Help Protect California Landscapes

Invasive Weed to Watch for:

Dalmatian Toadflax

Dalmatian Toadflax (*Linaria dalmatica*)

What is a Noxious Weed?

A noxious weed is a category of invasive plant. Invasive plants are not native to the area, and tend to be very aggressive by outcompeting native plants for nutrients and water. By crowding out native plants, noxious weed infestations result in decreased plant diversity and decreased forage and habitat for native animals. Noxious weeds degrade fish and wildlife habitat, clog waterways, turn pastures into wastelands, disrupt forest regeneration, and overrun our forest and park areas. Although usually brought in accidentally, sometimes noxious weeds are introduced intentionally, especially when homeowners are looking for new and exotic landscaping specimens.

Did you know? *Noxious weeds are the second greatest threat to species conservation—second only to land development!*

A small Dalmatian toadflax population

Facts about Dalmatian Toadflax

- Dalmatian toadflax (*Linaria dalmatica*) is a member of the figwort family (Scrophulariaceae) and is native to the Mediterranean region. This plant was introduced to the western U.S. as an ornamental.
- This short-lived perennial produces new plants from adventitious buds on a resprouting root system that is both extensive and deep.
- Dalmatian toadflax is highly adaptable and can out-compete winter annuals or shallow-rooted perennials for soil moisture. A high density of Dalmatian toadflax reduces the quality of forage and diversity of flora and fauna species.
- This plant contains glucoside compounds that are poisonous to livestock, particularly cattle. However, this plant is not usually grazed by animals, thus allowing it to become dominant.
- Dalmatian toadflax is favored by disturbance and grows well in degraded areas such as roadsides, cleared lots, gravel pits, and heavily grazed rangelands. This plant also favors cool, semiarid climates and coarse, dry soils with a neutral pH.
- Typically, there is prolific sprouting from this plant after fire and therefore, burning is not recommended.
- Dalmatian toadflax spreads vegetatively and by seed with a single plant able to produce 500,000 seeds from July through October depending on climatic conditions. Seeds are viable in the soil for up to 10 years, and roots are easily spread by machinery. Seed viability is high with germination rates near 75%.

Dalmatian Toadflax Identification:

- Short-lived perennial (typically less than 5 years)
- Average height of 3 feet tall. Up to 25 stems per crown during first year of growth.
- Taproot and creeping lateral roots.
- Leaves are waxy, blue-green color, and are oval to heart-shaped. Leaves also clap upper stem.
- Rough, woody stem at base that becomes smooth, waxy, and herbaceous near the top.
- Flowers are 0.75 to 1.5 inches long, yellow, two-lipped with an orange bearded throat and a long spur which can help distinguish this plant from native snapdragons.
- Fruit are 2-celled and are irregularly shaped.

Dalmatian toadflax flowers. Note its distinctive spur which can help distinguish this plant from native snapdragons.

Control Methods:

Mechanical:

- Physical methods to control toadflax should focus on destroying the root system. Cutting and mowing will reduce flowering and seed production but will not kill the plants.
- Hand pulling and digging is most effective during the seedling stage when the plant is most vulnerable before the root system becomes established.
- Burning is not recommended since there is typically prolific sprouting of this plant after fires.

Biological:

- Several insect species have been investigated and permitted for release in the United States as biocontrol agents for Dalmatian toadflax. Please contact your local United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) for more information.

Chemical:

- According to the USDA, the best performing herbicide for toadflax control is *Chlorsulfuron. Glyphosate, Imazapic,* and *Imazapyr* have also been recommended by other weed control programs/ agencies.
- Herbicides should only be applied at the rates and for the site conditions and/or land usage specified on the label of the product being used. ***Follow all label directions.***

Above: Dalmatian toadflax leaves which are broad and heart-shaped.

Invasive weeds displace native plants and destroy healthy forests and parks.

Please

Help protect our native forest and park lands from weed invasion and preserve wildlife habitat.

What You Can Do:

- **Become familiar with local noxious weeds**
- **Report any weed sightings**
- **Do not plant invasive plants in gardens where they potentially could become a problem.**
- **If traveling from weed infested area, remove seeds and plant parts on clothing, pets, car/bike tires, etc. before returning to an un-infested area to prevent weed spread.**

To report suspected noxious invasive weeds in your area, please contact:

El Dorado/Alpine County Department of Agriculture, Weights and Measures

311 Fair Lane, Placerville, CA
(530)621-5520
eldcag@edcgov.us