

SUMMIT COUNTY COOPERATIVE WEED MANAGEMENT AREA

GARLIC MUSTARD, KNAPWEEDS AND STARTHISLE ISM CONTROL PROGRAM

WHAT IS A NOXIOUS WEED?

A **weed** is a plant growing where it is unwanted. A **noxious weed** is a plant that has been designated ‘noxious’ by federal, state or county law due to environmental, health or financial impacts. Noxious weeds are invasive, meaning they spread rapidly and out compete native plants. Many were brought to the United States unintentionally through agriculture and horticultural practices, while, others were introduced intentionally for erosion control, grazing and gardening /landscaping and later escaped into natural landscapes.

WHY SHOULD I CARE ABOUT NOXIOUS WEEDS?

Noxious weeds have a number of negative impacts on the environment, wildlife and pollinators because these species out compete natives. They reduce wildlife forage and shelter. Some of these species increase erosion and fire risk. Most importantly, it is the law. The Utah Weed Act requires all landowners, public and private, to control noxious weeds designated by their state and local governments. Controlling noxious weeds on your property is not only a legal responsibility, but a good neighbor policy. Weeds do not recognize land ownership boundaries, control of weeds on your land prevents them from becoming your neighbor's problem.



2018 before hand weeding and herbicide treatment



2019 after limited herbicide treatment, ready to seed

UTAH INVASIVE SPECIES MITIGATION PROGRAM—PROVIDES ASSISTANCE

Since 2014, the Summit Cooperative Weed Management Area (CWMA) has been awarded funds from the Utah Invasive Species Management (ISM) program to control garlic mustard and most recently spotted knapweed. ISM is a grant program that can provide assistance with control the of specific noxious weeds whether on public or private lands. The CWMA uses several control methods in order to have the most effective impact and reduce the use of herbicides when possible, including hand-pulling, hand digging, livestock grazing, herbicide, biological control, mulching, and reseeding with competitive native species.

HOW TO GET HELP OR GET INVOLVED

1. Determine if you have garlic mustard, knapweeds or starthistle on you property. Need help determining this? Reach out o the Summit CWMA (jo@ecologybridge.com) or the Summit County Weed Division for assistance.
2. Sign-up for the Summit CWMA ISM Program and pull flowering garlic mustard before our herbicide crews come.
3. Educate your friends and neighbors and join us at tailgate weed pull parties to pull weeds while enjoying food drink and opportunity drawings (*Once the Stay Home requirement is lifted).



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Garlic Mustard (*Alliaria petiolata*)

Garlic mustard reproduces by seed, forms rosettes the first year and flowers the second. The rosette leaves are kidney bean to heart shaped with toothed edges. Mature leaves are triangular and smell like garlic. Flowers are white with 4 petals in clusters. Hand-pulling plants can be effective **if the root is removed**. It is important to bag and throw away all plants in the trash. Herbicide is often necessary, especially for larger populations. Garlic mustard can be prevented from germinating by covering with a thick layer of mulch. Because of a ten year seed lifespan, multiple years treatments are needed to eliminate this species.



Yellow Starthistle (*Centaurea Solstitialis*)

Yellow starthistle is a grey-green to blue-green due to cottony hairs and has a deep taproot. It produces yellow flowers with sharp spines surrounding the base.

Hand pulling can be effective **if the entire root is removed**. Herbicides provide the greatest control. Biological control agents are available but are most effective on populations large enough to allow insects to establish and reproduce.



The Knapweeds

Stems and leaves of spotted and diffuse knapweed are somewhat hairy making them look grey/bluish green. Rosette leaves are very lobed and divided. Russian knapweed rosettes are less lobed and have wavy edges. Like garlic mustard, knapweeds form rosettes the first year and flower the second year. Flowers vary in color but tend to be pink-purple or white.

Hand weeding can be effective for small populations, if repeated frequently each season. Repeated mowing with no other method of control can shift these species from the biennial to a perennial, so mow only with other control methods. Herbicide is effective, especially in combination with mowing or grazing. Biological control agents, can be effective, but take 2-4 years to see substantial control.

Spotted Knapweed

(*Centaurea maculosa*)

Pink-purple flowers, dark (brown to black) spots on bracts on the flowerhead.



Diffuse Knapweed

(*Centaurea diffusa*)

White flowers, tan flowerhead with short spiny bracts.



Russian Knapweed

(*Rhaponticum rapens*)

Pink-purple flowers with white tips, and papery, round bracts on the flower head.

