated are reducing. A few exceptions to this include the Summit Park Moose Moss population that shows no impact from treatments and a population within Silver Creek at Prospector Park that has expanded in size.



*The old UOP snow making pond was dominated by Phragmites 5 years ago and now has only small patches.*



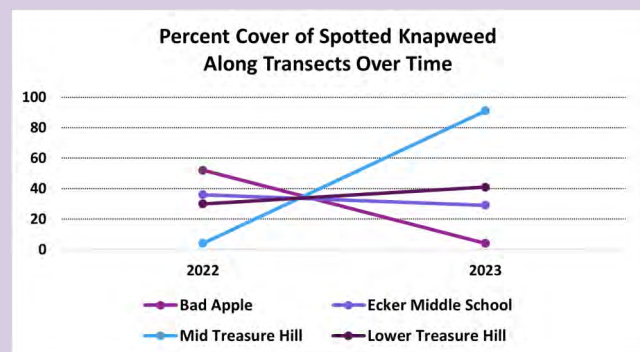
Pre and post removal of dead *Phragmites* biomass at the UOP. This biomass had previously prevented full herbicide coverage of growing *Phragmites* plants therefore limiting treatment impact. Crews sprayed the regrowth fall 2023.

Phragmites is significantly reduced at the old snow pond at the Utah Olympic Park; however, nearby populations are spreading. Two of these populations were treated with mechanical removal of all dead materials and (later in the summer) herbicide application. We will monitor these sites to assess whether the removal of biomass increases treatment success.

In general, the Deer Valley pond populations have continued to decline; however, one area on the northwest section of the ponds has spread and new populations were found in the parking lots. Round Valley and the Silver Creek populations are declining and two are now eradicated. The status of these populations has been updated in EDDMaps, and most new populations have been added to EDDMaps.

An added benefit from the inventory of reported and newly found *Phragmites* populations was the discovery of other priority noxious weed species that will now be treated through Utah Invasive Species Mitigation grants. Eight new populations of Viper's Bugloss (*Echium vulgare*) were found at the Echo Dam and treated the same day as the *Phragmites*. Three new populations of Common St

## TRANSECTS



Transects were established to track changes in spotted and diffuse knapweed cover in 2022. Spotted knapweed percent cover is significantly less at the Bad Apple location, only moderately lower at the Ecker Hill location, significantly increasing at the mid-ski run Treasure Hill location and increasing slightly at the lower ski run Treasure Hill location. The one diffuse knapweed transect had a 65% cover reduction between 2022 and 2023.

Transects were established in three locations of dense *Phragmites*, one at the Utah Olympic Park (70% cover), one at the base of Summit Park off Aspen Drive (100% cover) and one at Richardson Flat (100% cover).



*Quinn's Dog Park Restoration is transitioning back to weedy roadside species*

Johnswort (*Hypericum perforatum*) were identified in Snyderville Basin, one new Russian knapweed population in Richardson Flat and 42 populations of spotted knapweed were identified at Richardson Flat, and one new Russian knapweed population was found off Brown's Canyon Road just west of Peoa, UT.

In the fall of 2023, 4 acres were reseeded with several native grass seed mixes: the Dry Mountain Native and Cameron Fire mix and the Foothills Native Mix from Pawnee Butte Seed. Previous restorations were monitored and additional seeding applied where appropriate (see project panels for details). One restoration site has been abandoned, the Russian knapweed site at Quinn's Dog Park. The Park City Parks Department continues to mow the area too short for native grasses to survive.

One additional, more intense restoration was installed in 2023 on one of a series of berms facing SR224 on the Canyons Golf Course. Ten years ago these berms were dominated by spotted knapweed; in 2023 knapweed coverage was less than 5%. Soils of this site are low quality which has resulted in other weeds establishing rather than reestablishment of native species. To facilitate the establishment of desired native species, one berm was treated with a compost and biochar application followed by seeding in the fall of 2023.

## PROJECT PARTNERS

- ◆ Bureau of Reclamation
- ◆ Canyon's Golf Course
- ◆ Deer Valley Resort
- ◆ Ecology Bridge
- ◆ Jeremy Ranch HOA
- ◆ Lambert Lane Village
- ◆ Moose Hollow HOA
- ◆ Northshore HOA
- ◆ Park City Municipal Corporation
- ◆ Park City Garden & Nursery
- ◆ Park City School District
- ◆ Pinebrook Master HOA
- ◆ Oaks HOAs
- ◆ Rockport State Park
- ◆ Silver Creek Ranch Development
- ◆ Snyderville Basin Special Recreation District
- ◆ Snyderville Basin Water Reclamation District
- ◆ Solamere HOAs
- ◆ Summit Center
- ◆ Summit County
- ◆ Summit Park HOA
- ◆ Sun Peak HOA
- ◆ Swaner EcoCenter
- ◆ Timberline HOA
- ◆ Utah Department of Agriculture and Food
- ◆ Utah Olympic Park
- ◆ Utah State University Extension
- ◆ Vail Resorts
- ◆ Weber Basin Water Conservation District
- ◆ Woodward Park City



