

# Slenderflower Thistle *(Carduus tenuiflorus)*

**Description:** Slenderflower Thistle is a biennial or winter annual plant that grows upright from 1-5 feet tall, depending on moisture and soil nutrients. Some plants germinate in the fall, develop into rosettes and remain in the rosette stage overwinter, while others germinate in early spring. Slenderflower Thistle stems are single or multiple from the base, strongly ribbed and slightly woolly. The stems are winged, having a thin, spiny tissue attached like a ribbon along the sides of the stalks. Leaves are typically 6-12 inches long, occasionally larger, growing smaller as they progress up the flowering stalks. The leaves are deeply lobed with long, needle-like spines along the margins. Small pink to lavender flowers are surrounded by numerous spiny bracts and are bunched in small clusters at the ends of the stalks and from leaf axils. Slenderflower Thistle blooms from May through July. A single plant can produce up to 20,000 seeds.



**Impacts:** Slenderflower Thistle dominates sites and excludes native species, crowding out forage plants in meadows and pastures. This species is a nitrate accumulator; ingestion by grazing animals may cause nitrate poisoning, which can be lethal to cattle and sheep. It can rapidly invade farmland, roadsides, waste areas, pastures and rangeland. Large infestations can exclude livestock from accessing water, and plants can discourage livestock from grazing on neighboring forage because of the sharp spines. Slenderflower Thistle is listed as a Class A Noxious Weed in Washington State, with very limited populations in the state, including Thurston County.



**Control Options:** Thurston County's Integrated Pest Management emphasizes cultural, biological, and manual control methods to keep pests and vegetation problems low enough to prevent damage. The goal of Thurston County's pesticide use policy is to minimize the use of pesticides by utilizing and providing information about the most effective control options that are available and practical.

### ► Cultural / Habitat

Preventing the establishment of populations of Slenderflower Thistle is the most time and cost effective way of controlling this species. Vehicles, farm, outdoor recreation and construction equipment can transport seeds, and should be cleaned thoroughly before moving from infested areas to un-infested areas. Livestock can also transport seeds. Revegetating areas where control work has been done is critical to reducing Slenderflower Thistle numbers in subsequent seasons, and also to prevention of infestation by other weed species in these disturbed areas.

### ► Manual / Mechanical

Hand pulling or digging can be effective for isolated plants or small patches, especially if done in the seedling stage. Larger patches or plants at or near the blooming stage can be difficult to control manually because of the needle-like thorns on the leaves, stems and flower heads. Mowing is usually not effective as it simply delays the blooming process, and plants will still produce seed. Any plants with flower heads or buds should be disposed of carefully as there is usually enough reserve in the removed plants to produce viable seeds.

### ► Biological

Because bio-control agents are dependent on large, undisturbed populations of host plants, and because Class A Noxious Weeds such as Slenderflower Thistle must be eradicated entirely whenever they are found, biological control is not a viable option for use in Thurston County.



► **Chemical**

Spot spraying with **glyphosate** (example: Roundup Pro®, Glyphos®, etc.) is effective in controlling Slenderflower Thistle. Glyphosate products can be used to treat individual plants or small patches. Currently, products containing the active ingredient glyphosate are the only herbicides for the control of Slenderflower Thistle considered “low in hazard” by Thurston County’s pesticide review process for the potential for chemical mobility and persistence.

Thurston County has observed that most ready-to-use, pre-mixed products do not contain sufficient active ingredients to be as effective as concentrated products that are then mixed with water to create a specific finished concentration. The following instructions are for products containing 41% glyphosate which will be mixed down to a specified dilution rate. Be sure to read your label carefully, and make adjustments to rates accordingly.



**Foliar applications of glyphosate (ROUNDUP PRO™):**

- Spot applications with glyphosate products are effective. Spot application means the herbicide is applied only to the plants and not on the surrounding plants or soil. Spray each plant thoroughly on the stems and leaves enough to be wet but not dripping.
- Glyphosate is non-selective, and will injure any plants that it comes in contact with, including grass.
- Keep people and pets off treated areas until spray solution has dried.
- Remove livestock before application; wait 14 days after spot application before grazing livestock or harvesting.
- Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours. Keep people and pets off treated areas until spray solution has dried.

**Foliar applications of aminopyralid (Milestone®)**

For selective control of Slenderflower Thistle in agricultural settings (pastures, hayfields, etc.): an herbicide containing the active ingredient aminopyralid (example: Milestone™, Milestone VM™, etc.) may be a preferred choice. Aminopyralid products will not harm grass and can be used around livestock (provided all label precautions are followed). **Do not use plant material or hay from treated areas for mulch. Likewise, do not use manure from animals that have grazed or eaten hay from treated areas.** Aminopyralid is currently sold in agricultural herbicides that are to be used only in areas listed on the label, and are available in farm supply stores. Aminopyralid is considered moderate in hazard by Thurston County’s review process for the potential for chemical mobility and persistence.

Herbicide & Method	Product Rates	Mix
RoundUp Pro™ Spot/Foliar	2%	To 1 gallon of water add 2.66 oz. RoundUp Pro™, apply to foliage at or beyond bud stage.
Milestone™ Spot/Foliar	1 tsp per 1000 ft²	<b>To treat a 1,000 sq. ft. area:</b> Using a 2 to 4 gallon backpack or tank sprayer, add half of the water needed to cover all plants with one teaspoon Milestone™, agitate, then add water to reach desired amount (0.5 - 2.5 gallons total volume, depending on quantity and size of plants). Lightly spray all thistle plants in 1,000 sq. ft. area, then continue lightly spraying the thistle until the tank is empty and all plants have been thoroughly covered. The addition of a non-ionic surfactant (at least 80% active ingredient) is recommended to enhance herbicide activity.

**Timing:** Applications should be made in the spring, when plants are actively growing, up to when the flowering stems elongate. Plants sprayed after buds develop are harder to kill and have a high likelihood of producing viable seeds, despite damage to the plant. Applications of aminopyralid are also effective in the fall before a killing frost.

**READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS.** Obey all label precautions and safety measures. Always use personal protective equipment that includes coveralls, waterproof gloves, shoes plus socks, and protective eyewear. Use of brand names does not connote endorsement and is for reference only; other formulations of the same herbicides may be available under other names. Information provided is current as of the date of the fact sheet. Pesticide product registration is renewed annually and product names and formulations may vary from year to year

**References:**

- Written Findings of the Washington State Noxious Weed Control Board; *Problem Thistles of Oregon*, OR Dept. of Agriculture, EC Bulletin 1288; PNW 431;
- Cal-IPC: <http://www.cal-ipc.org/ip/management/ipcw/pages/detailreport.cfm?usernumber=24&surveynumber=182.php>
- CA Dept. of Food & Agriculture, Noxious Weed Information, *Carduus* spp.
- State of Victoria, Department of Primary Industries, Landcare Notes, “*Slender Thistles*”



Thurston County Public Health & Social Services  
 2000 Lakeridge Drive SW  
 Olympia WA 98502  
 Phone: 360-754- 4111  
 T.D.D. 360-754-2933  
[www.co.thurston.wa.us](http://www.co.thurston.wa.us)

Thurston County Noxious Weed Control  
 11834 Tilley Road S.  
 Olympia, WA 9812  
 Phone: 360-786-5576  
 T.D.D. 360-754-2933  
[tcweeds@co.thurston.wa.us](mailto:tcweeds@co.thurston.wa.us)