

Invasive Weeds Threaten Lake Tahoe

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Lake Tahoe is frequently featured in news reports lamenting the loss of the lake's famed water clarity. What you'll rarely read, however, is that the basin is being rapidly infested by a number of invasive weeds. These weeds are not your common garden-variety pests! Invasive weeds are a group of nonnative plants that grow like crazy, choke out native vegetation, decrease wildlife habitat, ruin recreational opportunities, and cost us millions of dollars each year for treatment and lost land productivity. One of the biggest threats they pose to the Tahoe Basin is their tendency to increase soil erosion and stream sedimentation, which can damage Tahoe's famed clarity.

The worst of these weeds, spotted knapweed (*Centaurea maculosa*), has been recognized in Nevada law as a noxious weed. Spotted knapweed is a pretty, bushy plant with purple, aster-like flowers that is spreading fast in the Tahoe Basin. It is native to Eurasia, but thrives in Western climates, especially in rangeland and forest settings. In fact, it has already invaded more than 4.5 million acres in Montana and has spread west into Nevada and California.

Nevada has designated spotted knapweed as a noxious weed because it is prolific, highly competitive and difficult to control. So, by law, landowners must get rid of it. If we don't control it now, soon we'll have hundreds or thousands of infested acres in the basin. While you might find it to be a fairly pretty and decorative plant, studies

have shown that rates of erosion and sedimentation increase as spotted knapweed invades. Unlike grasses, which have fine, fibrous, net-like roots that knit the soil together and hold it in place, spotted knapweed and other invasive weeds have a coarse tap-rooted structure that allows water to wash away the soil. Erosion is a major threat to the lake's clarity – so the more spotted knapweed we have at the lake, the more difficult it will be to preserve the lake's clarity.

As is the case for most noxious and invasive weeds, controlling it can be difficult, especially if it is allowed to flower and produce seed. Each plant can produce up to 18,000 seeds in one year. Early infestations of a few plants can be controlled by pulling or digging out plants. However, if plants are allowed to reproduce and seed over several seasons, the resulting "seed bank" in the soil will continue to grow weeds and will eventually crowd out native plants.

You can help halt the invasive spread of spotted knapweed by learning to identify it and by controlling it early. Its aster-like flowers sit on spotted flower bracts and bloom in mid- to late-summer. Sometimes the flowers are white or pink, but most often, they are purple. They do not have yellow centers, as asters do. The plants can be 1 foot to 3 feet tall.

Several other knapweeds are also making an appearance in the basin, including diffuse knapweed (*Centaurea diffusa*) and yellow starthistle

(Continued on page 2)



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The Lake Tahoe Report

(Continued from page 1)

(*Centaurea solstitialis*). These plants are somewhat similar in appearance to spotted knapweed, being related species. Diffuse knapweed has white to pale pink flowers, with spines on the bracts below the flowers. Yellow starthistle has yellow flowers, with thorns up to an inch long extending below the flower head. These thorns puncture bike tires, car tires, shoes, and more. Once you've seen yellow starthistle, you'll never forget it!

If you are certain that you have identified one of these weeds on your property, dig or pull the plants and place them in tightly sealed bags in the trash. Wear leather gloves, as they can irritate human skin. Be careful to contain and dispose of all the seeds. Remove as much of the root as possible. Then, keep checking the site throughout the year, and keep removing the weed as necessary. Don't get discouraged – eventually you will be successful!

If you spot the weed at a location along a roadside or somewhere other than on your own property, get an accurate description of the location and report it to me (Sue Donaldson, (775) 784-4848). I will take the information or refer you to the appropriate individual, depending on the county where you spotted the weed. You'll be helping protect the lake and the lifestyle we all enjoy.