*Squarrose knapweed* | Photo from the USDA

## CONCLUSIONS

Knapweeds, particularly spotted and diffuse knapweeds, are spreading. Additionally, many new populations of Phragmites were mapped in 2023. Though most of the recently mapped populations are not new, the spread of Phragmites is occurring.

Populations of spotted knapweed, Russian knapweed, and Phragmites that have received multiple years of treatment are reducing in percent cover; some populations have been eradicated. All populations of yellow starthistle have been eradicated.

Where significant progress has been made, revegetation projects show recovery of native grasses. Areas we have seeded show greater success where compost or a compost/biochar blend is first applied to the site. This may reflect better nutrient availability, but most likely is a reflection of greater water holding capacity of soil amendments.

Due to the rapid spread of knapweeds and, to a lesser extent Phragmites, more resources will be necessary to ensure larger populations remain contained while we continue to control and eradicate smaller populations.

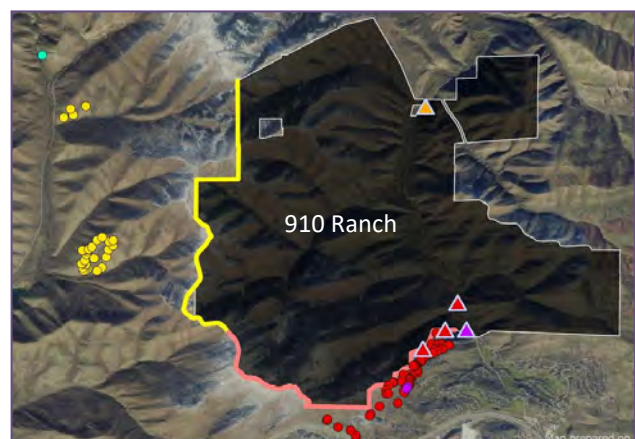
## MANAGEMENT PLANNING

We will continue our focus on areas — such as the

Canyons Golf Course, Summit Center, The Avenues, Round Valley and Quarry Mountain — where reduction of spotted and Russian knapweed has been successful. We will also continue to revisit the eradicated yellow starthistle sites to ensure no recovery from seedbank occurs. To ensure containment is accomplished, Treasure Hill, Deer Valley Resort, Park City Resort, the Glenwild and Preserve HOAs, and Richardson Flat constitute additional priority areas. Substantial inventory and treatment of trail systems through these areas will likely be necessary. If enough biological agents are available in 2023, release of both root and seed head weevils would be added to the treatment of all larger populations of knapweed, as well as populations that are coming from private property for which he have been unable to obtain access to treat with herbicide.

The identification of 10 acres of squarrose knapweed in eastern Summit County is incredibly concerning. This species will be added to our training materials. Additionally, we will remain in contact with the Summit County Weed Department and stay informed of any additional populations.

We will also assist with inventory of the western boundary of the 910 Ranch to ensure yellow starthistle has not crossed into Summit County from



*Yellow starthistle (yellow dots) is within one mile of the western boundary of the 910 Ranch. Garlic mustard (red dots) is invading the southern boundary.*

Salt Lake County at that location. Yellow starthistle is currently known to be just one mile from the border of Summit County.

In 2024, we will also expand our management area to include areas of known yellow starthistle in Wasatch County, along the trails at Jordanelle Reservoir. Quinten Lewis of Wasatch County requested the assistance of the Summit CWMA for this location. Additionally, increased use of these trails by Summit County residents increases the risk of yellow starthistle being transferred to Summit County trail systems.

## FINANCIALS

The Summit CMWA was awarded \$49,987.00 for the 2023 state fiscal year (July 1, 2023 - June 30, 2024). Additionally, \$17,931.43 in funding rolled over from the state 2022 fiscal year (July 1, 2022 - June 30, 2023). All together, the total funding going into 2023 from the ISM grant was \$67,918.43. Of that amount, \$67,058.11 was spent. The remainder of funds will be spent on reporting to the state. ISM funds were matched primarily by in-kind partner staff time and the 2023 BIL - Phragmites Control and Riparian Health Grant. This ISM grant was matched at a rate of 33%.

