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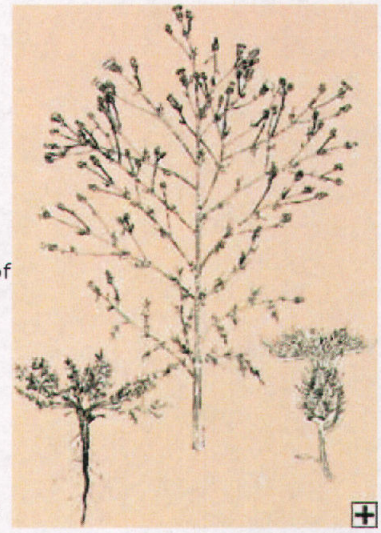
Internal

The Great Basin and Invasive Weeds

Cheatgrass
Halogeton
Medusahead
Perennial pepperweed
Russian thistle
Whitetop
Bull thistle
Canada thistle
Yellow starthistle
Diffuse knapweed
Spotted knapweed
Squarrose knapweed
Russian knapweed
Rush skeletonweed
Leafy spurge

Diffuse knapweed

Centaurea diffusa



Did you know?

Diffuse knapweed was probably introduced accidentally in alfalfa seed!

How did diffuse knapweed get here?
Overall, knapweeds are a large group of over 400 species, many of which are considered invasive weeds. Diffuse knapweed is native to grasslands and shrub steppes of the eastern Mediterranean and western Asia. It was probably introduced to North America as a contaminant of alfalfa seed from Turkmenistan or Germany in Washington State in 1907.

What are its characteristics?
This is an annual or short-lived perennial forb growing 1 to 2 feet tall. White to purplish flowers appear from July to September. The many-branched stems are rough to the touch, and its roundshape tumbles with the wind when broken off at maturity. This, along with mud adhering to vehicles or shoes, transports seeds to new areas. Disturbance allows diffuse knapweed to invade a wide range of habitats, where it rapidly establishes a dense stand. This species is adept at depleting soil moisture, and possesses allelopathic compounds. It is most competitive in areas receiving between 12 and 17 inches of annual precipitation.

Rosettes are edible, but they are difficult for cattle to eat because they grow close to the ground. Mature plants are coarse and fibrous, and sharp spines can irritate or injure the mouths and digestive tracts of animals. Diffuse knapweed is browsed mainly by deer and sheep, and by elk and cattle in the rosette stage.

Why is diffuse knapweed a problem in the Great Basin?
Diffuse knapweed infests roadsides, burned or plowed areas, and other disturbed sites. It is also capable of invading well-managed rangeland. Once it is established, it can form dense stands. Diffuse knapweed has a large, perennial taproot that can survive fire if the root crown is not killed. It also produces large quantities of seed that may survive fire. This species depletes soil moisture and replaces more desirable forage for livestock and wildlife.

How can we fight this weed?
To prevent infestation after disturbance, re-estabish vegetation as soon as possible. Regulate human, pack animal, and livestock entry into burned areas where weed invasion is likely until desirable vegetation is established. Lasting control of diffuse knapweed requires proper land management to maintain desirable vegetation.

It is important to document where diffuse knapweed plants have been removed in order to monitor for emerging seedlings in following years. Early detection and public awareness are keys to successful containment of an infestation. Driving, walking, biking and riding animals through infested areas should be avoided. Use only certified weed-free hay for livestock before entering the backcountry, and avoid grazing livestock on knapweed-infested sites during the seeding stage. When this is unavoidable, livestock should be held for 7 days before moving to uninfested areas. Biological control agents including flies, beetles, and weevils, may weaken plants and make them more susceptible to herbicides, prescribed fires, and mechanical techniques. Crested wheatgrass has also had some success in competing with diffuse knapweed in revegetation projects.

Images:

-*Drawing:* Cooperative Extension Service. Colorado State University (http://www.ext.colostate.edu/pubs/natres/03106.html).

-*Flower:* USDA APHIS Archives, USDA APHIS, (http://www.forestryimages.org, 26 September 2006).

-*Juvenile plant:* Oregon State University Jed Colquhoun photo Collection.

Text references:

-USDA, NRCS. 2006. The PLANTS Database (http://plants.usda.gov, 26 September 2006). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

-Whitson, T. D., et.al. 2000. Weeds of the West., 9th ed. Western Society of Weed Science, Newark, CA.

-Zouhar, Kris 2001. Centaurea diffusa. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: (http://www.fs.fed.us/database/feis/, 26 September 2006).