

Summit CWMA - Yellow Toadflax and Spurge 2021 ISM Report

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2021 ISM Report

Project Background

Species of Concern

Yellow toadflax is a Class 1B Utah state-listed noxious weed. This plant has a 3-foot tap root and reduces forage for wildlife. Myrtle spurge is a Class 3 Utah state-listed noxious weed that outcompetes native plants, reduces wildlife forage, and produces a white sap that is toxic to both humans and wildlife. Leafy spurge produces a similar white sap, but it is less toxic to humans. Leafy spurge is a Class 2 noxious weed.

Project History

In the early 2010s, a multijurisdictional yellow toadflax program was established and implemented in Summit and Wasatch County. After several years, the project was discontinued due to changes in landownership in a portion of

the project area. In 2018, this portion of land, known as Bonanza Flat, was purchased by Park City. Upon purchase, yellow toadflax management resumed.

Revisits of previously treated areas showed that populations of yellow toadflax were still less dense than they were prior to original treatment. However, yellow toadflax was still very common in Bonanza Flat and had spread throughout the wildlands leading into Wasatch State Park. Wasatch County crews had been treating along roads near the county boundary; however, limited funds and labor prevented them from treating annually. Leafy spurge was also known to be fairly common, but the extent unknown. Additionally, Myrtle spurge was thought to be gaining ground in the lower elevations of Wasatch State Park and adjacent Midway.

This project brought the original partners of the 2010s control effort back together to assess the distribution of these species and allow for a strategic approach going forward. While some partners had funds to allocate towards assessing and controlling portions of these species' populations, others—such as Wasatch State Park—were limited by budgets and labor. With ISM funding, the Summit CWMA, in partnership with Wasatch State Park and Wasatch County, was able to increase noxious weed mapping and treatment efficiency.

Current Mapped Distribution

Historic yellow toadflax data from Park City Municipal Corporation, Deer Valley Resort and Wasatch County (EDDMaps) was used to update the Summit CWMA noxious weed database. This data, along with direction from partners that have experience on the ground (Wasatch County Weed Control Division and Wasatch State Park), directed mapping efforts. Areas of particular concern included Ecker Hill Middle School, UOP and Toll Canyon in Snyderville Basin and Empire Pass in Park City, Bonanza Flat, Midway Reservoir,



Yellow toadflax in Bonanza Flat 2020.

Wasatch State Park Campgrounds and associated trails, White Pine Road and the trail systems within and between Wasatch State Park Campground and Dutch Hollow.

Project Goals

The primary project goals were to gain a more accurate map of the distribution of yellow toadflax and Myrtle and leafy spurge. This updated data will then be used to strategically plan control efforts with current partners and potentially the Wasatch CWMA in future years.

Methods

Herbicide Application

Herbicide treatment targeted yellow toadflax (Telar or 2,4D x Milestone combo) in the late vegetative and flowering stages, while myrtle and leafy spurge were treated at all stages (2,4D and Milestone).

Mechanical Treatment

Two myrtle spurge populations, Toll Canyon and Empire Pass were hand weeded. These populations were limited in size and located in backcountry areas. Generally, weeding is not used for large populations of Myrtle spurge; however, hand weeding can be used to prevent late season seed fall in yellow toadflax and leafy spurge. This was not done in 2021.

Biological Control

Partnering with the Summit County Weed Supervisor, Utah Weed Supervisors Association and UDAF, we were able to use biological control agents for yellow toadflax and leafy spurge.

For yellow toadflax, we used *Mecinus janthinus*. This stem-boring weevil burrows into the plant's stalk, doing irreparable damage to the



Myrtle Spurge population in Toll Canyon 2019.

weed. In mid-July 2021, 38 employees from restoration organizations spanning 7 of Utah's counties gathered outside the town of Oakley in Summit County to collect the weevils from previously established populations. Collection efforts were organized by Utah's Bug Girl, Amber Mendenhall, and just under 10,000 weevils were collected. The weevils have been redistributed to yellow toadflax and Dalmatian toadflax populations around the state, including ones in Park City. This project received releases for Deer Valley populations that received insects in the past and continued to need biological control. Biological control for yellow toadflax was also released on Bonanza Flat in August 2021 (one release at the Girl Scout Gate and one at the old stage).

