

Centaurea diffusa

WA – listed as a Class B noxious weed

OR – listed as a “B designate”

Diffuse knapweed

Family: Asteraceae

Range: All U.S. western states. In Washington and Oregon, it is found in almost all counties.

Habitat: Rangelands, plains, forest outlines on well drained soils in semi-arid and arid conditions.

Origins: Native to southeastern Eurasia

Impact: Quickly invades disturbed and undisturbed grasslands, shrubland and riparian communities. Can outcompete and reduce desirable native species. Can gain high density up to 95 percent of the available plant community. It can increase soil surface run-off and sedimentation of streams.



Description: *Centaurea diffusa* is an herbaceous tap-rooted biennial or short-lived perennial. Plants are basal rosettes in the fall and winter then bolt in late spring and summer to the height of 3 feet. Leaves are alternate and vary in size and shape from lower to upper stems. Leaves on the lower stems can be deeply pinnate lobed while upper leaves are entire and linear in shape. Leaves are pale grayish-green in color and are often covered in short stiff hairs. Plants flower from June through September. Flower heads are spiny or comb-like with white, pink to pale purple disk flowers. Plants reproduce only by seed which remain viable in the soil for more than 7 years. One plant can produce an average of 1,800 seeds.

Diffuse knapweed prefers dry porous soils in open sunny habitats. It gains a competitive edge by releasing allelopathic chemicals to prevent other species from establishing.

Integrated Vegetation Management - Control methods

Integrated vegetation management (IVM) is a structured approach to common sense management of weeds. IVM is a vegetation-only subset of integrated pest management (IPM).

Integrated Pest Management, as defined by RCW 17.15, is a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy in an environmentally and economically sound manner to meet programmatic pest control objectives.

Non-Herbicide Control

<p>Mechanical (pulling, cutting, disking)</p>	<p>Hand pulling is only effective on single or very small patches. Repeated pulling may be necessary and the entire tap root must be removed. Gloves should be worn since the allelopathic chemical can cause irritation to the skin.</p> <p>Mowing is not effective because the plant can regenerate and recover.</p>
<p>Cultural</p>	<p>Burning may be effective if competitive grasses are allowed to regrow in the site. Repeated burning at rosette stage may help eliminate plants.</p> <p>Planting competitive vegetation or grasses can inhibit reinvasion especially when combined with herbicide applications.</p>

	Grazing is not effective since it is not palatable to livestock. Also, intensive grazing may create favorable conditions for seedbed storage for later germination. Cattle ingesting seeds do not digest seeds enough to make them inert.
Biological	There are a number of biological control agents approved in the U.S: seed feeding flies; <i>Chaetorellia acrolophi</i> and <i>Terellia virens</i> , flower weevil <i>Larinus minutus</i> , broad-nosed seedhead weevil <i>Bangasternus fausti</i> , root beetle <i>Sphenoptera jugoslavica</i> , root mining weevil <i>Cyphocleonus achates</i> , and moths <i>Agapeta zoegana</i> and <i>Pterolonche inspersa</i> .

Herbicide Control

Herbicides listed by trade name are only examples of those containing the active ingredients in each category provided below. When using herbicides, follow the label for each as they provide the best information and rate recommendation. The label is the law. For best results, a surfactant should be added to all spray mixtures.

Foliar Broadcast Spray

Aminopyralid (Milestone, Capstone)	Rate: 5 to 7 oz herbicide/acre (1.25 to 1.75 oz a.e./acre). Spot spray: 0.25 oz product per gallon of water. Timing: Post and Pre-emergence. For post-emergence, most effective from rosette to bolting stage and Fall re-growth applications. Remarks: Has a longer residual and higher activity than clopyralid. Members of the Asteraceae and Fabaceae are very sensitive to this product. Do not apply this herbicide if near water. Do not use compost plant material that has been sprayed by this product. Do not use manure from fields that have been sprayed with this product.
2,4-D + Triclopyr (Crossbow)	Rate: 1 to 2 qt herbicide/acre (0.95 to 1.9 lb a.e./acre). Spot spray: 1 1/3 oz to 2 oz product per gallon of water. Timing: Post-emergence to bolting and fall rosette. Remarks: Repeated applications are necessary for control. There is no soil activity with these products. Do not use near water.
Dicamba (Banvel, Clarity)	Rate: 1 to 2 pt herbicide/acre (0.5 to 1 lb a.e./acre). Spot spray: 0.25 to 2 oz product per gallon of water but careful not to exceed 2 quarts per acre/year. Timing: Post-emergence from rosette to beginning of bolting stage. Optimal at early flowering stage. Remarks: This is a broadleaf selective herbicide; this product is best when combined with other herbicides in a tank mix; do not use near water.
Clopyralid (Transline)	Rate: 0.67 to 1.33 pt herbicide/acre (4 to 8 oz a.e./acre). Spot spray: 0.25 oz product per gallon of water. Timing: Post-emergence from bolting to bud stage. Optimal application in the spring but can also be applied to fall re-growth. Remarks: This product can injure legumes and clovers; do not use near water.

Information for this control sheet includes excerpts from the Written Findings of the Washington State Noxious Weed Control Board. Herbicide information from the PNW Weed Management Handbook (ISBN 978-1-931979-22-1) and product labels.