Yellow Starthistle, Knapweed, Phragmites ISM Grant 2023		
Line Item	Description	Expensed
<b>Expensed January 1 - June 30, 2023</b>		
Supplies	Herbicide: Purchase of Milestone for partners with crews that can use in house	\$1,136.00
Supplies	Restoration: Native grass seed, Individual wildflower species seed, Soil amendments (biochar: compost)	\$2,958.83
Contractors	Herbicide Treatment: Contractors to treat with Milestone and 2,4D (75 ac)	\$5,660.00
	Monitoring and Transects: Monitor current populations, EDDMaps updates, revisit transects and revegetations	\$189.30
	Manual Control: Cutting and removal of Phragmites	\$4,167.45
	Arc GIS Data/Mapping: Updating and maintaining GIS data	\$1,730.00
Administration (Project Management)	Management of project implementation, data management, reporting	\$2,089.85
<b>ISM Grant Sub-total</b>		<b>\$17,931.43</b>
<b>Expensed July 1 - December 31, 2023</b>		
Supplies	Herbicide: Purchase of Milestone for partners with crews that can use in house	\$710.00
Supplies	Restoration: Native grass seed, Individual wildflower species seed, Soil amendments (biochar: compost)	\$6,416.37
Contractors	Herbicide Treatment: Contractors to treat with Milestone and 2,4D (75 ac)	\$22,701.91
	Monitoring and Transects: Monitor current populations, EDDMaps updates, revisit transects and revegetations	\$3,520.00
	Inventory, Mapping: to monitor areas adjacent the known populations in order to identify population distribution and boundaries in the project area	\$10,410.20
	Arc GIS Data/Mapping: Updating and maintaining GIS data	\$1,650.00
Administration (Fiscal)	Management of grant accounts and payments	\$2,499.00
Administration (Project Management)	Management of project implementation, data management, reporting	\$1,219.20
<b>ISM Grant Sub-total</b>		<b>\$49,126.68</b>
<b>ISM Grant Total Expenses for 2023</b>		<b>\$67,058.11</b>

Match		
Line Item	Description	Expensed
2023 BIL = Phragmites Control Grant	Herbicide contractors for late summer treatment	\$12,386.70
	Contractors for mechanical removal of dead biomass	\$4,660.40
	Contactors to inventory and map new populations and monitor weed control effect	\$10,952.90
	Fiscal administration and project management 50/50 split	\$1,000.00
Summit County	Staff hours and trucks- control of knapweeds and phragmites	\$ 1,200.00
Basin Recreation	Contractor - control of knapweeds	\$ 170.00
Deer Valley	Staff hours- control of knapweeds	\$ 600.00
Deer Valley	Mapping new Phragmites populations and monitoring older populations	\$ 793.00
Deer Valley	Re-seeding w native grasses	\$1,128.00
Pinebrook HOA	Mechanical control of Phragmites	\$ 576.00
<b>Total Match</b>		<b>\$33,467.00</b>
<b>ISM Grant Total for 2023</b>		<b>\$67,058.11</b>
<b>Project Total</b>		<b>\$ 100,525.11</b>



## FAIRWAY CONNECTOR REVEGETATION PROJECT

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### RUSSIAN KNAPWEED

A relatively small area of Russian knapweed at the intersection of two popular trails within Round Valley Open Space was identified in 2017. For two years, the site was treated with Milestone and any plants starting to go to seed were hand-pulled. All dead plants were raked out and removed, and in 2020, a thin layer of biochar was applied to the site and native grass seed was hand broadcast. Because establishment of seeded grasses was patchy and limited, a compost/biochar blend was spread into bare areas again in 2021 and 2023, and the area was reseeded with both native grasses and native wildflowers, including the nitrogen fixer, lupine (*Lupinus perennis*). In 2023, percent cover of Russian knapweed remained below 5%. Careful spot spraying or hand weeding is being used to maintain control while natives establish. Minimal seeding was applied fall of 2023 to aid in filling the few remaining bare areas.



Fall 2020 conditions



2023 conditions

## ROUND VALLEY POND RESTORATION PROJECT

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### RUSSIAN KNAPWEED

Russian knapweed had invaded and dominated areas around the one intact pond within Round Valley Open Space. After three years of heavy control with Milestone, hand-weeding, and raking away of dead knapweed plants, the site was below 5% cover of Russian knapweed; however, native vegetation was not recovering. In addition to the knapweed, the pond had experienced a great deal of erosion.

In 2020, the pond was recontoured, the soil was amended with compost and biochar, and the full site was seeded with native grasses, wildflowers, native shrub seedlings, and narrowleaf cottonwood (*Populus angustifolia*). Willow canes were also planted.