Monitoring / Documentation

Invasive Species Population Mapping

Monitoring efforts for new populations of yellow toadflax and myrtle and leafy spurge were focused along roads, trails and areas adjacent to known populations. Contractors monitored current populations and areas adjacent the known populations. The goals of monitoring were to track population statuses and identify population distributions and boundaries within the project area. Transects were not established in 2021; due to early yellow toadflax flowering, treatment was priority.

Results and Accomplishments

As of late summer 2021, twenty-one acres of yellow toadflax, one acre of Myrtle spurge and five acres of leafy spurge were mapped as a result of this project. A total of 334 acres were inventoried for these species. During mapping efforts additional populations of leafy spurge were observed in Dutch Hollow but funding and time ran out. These monitoring and control efforts will be continued in 2022.

Additionally, the Ecker Hill Middle School leafy spurge population, along with the white top that has been replacing the spurge, was treated and the site revegetated. Myrtle spurge in the three known open spaces, Toll Canyon, UOP and Empire Pass area were hand weeded and then treated with herbicide. New populations of Myrtle and leafy spurge were found in residential properties and treated where consent could be obtained.

Biological control agents were released for yellow toadflax in Wasatch County, Bonanza Flat, and Deer Valley.

Density of yellow toadflax at Bonanza Flat continues to decline in populations we have previously mapped and treated; however, new

populations continue to be discovered and treated.

2021 Yellow Toadflax & Spurge Treatment	
Species	Acres Treated
Yellow Toadflax	11.69
Leafy Spurge	3.18
Myrtle Spurge	0.84
Hoary Cress	8.20
Total	23.91

Challenges

The greatest challenge we face is the late flowering schedule of yellow toadflax at Bonanza Flat and in portions of the Wasatch State Park. Additionally, we often struggle to obtain biological control agents at the time that is appropriate for release in these locations.

Additionally, Park City is no longer hiring herbicide contractors for Open Space weed control. This decision is driven by their sustainability goals—specifically, reduction of chemical use. While this policy is in line with city goals, it has reduced their matching capacity. They have allowed the CWMA to continue to treat our funded species as we deem appropriate. We will continue treating the yellow toadflax population of Bonanza Flat as funding allows.



Top: post fall revegetation and natural penstemon recovery.

Bottom: 2022 post fall revegetation.

Ecker Hill Leafy Spurge Control Project

The Summit County Weed division has been working on the control of a sizable leafy spurge population between the Ecker Hill Middle School and adjacent condominiums in Snyderville Basin. Biological control agents were released for three years and helped prevent spread. To increase the reduction of cover, the Summit CWMA treated the population with Tordon in 2020 and again in 2021. Percent cover has been reduced from 60-80% across the site to 0-20%. White-top was also present in very dense populations and treated at the same time. This species has been reduced overall, but patches with 50-80% remain. To help jumpstart the recovery of native plants, the site was seeded with native grasses fall of 2021. In areas of complete bare ground, a biochar/compost mixture was spread at approximately 1-2 inch depth to prep the area for seeding.

