



## JEFFERSON COUNTY NOXIOUS WEED CONTROL BOARD

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### **BEST MANAGEMENT PRACTICES** **Herb Robert (*Geranium robertianum*)** (Family—*Geraniaceae*—Geranium Family)

**Legal Status in Jefferson County:** Class B non-designated noxious weed (non-native species listed on the Washington State Weed List, but already widespread in this area). The Jefferson County Noxious Weed Control Board recommends, but does not require, property owners to control and prevent the spread of herb Robert on private and public lands throughout the county. Containment of current infestations and prevention of new populations are strongly encouraged.



### **BACKGROUND INFORMATION**

#### **Impacts and History**

- Invades forests where it displaces native herbaceous species and forms dense monocultures.
- Highly aggressive and quick to spread, even in an undisturbed setting; herb Robert can invade pristine forests and establish vigorous populations.
- Releases allelopathic chemicals, which prevent native understory plants from growing and providing diversity.
- Reduces animal habitat and food sources.
- Attracts pollinators away from native species.
- Native to forest communities throughout Europe, Asia, and Northern Africa.
- The University of Washington Herbarium's earliest specimen report is from a garden site in Klickitat County in 1911.

#### **Description**

- Low growing winter or spring annual with deeply divided leaves and pink flowers.
- Plants can reach about a foot tall; however, under shady conditions, they will mature and flower at just two or three inches.



- Roots are fibrous and pull up easily.
- Stems are red and covered with white hairs. Leaves can also be red, especially when growing in sunny conditions.
- Each flower has five petals and can range from white to almost magenta, though bright pink is most common.
- The pungent odor of the crushed foliage gives rise to the common name "stinky Bob."

## Similar Plant

- Before flowering, herb Robert can be mistaken for bleeding heart (*Dicentra formosa*), which is native and NOT a weed.
- Bleeding heart is not hairy and does not have the pungent odor of herb Robert.



## Habitat

- Highly adaptable to different conditions but especially likes shady to partially shady woodland environments.



- Does not rely on disturbance to enter a site.
- Prefers moist sites, but can tolerate seasonally dry ones.
- Grows under closed canopies or in open sites.
- Also grows well on river banks and deltas, along trails, in gravel, and on rocky slopes.
- Commonly found in or near gardens as an escaped ornamental.
- Usually does not occur above 4,000 feet.

## Reproduction and Spread

- Reproduces solely by seed. Plants often self-pollinate, making isolated populations very uniform.
- Seeds grow in elongated, pointed capsules, and are released as they dry, or when the plant is disturbed.
- Seeds are ejected up to 20 feet from the parent plant and then stick to other plants, passing animals or people's clothes or shoes, via a sticky thread.
- Once released, seeds can either germinate immediately, or overwinter and germinate in the spring. Plants that overwinter do so as rosettes, flowering early in the growing season, while seeds that overwinter usually flower in late summer, giving herb Robert an almost year-round flowering season.
- Seeds are viable in the seed bank for up to five years.

## Local Distribution

Herb Robert is found abundantly in parks, gardens, forests and roadsides throughout Jefferson County.

# 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 social impacts.
- Use a multifaceted and adaptive approach. Select control methods which reflect 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 over a number of years, and should allow for flexibility in method as appropriate.

## Planning Considerations

- Survey area for weeds, set priorities and select best control method(s) for the site conditions and regulatory compliance issues.
- Small infestations can be effectively hand-pulled. Isolated plants should be carefully removed in order to stop them from infesting a larger area.
- For larger infestations, the strategy will depend on the land use of the site. Specific suggestions are given later in this document.
- Generally work first in least infested areas, moving towards more heavily infested areas.
- Control practices in critical areas should be selected to minimize soil disturbance or efforts should be taken to mitigate or reduce impacts of disturbance. Any disturbed areas need to be stabilized to control erosion and sediment deposition. Minimizing disturbance also avoids creating more opportunities for germination of giant hogweed and other weeds.
- If the control site requires extensive clearing or grading, or is located near a shoreline, steep slope, stream, or wetland, contact the Jefferson County Department of Community Development to find out whether or not a permit may be necessary.
- Because herb Robert is a state-listed noxious weed, control (both manual and chemical) in critical areas is allowed as long as the landowner consults with the Jefferson County Noxious Weed Control Board and follows their guidelines.

## Early Detection and Prevention

- Herb Robert is easiest to find either when it flowers, or when its foliage turns red, often in the fall. Because of its adaptive growing cycle, flowers may be present all year.
- Pull isolated or small populations. Herb Robert has shallow roots that will pull up easily. If there are more plants than you can remove manually, it may be necessary to treat the area with an appropriate herbicide or use mulching or covering to smother the plants.
- Prevent plants from spreading from existing populations by washing vehicles, boots and animals that have been in infested areas.
- Monitor previously infested areas for seedlings from the seed bank.
- Don't buy this plant at nurseries or bring it home from a friend's garden. When planted as an ornamental, Herb Robert will easily spread into natural areas.
- Check purchased plants for seedlings. Herb Robert may be brought in with nursery stock.