The site has experienced dense establishment of native grasses and sparse establishment of wildflowers. Rubber Rabbitbrush (*Ericameria nauseosa*) is flourishing. Russian knapweed cover remains below 5% and can be maintained with hand weeding. White top (*Lepidium draba*) has started to move in from the adjacent trail and is now treated annually.



# PINEBROOK REVEGETATION PROJECT

## COMMON ST JOHNSWORT



Since the initial discovery of this Common St Johnswort (*Hypericum perforatum*) population, treatment has resulted in two years of complete absence of the species. Revegetation

efforts involving the application of compost, biochar, and native grass and wildflower seed has resulted in a fairly diverse native dominant plant community. However, in 2023, the Common St Johnswort was again present. This recovery of Common St Johnswort occurred at multiple sites where it had previously been eradicated. This occurrence indicates that growing conditions allowed either recovery of dormant plants or new germination to take place. All populations will be treated in 2024.



Following control, many bare areas were revegetated.

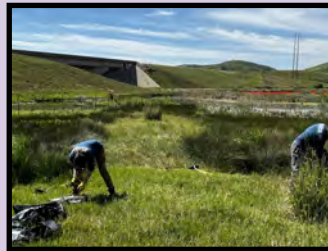


2023 native grasses continue to thrive, but small patches of Common St Johnswort are present

# MOVIE STUDIO REVEGETATION PROJECT

## VIPER'S BUGLOSS

Since the initial discovery of this common viper's bugloss population, percent cover of the bugloss has been reduced by over 90% to less than 2% cover. Only limited, scattered bugloss plants have been observed. Use of a native grass seed mix has enabled continued treatment of bugloss with selective herbicides while the grasses establish. By September 2020, grasses had only established in patches and additional seeding was applied fall of 2020. Grasses have become dominate at the site since, and further restoration is unnecessary. We will continue to treat the bugloss and monitor the restoration for at least two additional years.



Top: Summer 2019: One year of weeding and herbicide treatment

Center: Summer 2020: Day of revegetation

Bottom: 2022

Summer 2023: Grasses continue to thrive and native forbs are beginning to establish. Vipers Bugloss is present, but minimal; white top is moving in. Herbicide will be used in 2024.

## CANYONS GOLF COURSE REVEGETATION PROJECT

### SPOTTED KNAPWEED

A new restoration was installed in 2023 on the berms of the Canyons Golf Course adjacent SR224. These berms had originally been dominated by spotted knapweed; however, nearly 10 years of fairly consistent treatment reduced knapweed coverage to less than 5%. Due to poor soils, only



patchy regrowth of grasses occurred following control. Lack of ground cover left the site susceptible to invasion of other weeds, including musk thistle (*Carduus nutans*) and dalmatian toadflax (*Linaria dalmatica*) which, in 2023, were limited. After removal of these weeds, a soil amendment of compost and biochar (4:1 ratio) was spread 3-5 inches thick over the site and native seed applied [Foothills Native Grass Mix from Pawnee Butte Seed, lupine (*Lupinus argenteus*), coneflower (*Echinacea purpurea*), Lewis prairie flax (*Linum lewisii*) and blanket flower (*Gaillardia aristata*)]. In 2024, the site will be assessed for native plant establishment. If it is successful, we will expand the site.

## CANYONS RESORT RESTORATION PROJECT

### SPOTTED KNAPWEED

The base of the Canyons Ski Resort has been the focus of spotted knapweed control for several years. One area of particular concern is near the Cabriolet, a ski lift whose base had been heavily invaded by spotted knapweed. After several years of treatment, the density of knapweed started to decrease. In Spring of 2020, topsoil and compost were brought in and spread 4-5 inches thick. This was followed by seeding of native grasses.

As of 2023, spotted knapweed remained less than 10% cover in the restored area. The areas adjacent the restoration have 20-40% cover of knapweed. Native grasses are established, but the site continues to have waves of weedy species. In 2022, cutleaf vipergrass (*Scorzonera laciniata*) and puncturevine (*Tribulus terrestris*) were discovered and treated. Both species persist (though they are limited to just a few individuals) and are treated annually.



Day of restoration 2020



Summer 2023: Site is slowly progressing even though different weed species are cycling through

# SUMMIT CWMA—SNYDERVILLE BASIN AND PARK CITY AREA KNAPWEED, STARHISTLE AND PHRAGMITES PROGRAM

The knapweed, starthistle and phragmites control program area primarily includes western Summit County properties, but is expanding to the eastern portions of the county as landowners contact the CWMA for assistance.

In 2019, the Summit CWMA began specifically mapping knapweeds and starthistle to better understand the distribution. Control began in 2020. Phragmites was added to the program in 2021. By 2022, the three populations of yellow starthistle being tracked by the CWMA were eradicated.