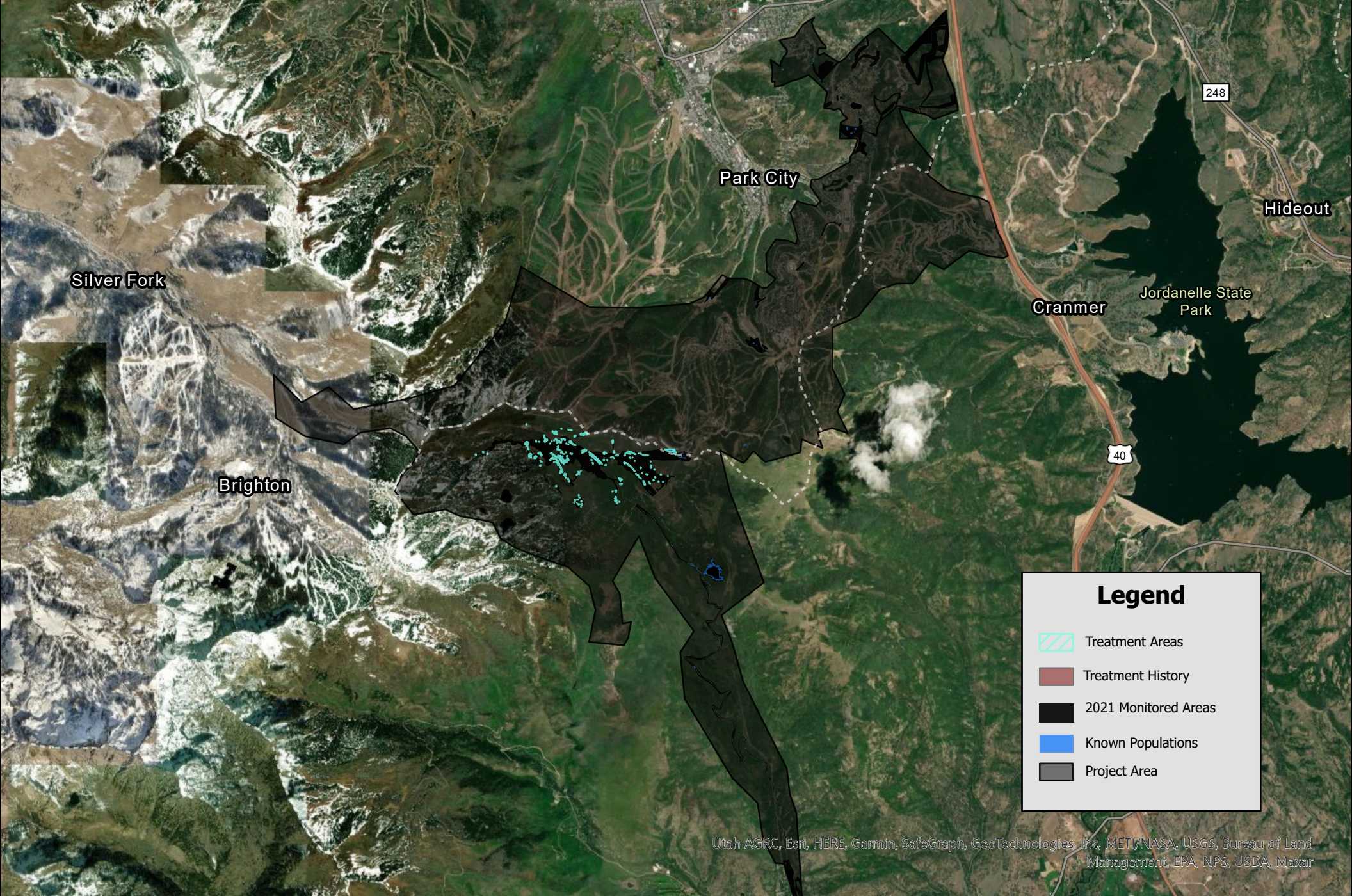
Multiple Partner Involvement

The proposed project involves three primary governmental agency partners, two private sector partners and a State partner. Summit County will be acting as the project the fiscal agent and will work with the Summit CWMA to coordinate and report on the project.

- Park City Municipal Corporation: Logan Jones
- Summit County - Dave Bingham, Dan Pena and Nella Poquette
- Wasatch County - Quinten Lewis
- Wasatch State Park - Tracy See, Jonathan Hunt
- Deer Valley: Laura Sexton and Paul Hedman
- Ecology Bridge - Sara Jo Dickens and Betsy Hochman
- USU Extension - Elizabeth Cohen



Leafy Spurge satellite population of the multi acre Leafy Spurge population of Pinebrook/Ecker Hill Middle School.

