



Canada Thistle



Contributions for this brochure provided by:

out of Your neighborhood!

Step up and keep noxious neighbors

What is a noxious or invasive weed?

Invasive weeds are plants that grow aggressively, spread like crazy, and choke out native and other desirable plants from your neighborhood. They produce enormous amounts of seed, have spreading root systems, and lack natural predators. This enables them to dominate entire landscapes. Invasive weeds displace diverse and sensitive plant communities and negatively impact Lake Tahoe Basin's natural and economic resources.

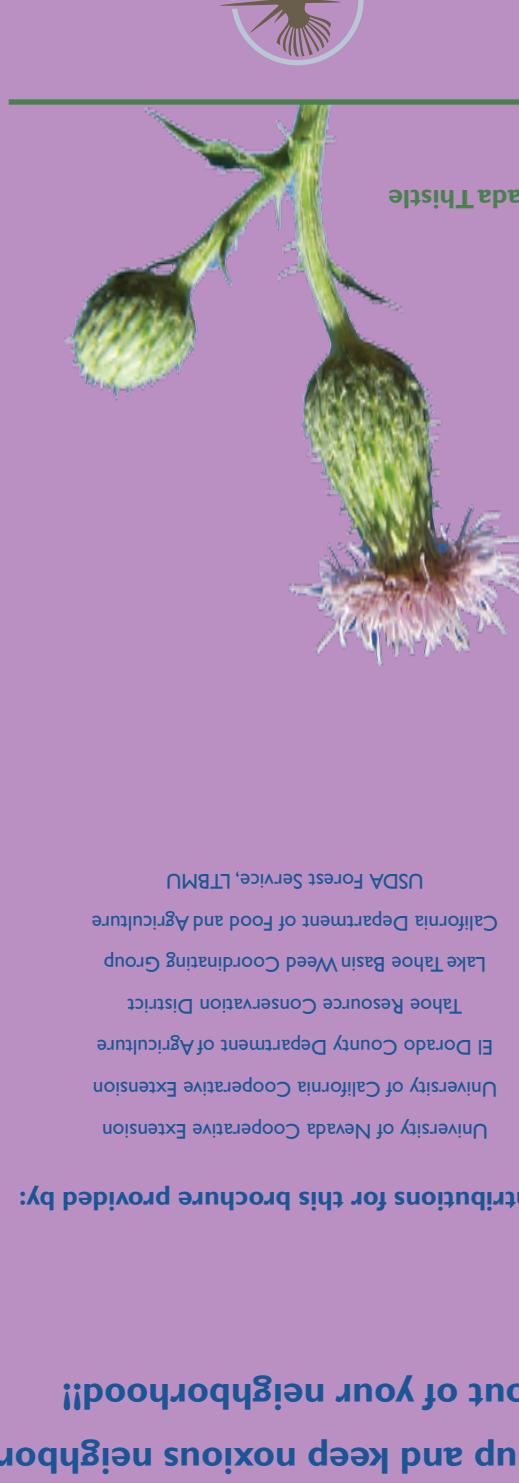
Noxious weeds are invasive weeds that are listed in California or Nevada law because they are particularly destructive, competitive, and difficult to control. All noxious weeds are by nature invasive, but not all invasive weeds are listed as noxious. The weed must pose a serious threat to the state's ecosystems, and there must be some hope of eventually controlling it in order for the weed to become listed as noxious.

How do weeds spread?

Weeds are spread in many ways. Seeds can attach to people and animals during work or play, and can travel many miles before being dislodged into an area where they were not previously found. Weeds can be spread during construction and maintenance activities, when contaminated fill, gravel, topsoil, or other products are moved from an infested site to your neighborhood.

Private and public landowners are struggling to protect their lands from the ever-increasing numbers of these noxious neighbors. Noxious and invasive weeds are brought into your neighborhoods by vehicles, construction activities, and as ornamental plantings.

This guide will help you identify specific problem weeds and apply effective control measures to eliminate their spread on your property and in your neighborhood.