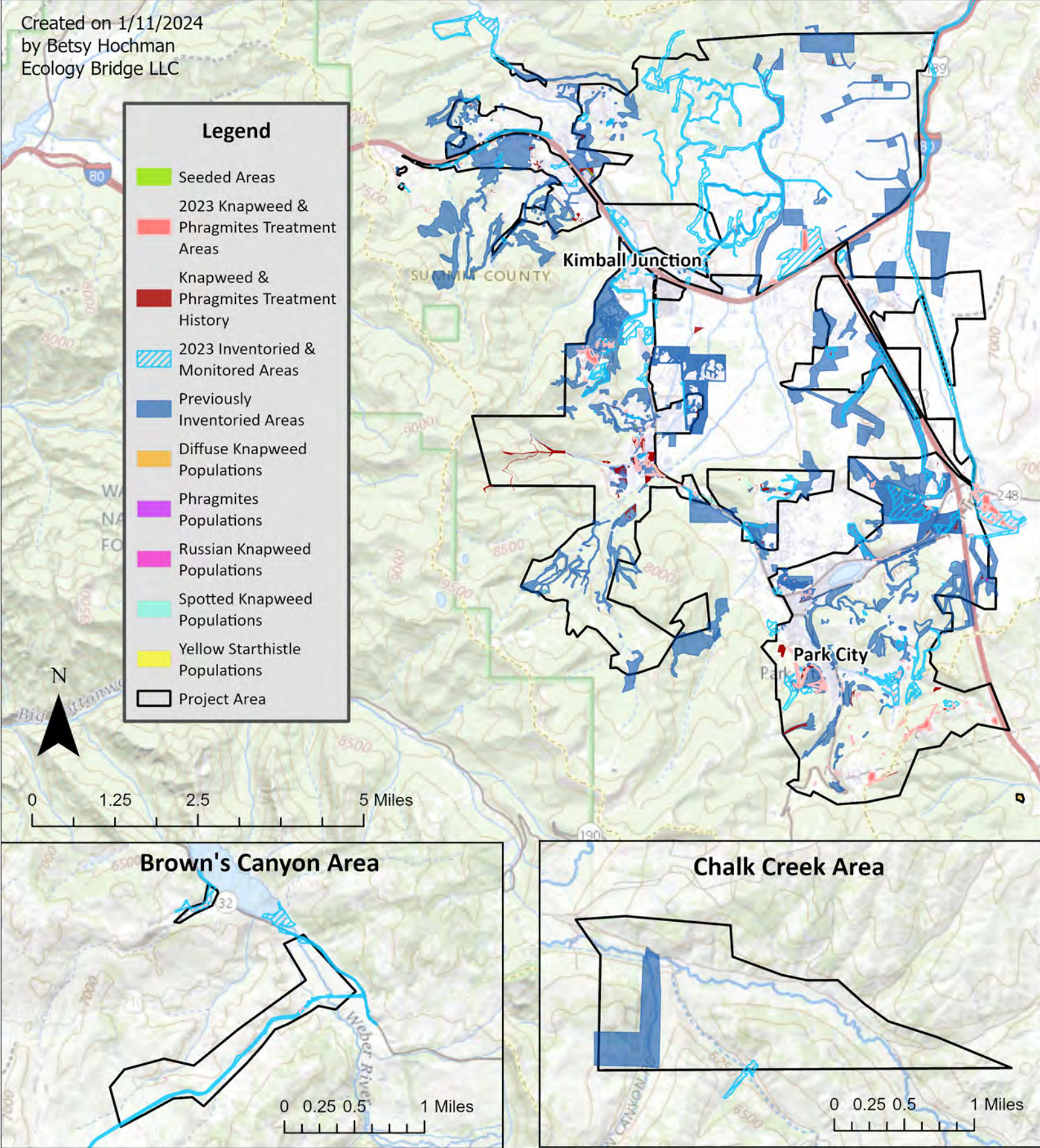
In 2023, 4,008 acres of land were inventoried, 174 were treated, and 4 were restored. Three new transects were established and 4 previous transects were monitored. Additionally, two new restorations were installed – one at the Canyons Golf Club and another at the art park along Poison Creek.

Since 2019, 9,697 acres have been inventoried, and 159 acres of spotted knapweed, 19 acres of diffuse knapweed, 4 acres of Russian knapweed, and 41 acres of Phragmites have been mapped.