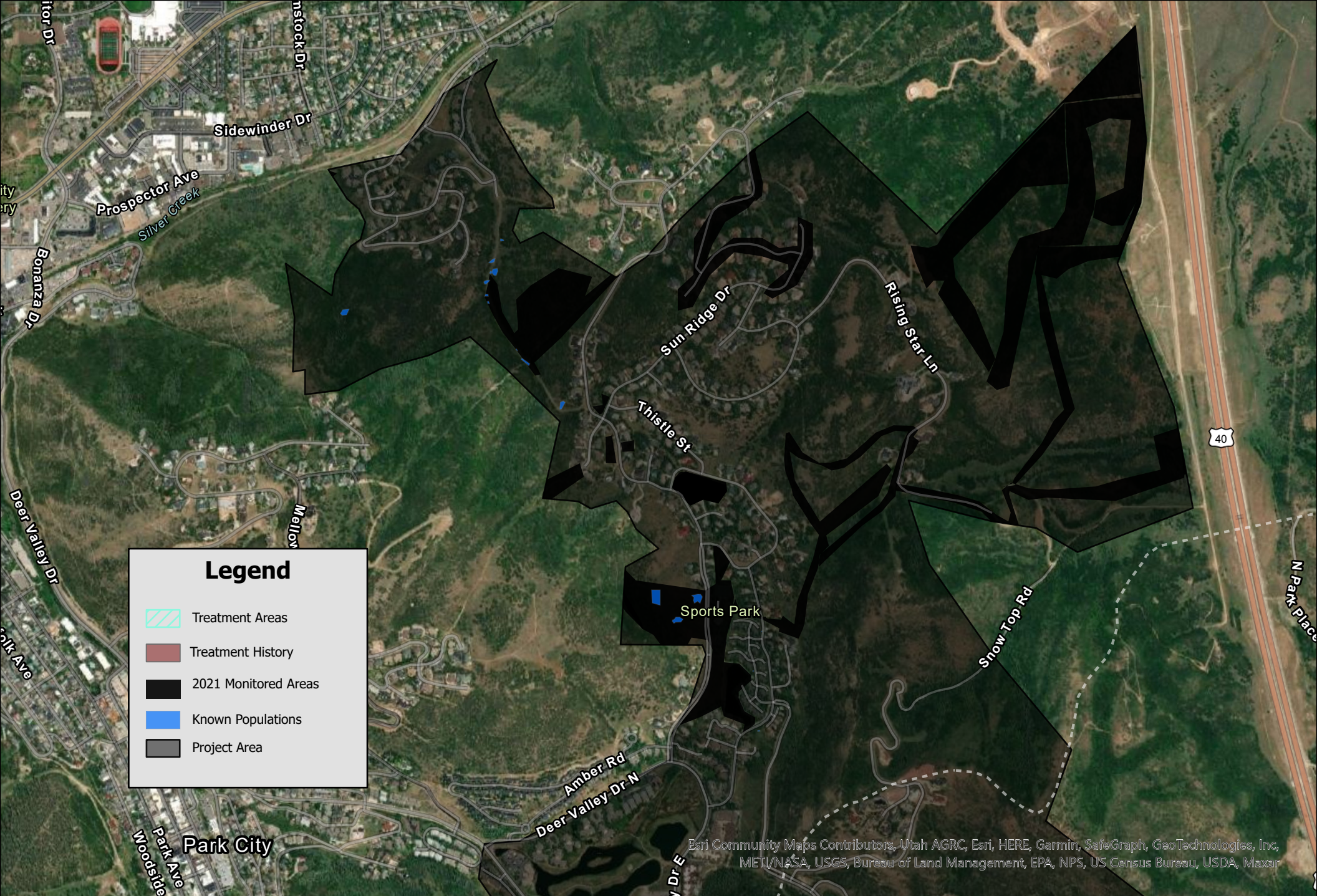


Summit CWMA Yellow Toadflax & Myrtle Spurge Control ISM Program Report






Known populations, all monitored areas, 2021 treatment areas, and treatment history for the full 2021 yellow toadflax and myrtle spurge management area. Known populations data are cumulations of data since 2018.



Created 3/25/2022
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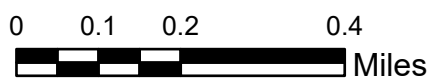
Legend

-  Treatment Areas
-  Treatment History
-  2021 Monitored Areas
-  Known Populations
-  Project Area

