



# Bull Thistle

*Cirsium Vulgare*

<b>FAMILY</b>	Asteraceae - daisies & sunflowers	<b>ORIGIN</b>	Eurasia and western Africa
<b>LIFE CYCLE</b>	Biennial, annual, or perennial	<b>OTHER NAMES</b>	Bur thistle, common thistle, spear thistle

## QUICK FACTS

- Bull thistle is native to the Eurasian continent and some of western Africa. It can grow up to **6 feet tall**, has a purple flower, and dark green, spiked leaves. The flower sits on top of a spiked bell shaped flower head. It can continue to grow from the root crown until it successfully seeds, then it dies out.
- This plant also uses **large amounts of water**, gradually drying out the soil and increasing its erosion potential.
- Bull thistle has small bristly hairs along the top of leaves and parts of the stem, making it **very spiky**. It is recommended to use gloves when handling, and be cautious not to get spikes in eyes, as they can cause **permanent corneal damage**. This weed can also cause **irritation** or **rashes** when its spikes rub against skin.

Bull thistle slowly crept its way across the U.S. since colonization, however was not documented until the 1800s. Many Native Americans began to use it as a medicinal treatment for joint pain and as a food source. It is currently listed as a noxious weed in New Mexico, California, Colorado, Oregon, and Washington, and threatens Native species like Sacramento Mountain thistle and Wright's marsh thistle.

## What does it look like?

Bull thistle is a forb usually found in disturbed areas. In its first year it has basal rosettes that can grow up to 3 feet in diameter, leaves are elliptical, have small bristle-like spikes, coarsely toothed and about 12 inches long. In the second year, it bolts with a winged and spiked stem about 2-6 feet tall, and has a purple flower on top of a bell-shaped flower head that is also spiked. Bull thistle looks similar to many other varieties of thistle, especially musk thistle, but can be identified by its winged stem, spiky upper leaf surface, and large flowers.



Rob Routledge, Sault College, Bugwood.org

**Plant:** Bull thistle acts as a biennial in New Mexico and can grow up to 6 feet tall when mature. In its first year, bull thistle is a basal rosette with dark green leaves up to 3 feet in diameter. The upper surface of leaves are green with small, bristly spikes. In its second year, it has a spiky, winged stem, and grows purple flowers from its long, stiff stems.



Bruce Ackley, The Ohio State University, Bugwood.org

**Roots:** The roots of bull thistle start as a taproot reaching depths of up to 2.5 feet, and develop smaller lateral roots as the plant matures. They have a fleshy color and while they do not spread, they can regrow if the root crown is left intact. Bull thistle can regrow from root crown until it successfully flowers.



Bruce Ackley, The Ohio State University, Bugwood.org

**Leaves:** In its first year, bull thistle is a basal rosette with a simple taproot. Its leaves are a dark green color about 6-12 inches long, oblong to lance shaped, with tannish-yellow spikes at the end of each lobe. The rosette can grow up to 3 feet in diameter. Stem leaves are also a dark green color, lance shaped, and about 3-12 inches long. Stem leaves have cottony hairs near the stem and sometimes on the bottom side of the leaf. Both basal and stem leaves have small bristle-like hairs on the top side of the leaf, making the whole leaf spiky.



Tony Bean, inaturalist.org

**Flowers:** Flowers can be seen around June to November in this plant's second year. The flower head is 1.5-2 inches in diameter and 1-2 inches long, bell shaped, and at the ends of branches. The flower head base is covered in green colored spikes, and has a purple flower on top.

**Seeds:** Bull thistle only produces by seeds, but can produce 100-300 seeds per flower head and 1-400 flower heads per plant, producing up to 120000 seeds per plant. It relies on insect pollination, with bees being one of its most important pollinators. Seeds are less than 4 mm long, and attached to pappus for wind dispersal. Seeds are dispersed by wind, but most seeds land near the parent plant. They can also be spread by animal and human movement.

# Impact and Management

## Ecosystem Health

Once established, bull thistle displaces native plants, resulting in a notable loss of floral and faunal biodiversity. This can significantly reduce forage availability for game and often alters soil composition.



Barry Rice, sarraecenia.com, Bugwood.org

## Soil Degradation

Bull thistle threatens agriculture by competing for resources and reducing land productivity. In addition to those direct threats, bull thistle also poses indirect threats to agriculture and natural resource conservation on the landscape by negatively impacting the quality of our soil. This plant also uses large amounts of water, drying out the soil and increasing its erosion potential.

## Health and Safety

Bull thistle has small spikes over the entire plant, which can physically injure children, workers, livestock, and wildlife, causing skin irritation and corneal damage.



Bonnie Million, Bureau of Land Management,

## Economic

This weed will become a monoculture through aggressive seed production and vegetative growth. It can reduce available forage for domestic livestock and cause damage to cattle. It also reduces fruit yields, wool production, and hay and grain field value. Furthermore, it is estimated the wool industry loses \$15 million a year because of bull thistle.

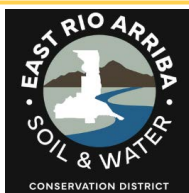
The best way of managing bull thistle is prevention, usually by keeping vegetation in an area healthy and undisturbed. When infestations occur, mechanical methods like pulling or mowing are effective at preventing seed dispersal. While pulling this weed, roots need to be severed below the root crown, or it may grow back. When mowing, it is best done immediately before flowering or soon after, before seeds spread. Herbicides give temporary management, but typically not effective on its own. Integrated management should be implemented to control weeds and prevent further outbreaks.

### DO's

- Keep healthy vegetation and avoid disturbing soil to prevent bull thistle from establishing itself
- Pull or cut bull thistle before flowering, preventing more weeds from growing
- Combine several management methods including seeding desired vegetation and mechanical control, and continue doing so for several years to prevent reinfestation

### DON'Ts

- Allow plant to seed, as this spreads thousands of seeds that stay dormant for years
- Leave root crown; it can regrow if root crown is attached, and continues to grow until it successfully flowers
- Allow weed to become widespread. It has heavy roots that are difficult to remove, and is easier to manage in small infestations.



For more information on managing bull thistle, please visit [www.nmweeds.org](http://www.nmweeds.org)

