

Rush Skeletonweed *(Chondrilla juncea)*

Description: Rush skeletonweed is a tap-rooted perennial plant native to central Asia. This weed germinates in the fall when the rains begin, and develops one or more rosettes from buds on established roots. Leaves are lance-shaped, one-half inch wide and up to two inches long, with a reddish color near the tips during winter. When daylight increases in spring, the plant is stimulated to develop a multi-branched upright stem from the root crown, growing up to 4 feet tall. The lower 4-6 inches of the stems are covered with coarse, downward pointing, reddish-brown hairs. Stems, leaves and roots produce a milky sap when broken.

Flower production begins when stems reach maximum length in midsummer and continues until ended by frost. Mature, healthy plants can produce 1,500 flower heads and up to 20,000 seeds. Rosette leaves die off during flowering, leaving a skeleton-like appearance to the plant. Flower buds, blooming flowers and mature seeds are often on the same stem at the same time. After flowers fall, new rosettes are again established, continuing the cycle.

The root system is slender and vertical, penetrating the soil to depths of eight feet or more. Roots develop laterally in the upper two feet of the soil profile. A research paper from Australia states that rush skeletonweed will sprout from root segments of any length.

Impacts: This species is a very adaptable, aggressive invader, especially in gravelly, well-drained soils. The plant's extensive root system enables it to compete effectively with crops. Agricultural yields may see up to a 70 percent decrease if rush skeletonweed is left uncontrolled. Harvesting some crops can be complicated by infestations of rush skeletonweed due to the sticky latex exuded by the plants when they are cut or otherwise damaged. Native plants can be displaced and forage for livestock and wildlife is reduced.

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 strategy of Thurston County's IPM policy is to minimize the use of pesticides.

► Cultural / Habitat

Preventing the establishment of populations of rush skeletonweed 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

and root fragments. Revegetating areas where control work has been done can help reduce rush skeletonweed numbers in subsequent seasons.

► Manual / Mechanical

Digging and manual removal of plants is not effective because of the extensive root system and because any mechanical injury to the plant causes the roots to produce new shoots. Manual control can slow the spread to new areas, but will not control existing infestations. Clipping and careful bagging of plants with flowers or flower buds can help prevent seeds from being produced, but must then be followed up with an appropriate herbicide treatment.

► Biological

Several bio-control agents are used on rush skeletonweed in areas of the country where there are large, uncontrolled populations of this species. However, because it is limited to a few isolated areas in Thurston County, bio-controls would not be an effective or appropriate control method.



Photo by Utah State University Archive



Image courtesy of Arnie Grammon, Baker County

Chemical:

Spot spraying with **imazapyr** (example: Polaris®) is effective in controlling infestations of rush skeletonweed. Imazapyr is a non-selective herbicide and may damage or kill any other plants that it contacts. It may also leave persistent bare ground in the treatment area. This can be minimized by using only as directed, spraying at the recommended strength and no more than necessary to wet the surface of the leaves and stems.

Foliar applications of **imazapyr (Polaris®)**:

- Using a spot application, spray each plant thoroughly on the stems and leaves, enough to be wet but not to the point of dripping. Spot application means the herbicide is applied only to the rush skeletonweed plants, and not on the surrounding plants or soil.
- Follow label directions for mixing product to application strength. Products containing the active ingredient imazapyr are considered “moderate in hazard” by Thurston County’s pesticide review process for the potential for chemical mobility and persistence.



For selective control of rush skeletonweed 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 farm supply stores as an agricultural herbicide that is only to be used in areas listed on the label and **may not be used in urban lawns or landscapes**. Aminopyralid products are considered “moderate in hazard” by Thurston County’s review process for the potential for chemical mobility and persistence.

Timing: Apply either imazapyr or aminopyralid in the spring when plants are actively growing and in the pre-bud to early bud growth stage—the goal is to insure all plants have emerged, but are treated before they reproduce. Rush skeletonweed flowers are only open for a single day, and mature seeds are then dispersed in as little as three days.

Pollinator Protection: To minimize negative impacts to bees and other pollinators, treatment prior to blooming is recommended. Removal of flowers before treatment can be an option in some situations. If treatment must occur during the blooming period, try to spray early or late in the day or on cloudy, cool days when pollinators are least active.

| Product/Method | Rates | Mix |
|--|-----------------------------------|---|
| Imazapyr Polaris® | 2% | Add 2.6 oz concentrated product per gallon of water. Spray plants until they are wet but not dripping. |
| Aminopyralid Milestone® Spot/Foliar | 1 tsp per 1000 ft ² | To treat a 1,000 sq. ft. area: 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 skeletonweed plants in 1,000 sq. ft. area, then continue lightly spraying the skeletonweed 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. |

READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS. Obey all label precautions including site specific and safety measures. Always use personal protective equipment that includes coveralls, chemical resistant 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. Product names and formulations may vary from year to year.

REFERENCES:

University of Idaho CIS Bulletin #585; University of Idaho MIS Bulletin #46; Biological Control Of Weeds In The West Weed Technology Magazine, Vol. 7:954-959, 1993; Missoula County Weed District Bulletin, 2000

Written Findings of the Washington State Noxious Weed Control Board
Oregon State Department of Agriculture: http://www.oregon.gov/ODA/PLANT/WEEDS/profile_rushskeletonweed.shtml

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