**CURRENT TRANSECT LOCATIONS:** Bad Apple Trailhead, Ecker Hill Middle School, Treasure Hill, Utah Olympic Park, Summit Park off Aspen Drive and Richardson Flat

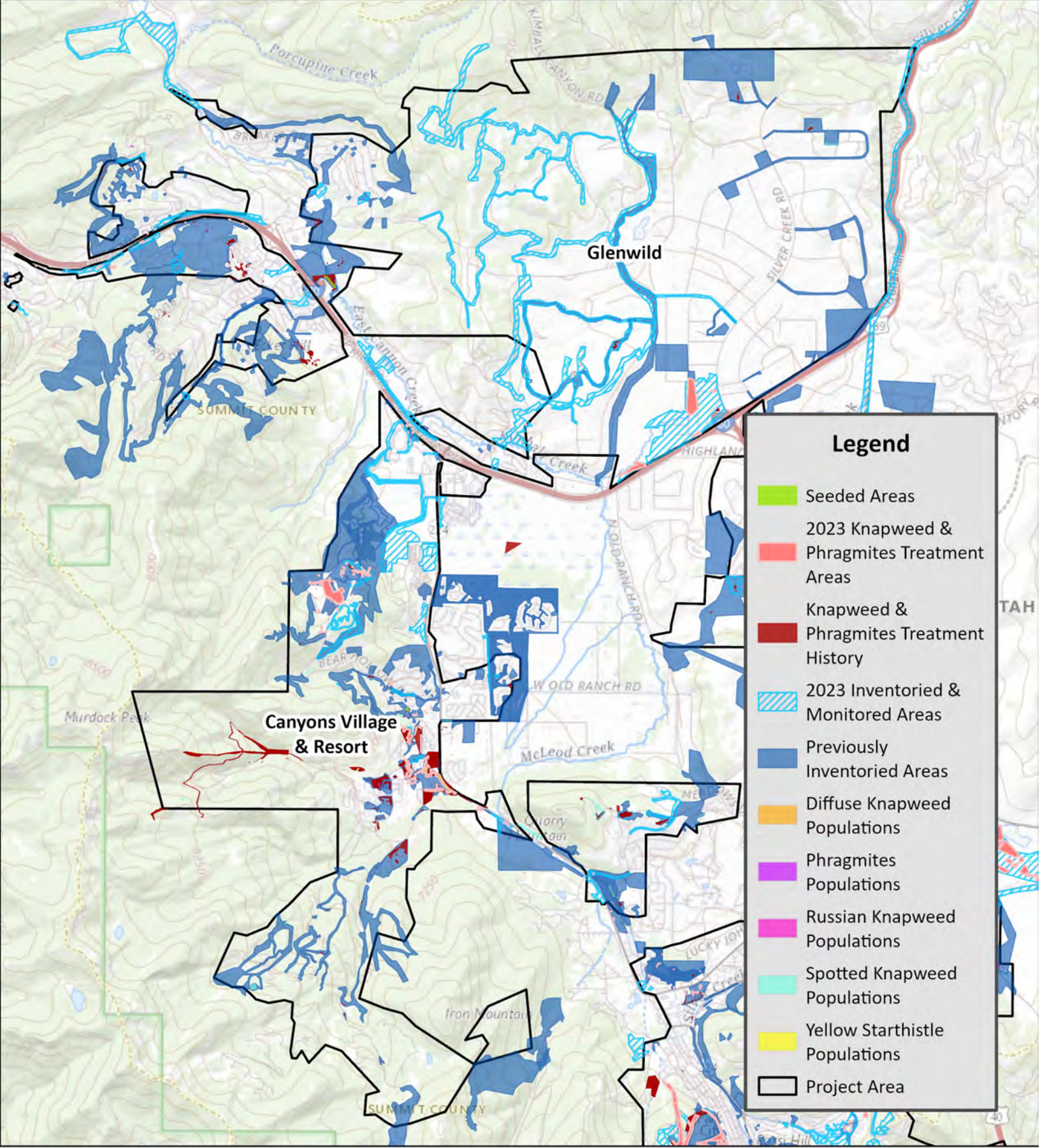
**CURRENT RESTORATION LOCATIONS:** Round Valley Pond, Fairway Connector, Quarry Mountain, The Canyons Golf Course, Bad Apple Trailhead, Utah Olympic Park, Pinebrook HOA, and the Park City’s Movie Studio parcel

	<b>INVENTORY GOAL</b>	<b>MONITORING GOAL</b>	<b>TREATMENT GOAL</b>	<b>RESTORATION GOAL</b>
<b>2024</b>	700 Acres Less Drivable Acres in 2024	8 Restorations 9 Transects	200 Acres	Maintain and Enhance Previous Restorations
<b>2025</b>	700 Acres	8 Restorations 11 Transects	220 Acres	Maintain and Enhance Previous Restorations
<b>2026</b>	500 Acres	8 Restorations 11 Transects	250 Acres	2 New Acres



## 2023 Summit CWMA Starthistle, Phragmites, and Knapweeds Control Program

Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of yellow starthistle, Phragmites, and diffuse, Russian, and spotted knapweed within the project area. Known populations data are cumulations of data since 2018.