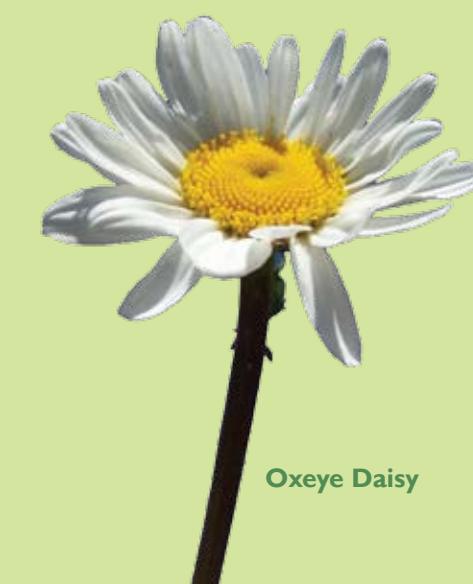


Who is responsible for controlling weeds?

California and Nevada state laws require eradication of specific noxious weeds and list many plant species as illegal to cultivate or sell for use in ornamental plantings. The responsibility for noxious weed control is placed on the property owner or occupier. This means we are all responsible for controlling the spread of these damaging weeds, from homeowners to city, state, or federal agencies that own and/or manage land.

For weed control efforts to be effective, everyone must get involved!

The best control efforts practiced on one property can be useless if neighboring infested land is not treated. Many of the noxious weeds in the Lake Tahoe region are in the early stages of infestation, which means we have a chance to get rid of them. We can work together to prevent weed infestations from spreading.



Oxeye Daisy

- University of Nevada Cooperative Extension: 775-784-4848
- Washeoe County, NV
- Douglas Co., Weed District 775-782-9835
- Douglas County, NV
- Agriculture Commissioner: 530-889-7372
- Agriculture Commissioner: 530-621-5520
- El Dorado County, CA
- Nevada County, CA
- Pacer County, CA
- Agriculture Commissioner: 530-273-2648
- Agiculture Commissioner: 530-621-5520
- El Dorado County, CA
- Washeoe County, NV
- Douglas Co., Weed District 775-782-9835
- University of Nevada Cooperative Extension: 775-784-4848

Weed sightings should be reported to the county entity responsible for weed management:

- Once they have become established, eliminate noxious and invasive weeds effectively.
- It takes diligence to completely control weeds of noxious and invasive weeds.

- Controlling and eliminating the spread of noxious weeds is always the most cost-effective approach to effective and successful weed control.

- Check regularly for weed regrowth and control again if necessary.
- Apply controls and monitor results.
- Determine best control methods and timing report to appropriate authority.
- Properly identify the plant in question.
- Document location and size of infestation and proper to appropriate authority.
- Re-establish desirable plant species after weed is controlled.
- Check regularly for weed regrowth and control again if necessary.

Steps to Effective Weed Control

Biological Control
Biological control uses natural enemies, such as insects, to control the spread of noxious weeds. Biological control is generally used on large weed infestations. Hericides, herbicides, and other information on the proper and safe use of

Using Herbicides Consult your local county office for information on the proper and safe use of

Always Read the Label Carefully When Applying Herbicide Cut stem will provide effective control.

Research is being done to see if cutting the plant and spraying onto actively growing, green vegetation, are sprayed onto an infestation. Herbicides most often be used in combination with other methods to control an infestation. When used properly, in some cases, herbicides must when used properly, in some cases, herbicides must be used in combination with other methods to control an infestation. Research is being done to see if cutting the plant and spraying onto actively growing, green vegetation, are sprayed onto an infestation. Herbicides most often be used in combination with other methods to control an infestation. When used properly, in some cases, herbicides must

Chemical Control Herbicides can be applied selectively and effectively

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Mechanical Control Disrupts weed growth. Generally, this type of control includes activities such as cutting, mowing, burning, mulching, pulling, grazing, or cultivation that physically

requires a commitment of several years to succeed, due to regrowth from seeds stored in the soil.

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Soil Erosion Soil erosion, which may harm lake clarity, can result in increased

Landscape Desirable garden varieties, resulting in unattractive

Noxious Weeds Outcompete native vegetation and once they are established, and control is often very

Desirable Weeds Can ruin parks, camping areas, hiking trails, and other recreation areas.

Noxious Weeds Can result in increased soil erosion, which may harm lake clarity.

Why Control Noxious Weeds? These noxious weeds have infested acres of neighborhoods:

Perennial Pepperweed



Spotted Knapweed



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Invasive Weeds

Controlling Your Noxious Neighbors

A Lake Tahoe Resident's Guide to Invasive Weed Management

Sometimes weeds are camouflaged by pretty flowers, but don't be deceived! Your new neighbors may be invasive and noxious weeds that are rapidly infesting Lake Tahoe neighborhoods. With time, they will become firmly established, and getting rid of them will be very difficult.



