



Columbia Gorge CWMA Best Management Practices

RUSH SKELETONWEED

Chondrilla juncea
Sunflower Family

INTRODUCTION

Identification Tips

- Rush skeletonweed (RSW) is a perennial forb with many branched, wiry stems that range from 1-4 feet tall. They have few leaves when in bloom, and have coarse, red, downward-pointing hairs at the base of the flowering stem.
- In the spring, rosette leaves resemble common dandelion and are hairless with deep, irregular teeth that point back toward the leaf base. Leaves produce a milky white juice when torn. Rosettes wither by flowering time.
- Small, yellow flower heads are ½ inch in diameter and appear in early summer, growing in leaf axils and stem tips in singles or in clusters. They have 7-15 yellow ray flowers and 2 rows of green flower bracts at the base of the flower head.
- Seeds are 3mm long with a ribbed surface and white bristles on one end that aid in wind dispersal.



Impacts

- Without control measures, this weed will produce a mono-culture of interconnected plants. A single plant can become an entire colony.
- Rangeland infestations displace native and beneficial forage grazed by livestock and wildlife.

Habitat & Distribution

- Rush skeletonweed thrives in well-drained, sandy or gravelly soils and has invaded extensive areas of shallow silt loam soils.
- It is found in pastures, rangeland, along roadsides, railways, and in open and disturbed areas.



Reproduction & Spread

- RSW reproduces by seeds that germinate in the fall; seeds are viable for up to 4 years.
- Mature plants produce 1,500 to 20,000 seeds per plant.
- It spreads by wind and will grow from root fragments in the ground.



CONTROL INFORMATION

Integrated Pest Management

- The preferred approach for weed control is Integrated Pest Management (IPM). IPM involves selecting from a range of possible control methods to match the management requirements of each specific site. The goal is to maximize effective control and to minimize negative environmental, economic, and recreational impacts.
- Use a multifaceted and adaptive approach. Select control methods reflecting the available time, funding, and labor of the participants, the land use goals, and the values of the community and landowners. Management will require dedication for a number of years and should allow flexibility in methods.

Planning Considerations

- Survey the area for weeds, set priorities, and select the best control method(s) for the site.
- Select control practices to minimize soil disturbance. Minimizing disturbance prevents further infestation of weeds.
- Begin work on the perimeter of the infested areas first and move inward toward the core of the infestation.
- Monitor the site and continue to treat missed and newly germinated plants.
- Re-vegetate treatment areas to improve ecological function and prevent new infestations.

Early Detection and Prevention

- Minimize soil disturbance from vehicles, machinery, and over-grazing to reduce seed germination.
- Effective management requires control of the current population and suppression of seed production combined with the establishment of competitive, desirable vegetation.
- Monitor and re-treat as necessary. Ensure any existing plants do not produce and release seed.
- Cut and bag seed heads from plants to prevent seed spread.
- Thoroughly clean tools, boots, and vehicles after working in or traveling through an infested area to prevent spreading noxious weeds.

Manual, Mechanical, & Cultural Control

- Hand-pull smaller infestations late in the season in order to prevent seed set. **Note: hand-pulling does not eliminate the roots and may even promote growth.** Only use hand-pulling when seeds are present. Follow-up will be required.
- Mow plants repeatedly to reduce biomass and seed production. Mowing alone will not provide eradication.
- Rush skeletonweed can outcompete most beneficial forage. Continual grazing may decrease populations, while rotated grazing actually increases infestations.
- **Tilling or cultivation is not recommended** as it stimulates new plants and more weed growth. Root fragments will spread the plant.

Biological Control

Biological control is the deliberate introduction of insects, mammals, or other organisms which adversely affect the target weed species. Biological control is most effective when used in conjunction with other control techniques.

- The rush skeletonweed gall midge (*Cystiphora schmidtii*) was introduced to California in 1975 and is established throughout the Pacific Northwest. The gall midge impacts the rosette and flowering stems of all RSW biotypes in this region. Affected stands are often a noticeable purple to reddish color.
- The rust fungus (*Puccinia chondrillina*) was introduced to Washington in 1978. Two biotypes, the early-flowering biotype in Washington and Idaho and the late-flowering biotype in Oregon, are resistant to this rust.
- The skeletonweed gall mite (*Eriophyes chondrillae*) was introduced to Washington in 1979, and it is considered the most effective biological control agent available to date. This mite is effective against all biotypes of rush skeletonweed. The visible impacts to flowering buds are leaf-like galls, up to 2 in diameter, which can reduce or prevent seed production.
- Release bio-controls on areas greater than an acre, and redistribute bio-controls as necessary.

* For more information on biocontrol agents, contact your local weed authority.

Herbicide Control

- Only apply herbicides at proper rates and for the site conditions or land usage specified on the label. **Follow all label directions** and wear recommended personal protective equipment (PPE).
- Some herbicides are toxic to fish and other aquatic invertebrates and/or may easily injure non-target species like crops growing nearby as a result of volatilization. **Always read and follow the label to avoid environmental and unintended damages.**
- Treated areas should not be mowed until after the herbicide has taken effect and weeds are brown and dead.
- Monitor areas for missed or newly-germinated plants.
- Choose selective herbicides over non-selective herbicides when applying in a grassy area.

- **Minimize the impacts to bees and other pollinators by controlling weeds before they flower. When possible, make chemical applications in the morning or evening when bees are least active. Avoid spraying pollinators directly.**

Specific Herbicide Information

Herbicides are described here by the active ingredient. Many commercial formulations are available containing specific active ingredients. **References to product names are for example only.** Directions for use may vary between brands.

- Applications of aminopyralid (Milestone) or clopyralid (Transline) are preferred for selective and residual control. Apply in spring until flowering or in the fall to rosettes. Avoid evening applications.
- Glyphosate (Roundup) can be applied to new infestations or when annual grasses are dormant. Repeat applications may be needed.
- Applications of 2,4-D* work best when the plant is at rosette stage but will not eliminate it.
- ***Please use care when using herbicides that may volatilize to form a vapor that can drift during weather inversions or when the temperatures are above 80°F. These herbicides (e.g. 2,4-D, dicamba, etc.) may damage desirable nearby non-target plants or crops following an application. For more information, and to minimize risk, always read and follow the label.**

This BMP does not constitute a formal recommendation. **When using herbicides, always consult the label.** Please refer to the Pacific Northwest Weed Management Handbook or contact your local weed authority.

Resources

<http://columbiagorgecwma.org/weed-listing/best-management-practices/rush-skeletonweed/>

http://wric.ucdavis.edu/information/natural%20areas/wr_C/Chondrilla.pdf

<http://www.co.lincoln.wa.us/WeedBoard/controloptions/rushskeletonweedoptions.pdf>

<http://www.idahoweedawareness.net/vfg/weedlist/rskeletonweed/rskeletonweed.html>

<http://www.nwcb.wa.gov>