## Manual

- Pull plants. Stems and roots can be brittle, especially later in the growing season, so grasp them firmly at the base, where the plant meets the ground.
- Because herb Robert often occurs with desirable herbaceous plants, pulling is a good method for most situations.
- Carefully bag all flowering plants and dispose of them in the trash. If the plants are in seed extra care should be taken to bag the seed heads without dispersing the seeds.
- Return to the same location frequently to remove plants coming up from seeds already in the soil, and continue to monitor the area for several years.

## Mechanical

- Herb Robert may be mowed or weed whacked before the plants begin to flower.
- Mechanical control may cause less disturbance to the seed bank than hand pulling, but is less selective and may harm desirable plants.
- Because seeds germinate during a wide range of times, sites should be mowed or weed whacked repeatedly through the year, or new seedlings should be pulled.
- Do not mow or cut herb Robert when it is in seed because this will disperse the seeds and possibly carry seeds on the mower or other equipment to un-infested sites.
- Mulching or covering can be used after plants have been mowed or weed-whacked, to prevent re-infestation.
- To mulch an area, first cover the ground with overlapping sections of cardboard, then top with 6 to 8 inches of mulch.
- Because mulching will smother all plants in the area, it should only be used where few or no other desirable species are growing.
- Areas from which weeds have been removed, whether manually or mechanically, should later be replanted with desirable species.

## Disposal

- Herb Robert plants can stay alive out of the ground for a long time, and can re-grow if not disposed of carefully.
- Plants without seeds can be placed in city-provided yard waste containers or disposed of at the yard waste section of the transfer station.
- Composting in backyard compost piles is not recommended because these piles don't usually get hot enough to kill all the seeds. Herb Robert has been known to spread from compost piles.
- If removal is not possible, crush or chop the plants as best as possible and leave them where you pulled them.

## Biological

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

- There is no biological control available for herb Robert. Because of the close relation to ornamental and native geraniums, developing a biological control is unlikely.

## Chemical

- Herbicides should only be applied at the rates and for the site conditions and/or land usage specified on the label. **Follow all label directions.**
- If desirable grasses or other monocots (sedges, rushes or cattails) are present, use a selective herbicide (one that affects only broadleaved plants), or carefully spot-spray only the herb Robert.
- Herbicides are most effective on actively growing plants in warm, dry weather.
- Treated areas should not be mowed or cut until after the herbicide has had a chance to work. This can be as long as 2-3 weeks.
- It is important to establish new vegetation after treating an area. Follow the label for the timing because some herbicides stay active longer than others.

**For questions about herbicide use, and specific herbicide recommendations, contact the Jefferson County Noxious Weed Control Program at 360-379-0470 ext 205, or [noxiousweeds@co.jefferson.wa.us](mailto:noxiousweeds@co.jefferson.wa.us).**

## SUMMARY OF BEST MANAGEMENT PRACTICES

### Small Infestations in Desirable Vegetation

- Pull plants by hand, making sure to grasp plant firmly at the base to remove the roots.
- OR apply an appropriate herbicide by spot spray to minimize non-target injury
- Monitor site throughout growing season and remove any new plants.

### Large Infestations\Monocultures

- If enough labor is available, even large infestations can be controlled manually – see guidelines above.
- OR mow or weed whack frequently throughout the season before plants are in seed. Avoid native or desirable vegetation.
- OR treat with a site-appropriate herbicide.
- After removal, covering with cardboard and mulch or other weed blocking material may prevent re-infestation.
- After removing plants from any large area, re-plant with desirable vegetation. Areas left open will attract new weed infestations.

## Riparian and Aquatic Area Control

- Focus on manual removal for small infestations.
- Mowing or other mechanical control methods can be effective, but must be done carefully to avoid destroying desirable vegetation, and must be done repeatedly throughout the year.
- If manual removal is not feasible, use an appropriate herbicide.
- When large areas of weeds are removed, the cleared area needs to be replanted with native or non-invasive vegetation and stabilized against erosion.
- **Any herbicide application over or near water can be done only by a specially-licensed applicator using an approved aquatic formulation, and may require a permit from the Washington State Department of Ecology.**

## Road Right-of-Way Control

- Manually remove infestations if possible.
- If manual removal is not feasible, use an appropriate herbicide.
- If bare spots are left after spraying, replant with low-growing native plants.

## REFERENCES

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