Canada Thistle



Scotch Broom



Bull Thistle

Klamathweed/
St. Johnswort

Diffuse Knapweed



Perennial Pepperweed



Spotted Knapweed



Dalmatian Toadflax



Russian Knapweed



Yellow Toadflax



Yellow Starthistle



Oxeye Daisy

Invasive Weeds: Controlling Your Noxious Neighbors

Scotch Broom (*Cytisus scoparius*)

is an introduced ornamental plant that has become a dominant pest throughout the West.

- Produces showy yellow pea-like flowers
- A bushy perennial weed that grows to 10 feet tall
- Grows in foothill and forested regions as well as disturbed areas, such as roadsides and construction sites
- Thick stands increase wildfire fuel loads
- Seeds remain viable for many years

MECHANICAL:

Hand-pull: Pull seedlings each spring, removing as much of the root as possible.

Cut: Lop off mature plants at ground level during the dry season (late August through September). Carefully bag seed-bearing plants to avoid spread by seed.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply in spring to actively growing plants.

Triclopyr (i.e. Brush-B-Gon®): Apply to actively growing plants.



P E

Canada Thistle (*Cirsium arvense*)

is a non-native weed capable of crowding out and replacing native grasses and forbs.

- A spiny, creeping perennial with white to purple flowers
- Reproduces both from seed and aggressive spreading roots
- Root segments as small as 1-inch-long can produce new shoots.
- Grows along roadsides, in forests, lawns, gardens, and other moist and disturbed sites
- Produces toxic substances that are released into the soil and inhibit the growth of other plants

MECHANICAL:

Mowing: Begin mowing before first bloom is seen and continue at one-month intervals during the growing season.

Hand-pull or cut: Pull or cut actively growing plants three times a year, starting before the first blooms appear.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply when thistles are actively growing (late June to early September) and/or prior to the first killing frost in the fall.



P

Russian Knapweed (*Acroptilon repens*)

is a creeping perennial of foreign origin that reproduces from seed and vegetative root buds.

- Produces purple flowers through the summer into fall
- Upper segment of root is black
- Spreads by creeping roots to form dense, single-species stands
- Grows in clayey, sandy, or rocky meadows and lake-shores, along roadsides and ditches, and in vacant lots.
- Produces a substance that inhibits the growth of other plants.

MECHANICAL:

Mowing: Not effective as an eradication measure. Mowing will reduce the current year's growth, but not eliminate the infestation.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants before flowers appear. Repeated applications will be needed.



Yellow Starthistle (*Centaurea solstitialis*)

has become one of the most common troublesome noxious weeds in California, where it has invaded more than 14 million acres of grasslands and wildlands.

- Produces yellow flowers surrounded by stout thorns up to 1 inch long from late June to September
- Each plant can produce 1000 seeds
- Seeds remain viable in the soil for 5 to 10 years
- Seed is spread by animals and human activities, including vehicles; contaminated crop seed, hay or soil; and road maintenance activities.
- Spreads rapidly in dry, open areas and disturbed soil sites such as roadsides



MECHANICAL:

Mowing: Mow when flower heads have formed but before full flowering (when fewer than 5 percent of the yellow flowerheads have opened).

Hand-pull: Pull before flowers appear. Remove as much of the root as possible.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants before flowers appear.

A

Dalmatian and Yellow Toadflax

have escaped from intentional plantings to invade many areas throughout the west. There are two kinds of toadflax in the Tahoe Basin: dalmatian toadflax (*Linaria genistifolia* ssp. *dalmatica*) and yellow toadflax (*Linaria vulgaris*).

- Produce showy yellow flowers that resemble common snapdragon
- Short-lived perennials that grow in most soils, climates, elevations, and water regimes
- Reproduce from both seed and roots
- Extensive root systems produce secondary shoots or buds that grow new plants
- Will escape from intentional ornamental plantings and become highly invasive

MECHANICAL:

Mowing: Mow to reduce current year's growth and prevent seed set.

Hand-pull: Pull before flowers appear and repeat as needed until no new sprouts appear and seed bank is depleted.