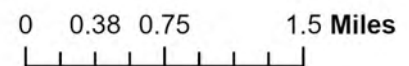


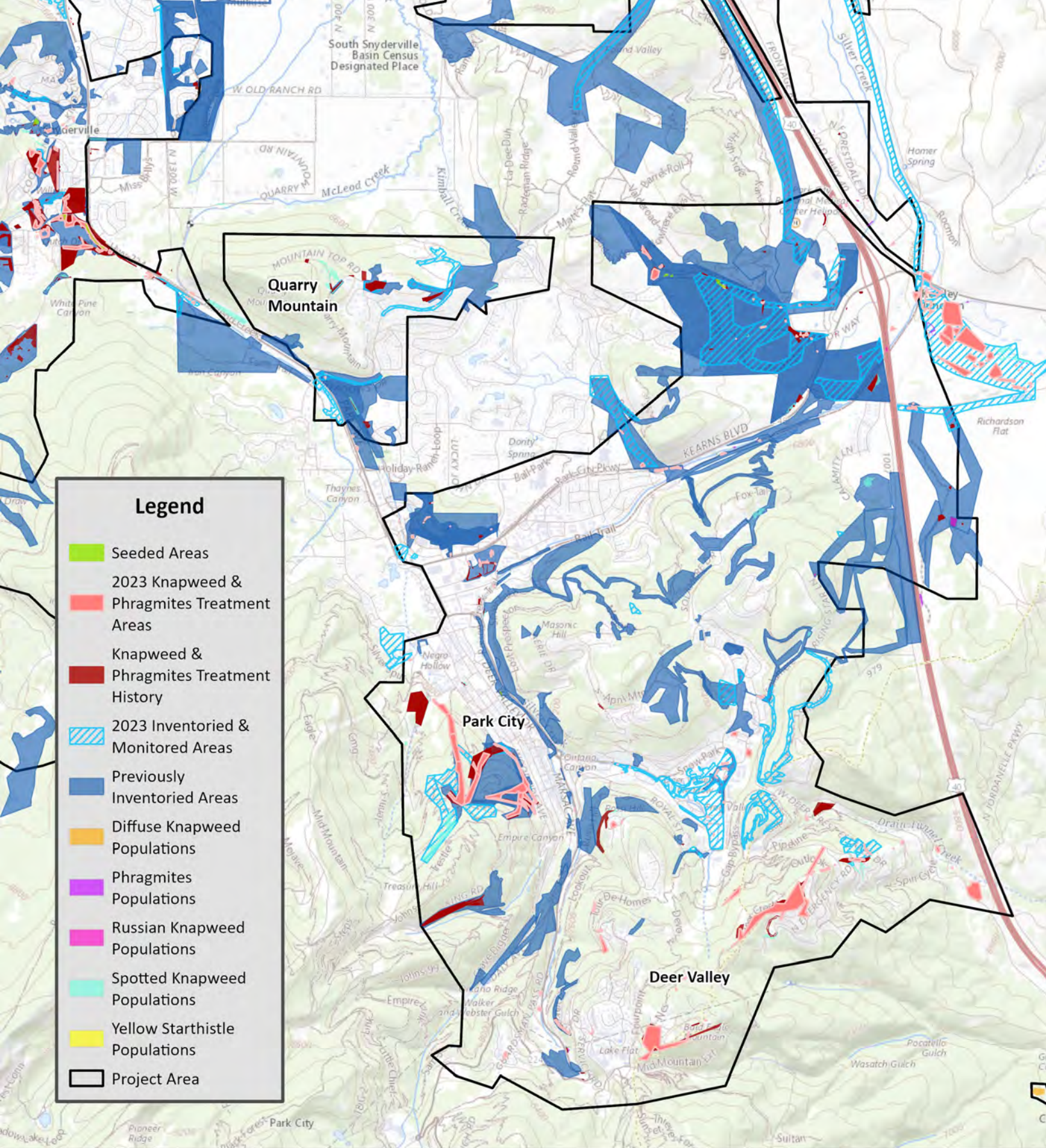
### 2023 Summit CWMA Starthistle, Phragmites, and Knapweeds Control Program - Snyderville Basin

Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of yellow starthistle, Phragmites, and diffuse, Russian, and spotted knapweed within the Snyderville Basin. Known populations data are cumulations of data since 2018.



