

**Diffuse knapweed** (*Centaurea diffusa*) looks very similar to squarrose knapweed, but these plants are shorter-lived, their flowers are often paler, and their bract tips are straight rather than spreading. In northeastern California, the only known persistent infestations occur near McCloud (Shasta County) and New Pine Creek (Modoc County); scattered small patches and plants are found elsewhere.



**Russian knapweed** (*Acroptilon repens*) differs from other knapweeds in having a widely spreading root system rather than a taproot. Its leaves are not as divided and are often smooth-edged. Flowers are pink, and the bracts have pale, papery edges. In northeastern California, large infestations occur near Bieber and Litchfield (Lassen County); many other smaller infestations are scattered elsewhere.



## Control Methods

Control for the three taprooted knapweeds (spotted, squarrose, and diffuse) is similar; Russian knapweed has widely spreading lateral roots.

**Mechanical** - Taprooted knapweeds can easily be removed by cultivation and digging with a shovel, but the crown must be removed. (Spotted knapweed sometimes also has lateral roots that must be removed.) Mechanical control of Russian knapweed is effective only if done frequently so the plant can't photosynthesize and build up root reserves. Because cultivation during the summer months may help spread the lateral roots of Russian knapweed, it is important to use followup herbicide treatments in the fall.

**Biological** - About 15 bio-control agents for knapweed exist, but not all occur in California. Bio-control agents have reduced knapweed in some areas, but in many cases additional control has been needed.

**Chemical** - Dicamba, clopyralid, glyphosate, triclopyr, and 2,4-D are all effective on knapweeds, either alone or in combination. Treatment should occur early, before bud set, for best results. Re-treatment will be needed, especially for the control of Russian knapweed. As always, read and follow herbicide label instructions carefully.

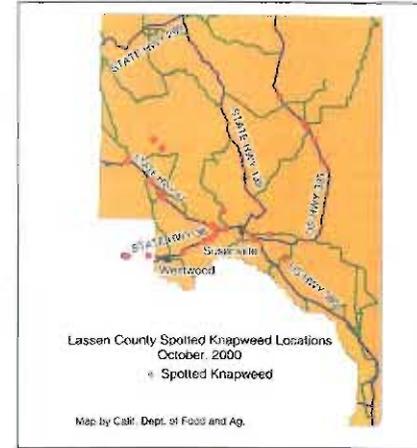
## History

Spotted knapweed came into the U.S. as a contaminant in alfalfa and clover seed. It is now extremely widespread and causing severe damage in Montana and Idaho, as well as covering large areas in Oregon and Washington. Infestations in California are currently smaller and are a high priority for eradication.

## Distribution

In northeastern California, large infestations of spotted knapweed occur in Susanville (Lassen County) and Big Bend (Shasta County). Scattered patches can be found along many highways.

## Distribution of Spotted Knapweed



## For More Information:

- Bureau of Land Management's Eagle Lake Field Office at (530) 257-0456  
<http://www.ca.blm.gov/eaglelake/noxweeds.html>
- University of California Cooperative Extension Office at (530) 251-8133
- Lassen County Agricultural Commissioner's Office at (530) 251-8110

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- ◆ Dr. Vernon Oswald (photo of hoary aster)



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# SPOTTED KNAPWEED

AKA: *Centaurea maculosa*  
And other knapweed enemies...

## A Not-So-Spotty Problem



**Lassen County  
Special Weed Action Team**  
[www.cdffa.ca.gov/wma](http://www.cdffa.ca.gov/wma)

## Why should I care about noxious weeds?

When noxious weeds spread, they impact the environment. They reduce the biodiversity of native plant communities and rapidly displace other plants that provide habitat for wildlife and food for people and livestock. Some weeds are poisonous to livestock.

Weeds also have an economic impact by reducing the land's productivity and by decreasing the quality and value of crop and livestock production. Some noxious weeds are so competitive that they crowd out all other desirable plants.

Weeds can increase maintenance costs and reduce the usefulness and value of recreation areas. Who wants to hike in yellow starthistle or Scotch thistle?



Watch out!  
Spotted knapweed can completely infest an area.

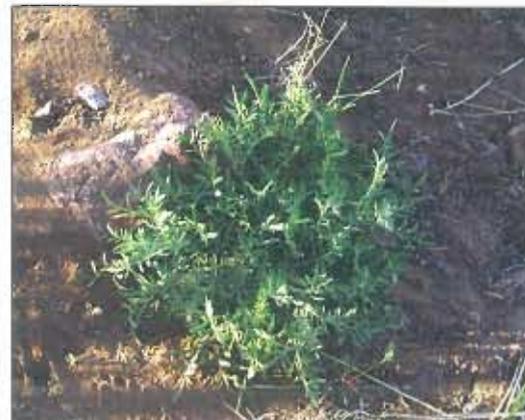
## What can I do?

- ☞ Drive only on established roads and trails away from weed-infested areas.
- ☞ When using pack animals, carry only feed that is certified weed free.
- ☞ Beginning 96 hours before entering backcountry areas, feed pack animals only food that is certified weed free.
- ☞ Remove weed seeds from pack animals by brushing them thoroughly and cleaning their hooves before transporting.
- ☞ If you find a few weeds without flowers or seeds, pull them and leave them where found. If flowers or seeds are present, place the plants in a plastic bag or similar container and then dispose of them.
- ☞ Don't pick the flowers of these weed species and take them home. They are very competitive and can easily trigger a new infestation in your own backyard.
- ☞ If you find a weed-infested area, let the land owner or manager know so that they can take steps to control the weeds (or notify your local department of Agriculture).
- ☞ Noxious weed seeds or plant parts may attach themselves to tires, shoelaces, camping equipment, construction equipment, garden tools, or any other surface that contacts an infested area. These seeds or plant parts can then travel hundreds of miles before falling to an uninfested area. To avoid starting a new infestation, please clean all surfaces before leaving any area.

## What does spotted knapweed look like and how does it grow?

**HABITAT:** Spotted knapweed grows in dry or moist open soil and can invade both disturbed and undisturbed areas if there is adequate light.

**GROWTH:** Spotted knapweed is a biennial to perennial weed with a stout taproot. It starts as a rosette in the spring, with finely divided leaves remaining close to the ground. In summer, it sends up multiple flowering stalks with divided leaves.



**FLOWERS:** Flowers are pinkish purple to cream colored. The base of the rounded flower head is covered with small, scale-like leaves called bracts; each bract has a distinctive darker spot on the top. At higher elevations, or if mowed earlier in the year, plants can continue flowering and setting seed late into the fall.

**HEIGHT:** Spotted knapweed plants are generally 2 to 4 feet tall and can be just as wide across.

**SEEDS:** The seeds are small and tipped with slender bristles. Spotted knapweed produces abundant seed, which can last in the soil for many years before sprouting.

## Look-Alikes

**Hoary aster** (*Machaeranthera canescens*) is a common native plant (not a weed) that can be confused with spotted knapweed. It differs by having toothed rather than deeply divided leaves, and it does not have spots on the bracts.



## Other Knapweeds

A few other closely related knapweeds are also noxious weeds and look similar to spotted knapweed.

**Squarrose knapweed** (*Centaurea squarrosa*) is much like spotted knapweed, but these plants don't become quite as large, their flower heads are smaller and narrower, and their bracts have spreading, fringed tips without spots. In northeastern California, big infestations of squarrose knapweed can be found in the Cassel, Fall River Valley, and Big Valley areas.