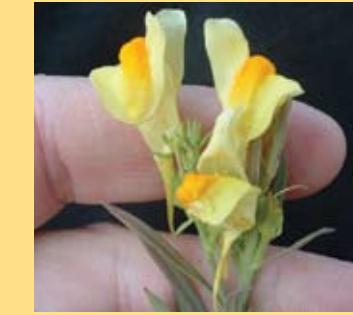
HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): In late spring, clip plants 2 to 3 inches above the soil. Wait 60 to 90 days for plants to re-grow. Apply herbicide to the regrowth.



Yellow Toadflax (*Linaria vulgaris*)

▼



Dalmatian Toadflax (*Linaria genistifolia* ssp. *dalmatica*)

▼



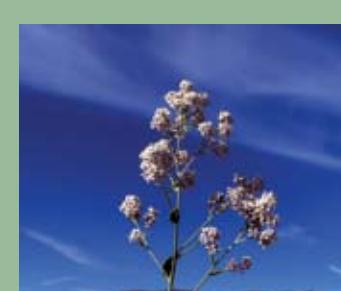
P

E

Perennial Pepperweed (*Lepidium latifolium* L., or tall whitetop)

is an aggressive weed that has invaded riparian areas throughout the west.

- Many tiny white flowers resembling baby's breath are produced from June to August
- Bushy plants can grow to 6+ feet tall
- Semi-woody stems do not decay readily and can persist for years
- Spreads by producing creeping roots and regrowing from root fragments
- Grows in pastures, riparian habitats, floodplains, meadows, and disturbed places in wetter areas



MECHANICAL:

Hand-pull or dig: Remove as much root as possible. Repeat as soon as regrowth appears. This may be effective for small infestations, but it is difficult or impossible to control moderate to large infestations by mechanical means.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants before flowers appear. Repeat as necessary.

2,4-D (i.e. Weed-B-Gon®): Apply at bud stage and repeat as needed.

P

Spotted Knapweed (*Centaurea maculosa*)

is a biennial or short-lived perennial member of the sunflower family.

- Forms a basal rosette of leaves in the first year and produces pink to purple flowers in subsequent years
- Reproduction is by seed, and plants are capable of producing 500 to 4,000 seeds per square foot
- Plants can also re-grow from buds on the root crown
- Has a single deep taproot, and may degrade soil and water resources by increasing erosion, surface runoff, and stream sedimentation
- Infests a variety of natural and semi-natural habitats

MECHANICAL:

Mowing: Mow before full flowering, when less than 5 percent of the flowers have opened.

Hand-pull: Start in spring and remove the entire root base to minimize spreading. Repeat as needed.

HERBICIDE:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants when buds have been produced but before flowers appear.



B

Diffuse Knapweed (*Centaurea diffusa*)

is a biennial or short-lived perennial with a single, long taproot.

- Grows a basal rosette in the first year
- Produces white to pink flowers in subsequent years
- Reproduces and spreads primarily by seed, with a single flower stalk producing 1,200 seeds
- This weed is very aggressive and can infest large areas quickly
- Grows in well-drained, light-textured soils in gravel pits, roadsides, railroad tracks, vacant lots, trails, and heavily grazed pastures.

MECHANICAL:

Mowing: Mow after bolting and before full flower, when less than 5 percent of the flowers have opened.

Hand-pull: Start in spring before flowers appear. Remove the entire root base to minimize spreading and repeat as needed.

HERBICIDE:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants before flowers appear.



Klamathweed or St. Johnswort (*Hypericum perforatum*)

is an aggressive, non-native plant that is considered noxious in many states.

- Blooms from June to September, producing yellow flowers that have five petals
- Leaves have transparent dots
- Stems are somewhat woody
- Survives year-round due to a vigorous root system that includes both long taproots and shallow roots
- Typically invades pastures, roadsides, and disturbed areas with dry, gravelly, or sandy soils

MECHANICAL:

Hand-pull: Pull young, isolated plants and immediately dispose of plant material.

Mowing: Mowing can diminish spread of plant if done before seed formation (June to July)

Cutting: Cutting two or more times during a season may be necessary

NOTE: Seeding with a suitable perennial grass is recommended to prevent reinvasion.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants before flowers appear.



P E

KEY ➤ A Annual

B Biennial

P Perennial

E Escaped Ornamental

All photographs provided by Susan Donaldson and Beth Brenneman