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



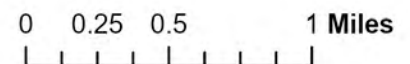


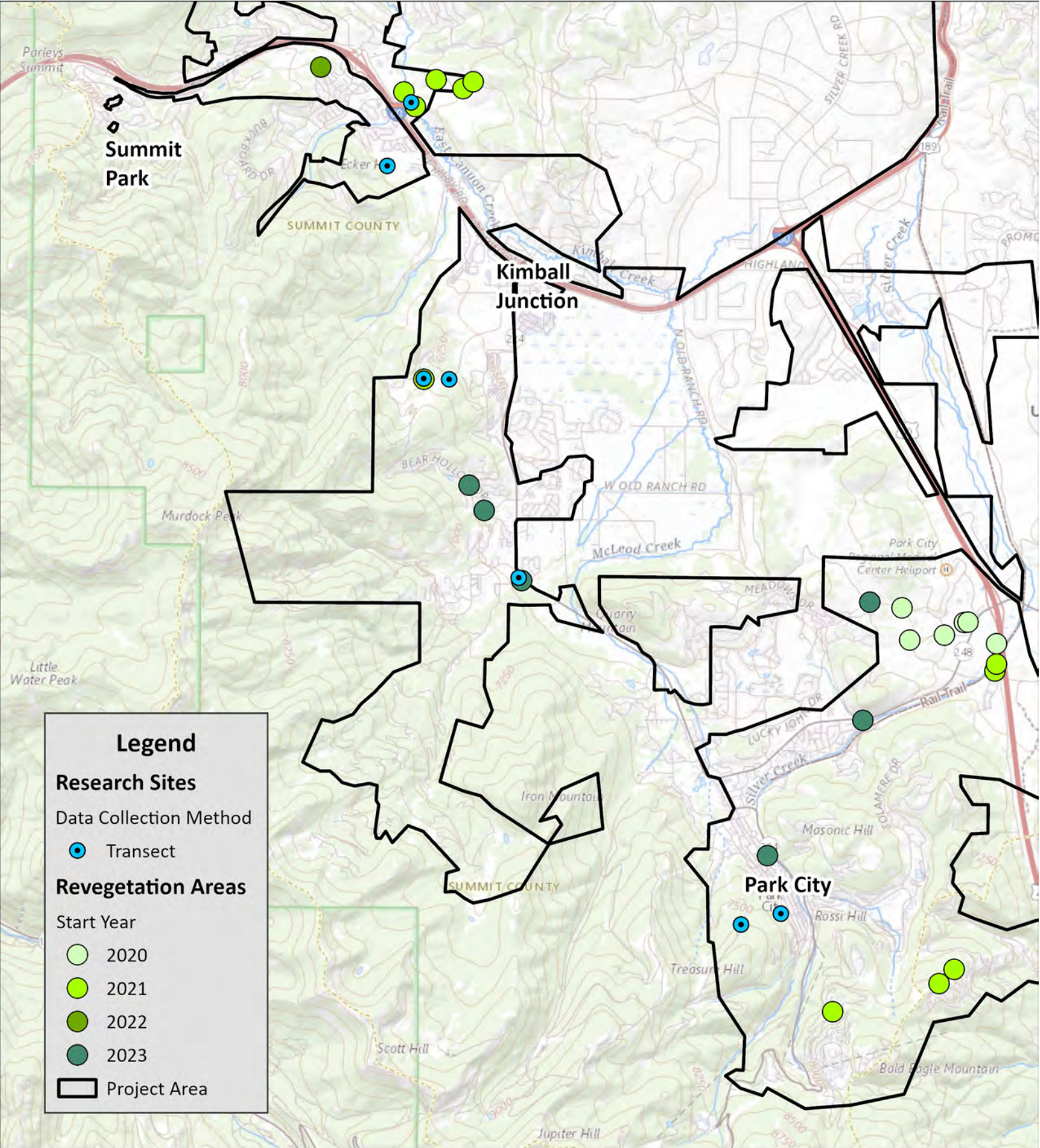
## 2023 Summit CWMA Starthistle, Phragmites, and Knapweeds Control Program - Park City

Seeded areas, treatment areas & history, inventoried/monitored areas & history, and known populations of yellow starthistle, Phragmites, and diffuse, Russian, and spotted knapweed within Park City proper. Known populations data are cumulations of data since 2018.



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





## 2023 Summit CWMA Phragmites, Starthistle, Knapweeds Control Program

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



Created on 1/15/2024  
by Betsy Hochman  
Ecology Bridge LLC