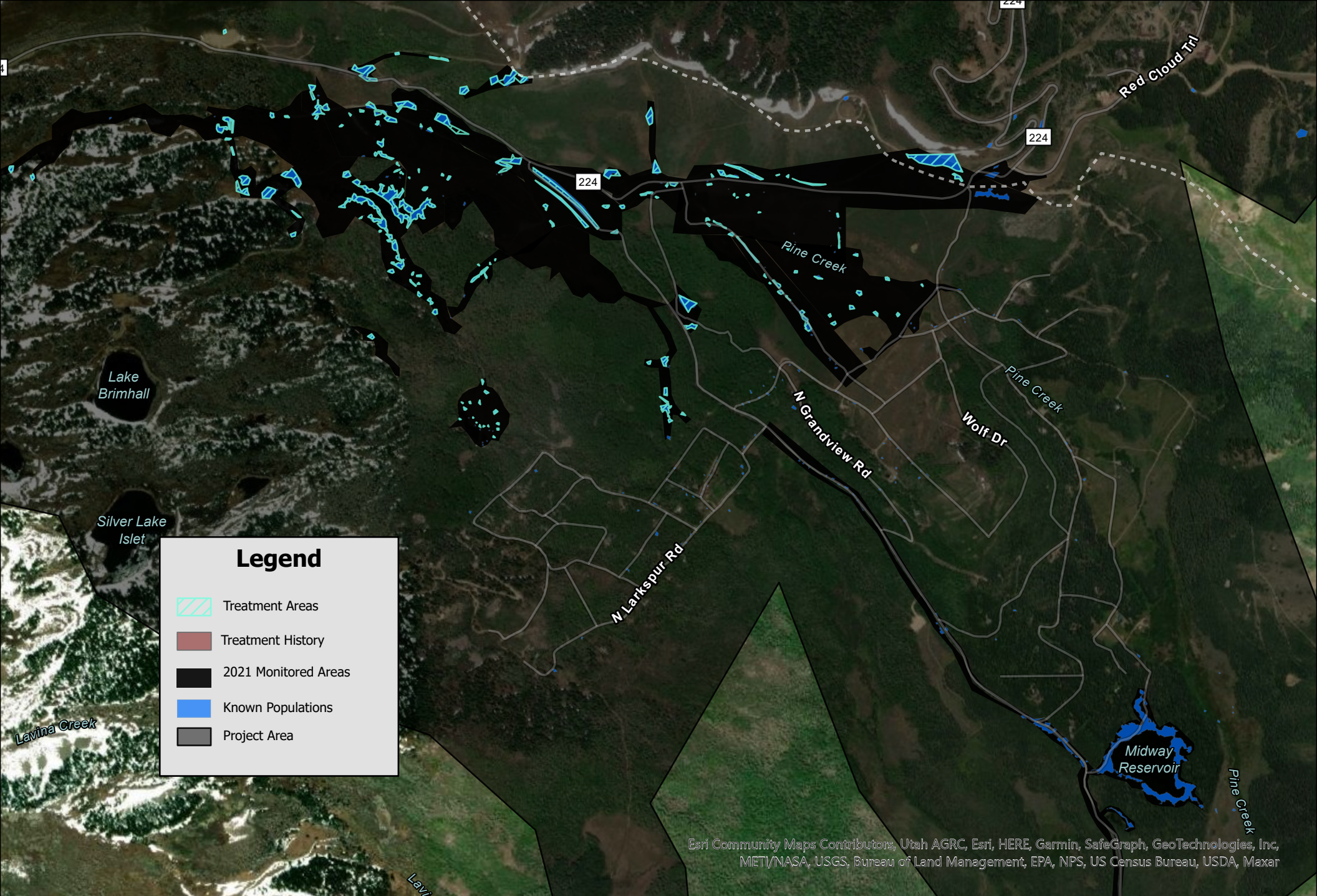
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Summit CWMA Yellow Toadflax & Myrtle Spurge Control ISM Program Report

Known populations, all monitored areas, 2021 treatment areas, and treatment history for the Park City section of the yellow toadflax and myrtle spurge management area. Known populations data are cumulations of data since 2018.

