



THURSTON COUNTY NOXIOUS WEEDS FACT SHEET

Invasive Borages

(*Echium vulgare*)
(*Anchusa arvensis*)
(*Anchusa officinalis*)

Description:

Blueweed (*Echium vulgare*) is a biennial plant with a deep taproot. It has numerous flowers that are arranged on the upper side of short stems that elongate after flowering. Buds are reddish purple, becoming bright blue upon flowering. The basal leaves are narrow, covered with stiff hairs and alternate up the stem.



Annual bugloss (*Anchusa arvensis*) is an annual plant. It is a leafy herb with erect stems and alternate leaves. The slender lance-shaped leaves are bristly hairy and crinkled on the margins. Blue funnel-shaped flowers are borne in spiral clusters at the tip of the plant. Leaves are very warty on this bugloss.

Common bugloss (*Anchusa officinalis*) is a perennial plant with a deep taproot. Leaves have a rough hairy surface. The basal leaves are narrow and oblong, becoming smaller as they near the blossom. The flowers are coiled, much like a fiddle-neck at first, colored blue and purple with white appendages at the throat.



Impacts:

Blueweed, Annual bugloss, and Common bugloss invade fields, pastures, and compete with more desirable vegetation such as native plants. All parts of Blueweed are considered poisonous. The principle toxin is pyrrolizidine alkaloids. Hay crops become moldy if this plant is contained in the bale. Common bugloss competes with more desirable vegetation such as native plants. Due to its aggressiveness and preferred habitat (gravelly, glacial out-wash soils), bugloss is a threat to much of 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.

► Manual Techniques

In the case of Common bugloss and Blueweed manual control efforts are very difficult due to the deep taproots, the plant re-grows most of the time. Small populations of Annual bugloss are easily pulled or dug.

► Chemical

Spot spraying herbicide containing the active ingredient [glyphosate](#) (example: Roundup Pro®, Glyphos®, etc.) is effective in controlling invasive borages. A spot treatment is when you spray each plant enough so that they are wet, but not dripping, and not onto the surrounding soil or other vegetation. Glyphosate is non-selective, and will injure any plants that it comes in contact with, including grass.

Currently, products containing the active ingredient glyphosate is the only herbicide for the control of Blueweed, Annual bugloss and Common bugloss that is considered "low in hazard" by Thurston County's pesticide review process for the potential for chemical mobility and persistence.

Many glyphosate products have an initial glyphosate concentration of 41% and are recommended for diluting to exact percentage solutions. Herbicides labeled for spot treatment generally recommend mixing the product with water to create a specified percentage solution. For example, the Roundup Pro® label recommends mixing a 0.5–2% solution for hand-held or spot applications for control of most annual, biennial and perennial weeds, the rate depending on size, species and conditions. Because the best time to treat invasive borages is at the bud stage, and because the foliage is hairy, the higher (2%) solution is the most appropriate. Spraying with a lower percentage solution may not kill the plants, which can contribute to herbicide resistance.

Timing

Spot applications should be applied at bud stage, prior to blooming. The blooming period for invasive borages is generally from June through August. For most effective treatments, apply before plants produce seed.

READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS. Use of brand names does not imply 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.

To 1 gallon of water add:	2.66 oz. Roundup Pro® (for a 2% product spray solution)
1 fluid ounce = 2 Tablespoon	



Thurston County Noxious Weeds Program
9605 Tilley Road S
Olympia WA 98512
Phone: 360-786-5576
T.D.D. 360-754-2933
www.co.thurston.wa.us/tcweeds/index.htm