



Perennial Pepperweed



Spotted Knapweed

These noxious weeds have infested acres of neighborhoods:

- Noxious weeds are extremely difficult to get rid of once they are established, and control is often very expensive.
- Noxious weeds outcompete native vegetation and desirable garden varieties, resulting in unattractive landscapes.
- Noxious weed infestations can result in increased soil erosion, which may harm lake clarity.
- Noxious weeds can ruin parks, camping areas, hiking trails, and other recreational areas.

Why Control Noxious Weeds?

Herbicides can be applied selectively and effectively when used properly. In some cases, herbicides must be used in combination with other methods to completely control an infestation. Herbicides most often are sprayed onto actively growing, green vegetation. Research is being done to see if cutting the plant and applying herbicide to the freshly cut stem will provide effective control.

➤ ALWAYS READ THE LABEL CAREFULLY WHEN USING HERBICIDES! Consult your local county office for information on the proper and safe use of herbicides.

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.

Successful long-term control of noxious weeds combines a variety of methods, including mechanical, biological, and chemical, in an integrated approach. Most weeds respond differently to different methods. It is not uncommon for a method to control one species effectively, and yet not work at all on another.

Mechanical Control

Includes activities such as cutting, mowing, burning, mulching, pulling, grazing, or cultivating that physically disrupt weed growth. Generally, this type of control requires a commitment of several years to succeed, due to regrowth from seeds stored in the soil.

Chemical Control

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Look inside

to find descriptions of the following noxious and invasive weeds that may be residing in your neighborhood...

and learn how to control them!!



Canada Thistle



Scotch Broom



Bull Thistle



Klamathweed/
St. Johnswort



Diffuse Knapweed



Perennial Pepperweed



Spotted Knapweed



Dalmatian Toadflax



Russian Knapweed



Yellow Toadflax



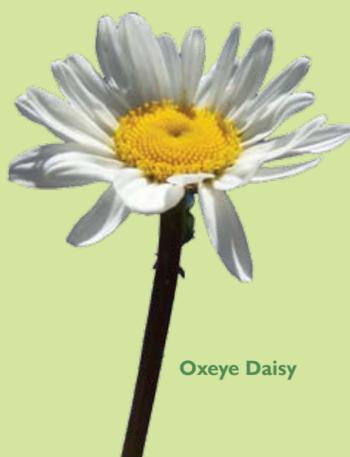
Yellow Starthistle



Oxeye Daisy



Diffuse Knapweed



Oxeye Daisy

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.

Steps to Effective Weed Control

➊ Properly identify the plant in question.

➋ Document location and size of infestation and report to appropriate authority.

➌ Determine best control methods and timing

➍ Apply controls and monitor results.

➎ Re-establish desirable plant species after weed

is controlled.

➏ Check regularly for weed regrowth and control again if necessary.

- Prevention is always the most cost-effective and successful approach to controlling and eliminating the spread of noxious and invasive weeds
- It takes diligence to completely eliminate noxious and invasive weeds once they have become established.

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

El Dorado County, CA
Agriculture Commissioner: 530-621-5520

Nevada County, CA
Agriculture Commissioner: 530-273-2648

Placer County, CA
Agriculture Commissioner: 530-889-7372

Douglas County, NV
Douglas Co. Weed District: 775-782-9835

Washoe County, NV
University of Nevada Cooperative Extension: 775-784-4848

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.

Canada Thistle



LAKE TAHOE BASIN
WEED COORDINATING GROUP



Step up and keep noxious neighbors

out of your neighborhood!!

Contributions for this brochure provided by:

University of Nevada Cooperative Extension

El Dorado County Department of Agriculture

Tahoe Resource Conservation District

Lake Tahoe Basin Weed Coordinating Group

California Department of Food and Agriculture

USDA Forest Service, LTBMU

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.

P

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*)

Yellow Toadflax (*Linaria vulgaris*)



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



< **Yellow Toadflax**
(*Linaria vulgaris*)

P E

Bull Thistle (*Cirsium vulgare*)

is an invasive thistle that grows in many habitat types.

- Numerous large V-shaped flower heads are produced from July to September
- Purple blooms grow in clusters at ends of branches
- Plants are thorny with rough leaves
- Reproduces from seed only; seeds are spread by wind
- Grows in areas where ground-disturbing activities have occurred and in grassy areas, open brush, or along roads.



MECHANICAL:

Cutting: Cut taproot two inches below the soil line prior to bloom. Purple flower heads should be cut off and disposed of carefully.

HERBICIDES:

Glyphosate (i.e. Roundup® or Rodeo®): Apply to rosettes or early growth. Plants become herbicide intolerant once flower stalk is produced.



B

Oxeye Daisy (*Chrysanthemum leucanthemum* L.)

is a pretty, daisy-like perennial that is often found in seed mixes.

- Blooms are white with yellow centers and occur from June to August
- Resembles Shasta daisy, but invades aggressively
- Reproduces primarily by seed, with as many as 26,000 seeds produced from a single plant
- Spreading underground roots make this weed especially difficult to control once established
- Grows in native meadows and other open, sunny areas



MECHANICAL:

Hand-pull or dig: Begin in the spring before flowering occurs. Remove the entire root mass and repeat as necessary.

HERBICIDES:

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



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.

HERBICIDES:

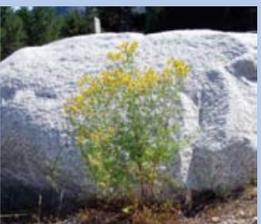
Glyphosate (i.e. Roundup® or Rodeo®): Apply to actively growing plants before flowers appear.

B

Klamathweed or St. Johnswort (*Hypericum perforatum*)

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