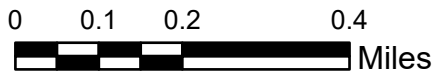


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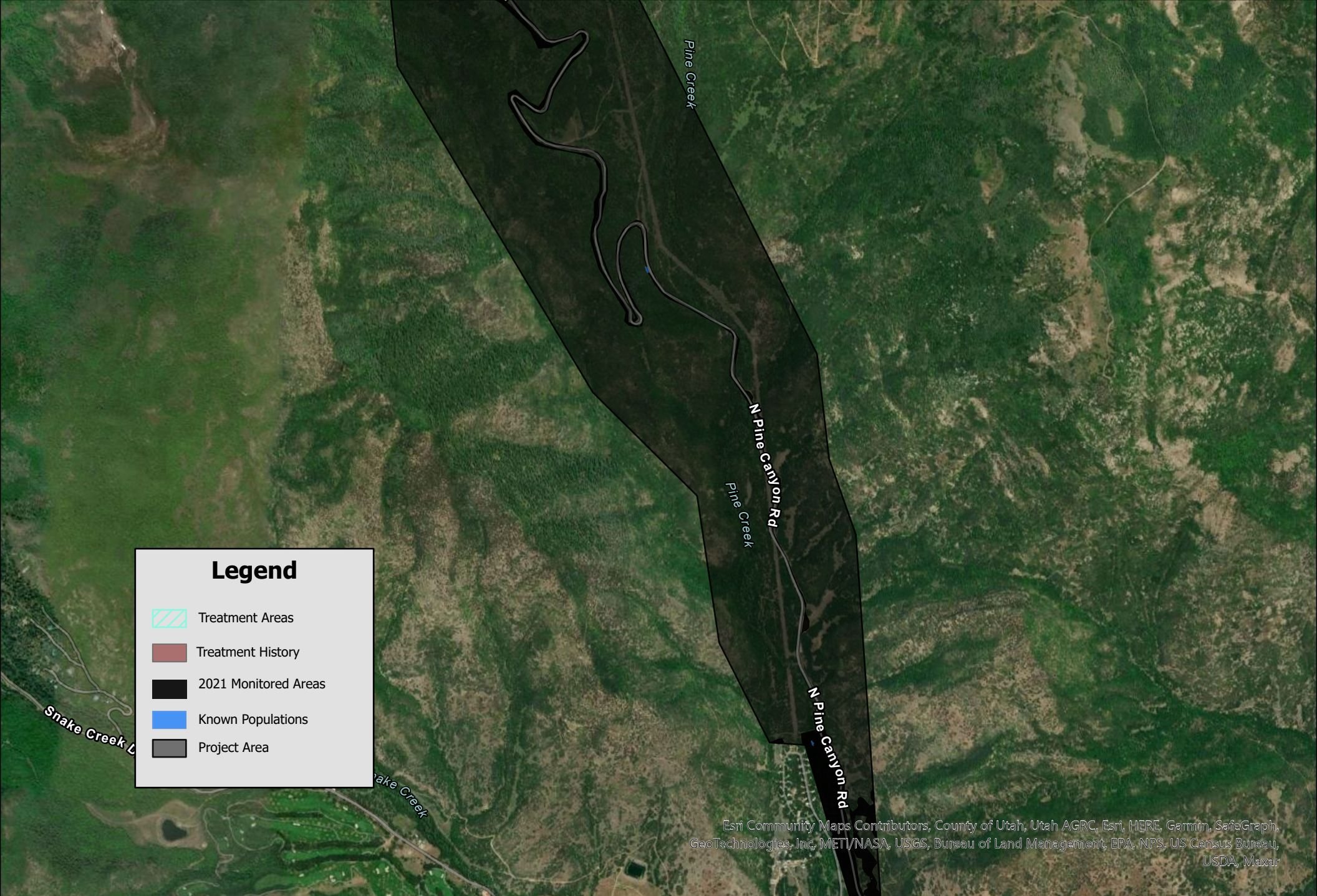
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Known populations, all monitored areas, 2021 treatment areas, and treatment history for the Bonanza section of the yellow toadflax and myrtle spurge management area. Known populations data are cumululations of data since 2018.



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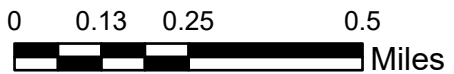
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Summit CWMA Yellow Toadflax & Myrtle Spurge Control ISM Program Report

Known populations, all monitored areas, 2021 treatment areas, and treatment history for sections of the yellow toadflax and myrtle spurge management area along Pine Canyon Road. Known populations data are cumululations of data since 2018.



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