



King County

Department of
Natural Resources and Parks
Water and Land Resources Division

Noxious Weed Control Program

BEST MANAGEMENT PRACTICES

Herb Robert

Geranium robertianum

Geraniaceae

**Class B Noxious Weed
Not Designated for Control**

Legal Status in King County: Class B non-designated noxious weed (non-native species listed on the Washington State Weed List, but already widespread in this area). The King 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 forests in pristine conditions 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 and naturalized throughout Europe, Asia, and Northern Africa.

Description

- Branching, low growing winter or spring annual with deeply divided leaves and pink flowers. Sometimes it is mistaken for bleeding heart (*Dicentra formosa*) before it 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 given off by the foliage when crushed gives rise to the common name “stinky Bob.”

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 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 or passing animals 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 local parks, gardens and forest sites throughout Western Washington. The University of Washington Herbarium’s earliest specimen report is from a garden site in Klickitat County in 1911. Issaquah is also reported to be another early infestation site.

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 (**refer to the King County Noxious Weed Regulatory Guidelines**).
- Small infestations can be effectively hand-pulled or dug up. 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 in the Best Management section.
- Generally work first in least infested areas, moving towards more heavily infested areas.
- Minimize disturbance to avoid creating more opportunities for seed germination.

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 from April through October.
- 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 sheet mulching or a similar method 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, especially later in the season when seeds are beginning to form. If the plants are in seed, it is very difficult to bag the seed heads without dispersing the seeds, and it may be better to leave the site until next year.
- Dispose of bagged plants with other household garbage or, if it isn't in seed, place plants in city-provided yard waste containers or take to the yard waste section of the transfer station.
- 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.
- Hand pulling and the use of hand mechanical tools to control herb Robert is allowable in critical areas in unincorporated King County.
- Because mulching will smother all plants in the area, it should only be used where few or no other desirable species are growing.
- To mulch an area, first cover the ground with overlapping sections of cardboard, then top with 3 to 4 inches of mulch.
- This method may need to be repeated annually until the seed bank has been depleted. Mulched areas should later be replanted with desirable species.

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.

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.**
- For your personal safety, at a minimum, wear gloves, long sleeves and pants, closed toe shoes, and appropriate eye protection. Follow label directions for any additional personal protection equipment needed.
- For herbicide use in critical areas and their buffers, certain restrictions apply depending on the site and jurisdiction. In unincorporated King County, refer to the **King County Noxious Weed Regulatory Guidelines** for a summary of current restrictions and regulatory compliance issues. Elsewhere, check with the local jurisdiction.
- For control of large infestations, herbicide use may be the most cost-effective method. Consideration should be made for other species growing with herb Robert. For large infestations with little or no biodiversity, an initial herbicide treatment may be a good choice.
- Post-emergent herbicides should be applied to actively growing, pre-flowering plants to be most effective. Generally, the younger the plants are the more effective the treatment will be.
- Pre-emergent herbicides are also effective in managing herb Robert populations.

- For several years following treatment, monitor areas for new plants germinating from the seed bank.

Specific Herbicide Information

Glyphosate: can effectively control herb Robert. However, glyphosate is a non-selective herbicide, and will also damage other plants including grasses and other monocots that it comes in contact with. Applying as a spot treatment will help prevent off target plants from being killed. Large areas treated with glyphosate will require replanting.

Selective Broadleaf Herbicides (such as triclopyr, 2,4-D, and dicamba): can effectively control herb Robert. These formulations are most useful when herb Robert is growing in turf or field conditions, which is uncommon. Most often, herb Robert is mixed in with other desirable broadleaf plants which will also be damaged by these herbicides.

Pre-emergent Herbicides (such as napropamide, oxadiazon, and trifluralin): have all been shown to control herb Robert. Repeated applications or using a combination of methods may be necessary because of herb Robert's varied growing season, and to deplete the seed bank. Pre-emergent herbicides will also prevent seedlings of desirable plants from growing, so they should only be used in areas with little or no desirable herbaceous growth. These chemicals will only prevent seed germination, they will not generally affect any seedlings already growing in the site. If herb Robert is already growing in the site, pre-emergent herbicides should be used in conjunction with another control method to remove the existing weeds.

The mention of a specific product brand name in this document is not, and should not be construed as an endorsement or as a recommendation for the use of that product. Chemical control options may differ for private, commercial and government agency users. **For questions about herbicide use, contact the King County Noxious Weed Control Program at 206-296-0290.**

Biological

- 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.
- Herb Robert is not susceptible to many types of disease or fungi that often affect other plants.
- Because of its unpleasant odor, grazing and foraging animals generally avoid using herb Robert as fodder.

SUMMARY OF BEST MANAGEMENT PRACTICES

Small Infestations in Native and/or Desirable Vegetation

- Pull plants by hand, making sure to grasp plant firmly at the base to remove the roots.
- Apply an appropriate herbicide by spot spray or wick wiper to minimize off target injury.
- Monitor site throughout growing season and remove any new plants.
- If using an herbicide in a grassy area, use a selective herbicide to avoid injury to the grass.

Large Infestations/Monoculture sites

- Mow or weed whack frequently throughout the season before plants are in seed. Avoid native or desirable vegetation.
- Treat with a site-appropriate herbicide.
- Cover large, dense patches with sheet mulch or other weed blocking material.
- After removing plants from any large area, re-plant with desirable vegetation and/or mulch bare areas with wood chips or other organic mulch. Areas left open will attract new weed infestations.

Control in Riparian Areas

- Additional permits may be required for control of infestations in riparian areas. See Noxious Weed Regulatory Guidelines for more information (http://dnr.metrokc.gov/wlr/lands/weeds/pdf/Noxious_Weeds_Regulatory_Guidelines.pdf).
- When large areas of weeds are removed, the cleared area needs to be replanted with native or non-invasive vegetation and stabilized against erosion. Refer to the King County Surface Water Design Manual for further information about sediment and erosion control practices (call 206-296-6519 or go to <http://dnr.metrokc.gov/wlr/Dss/Manual.htm> for information).
- Survey area and document extent of infestation.
- Focus on manual removal for small infestations if possible.
- 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.
- For larger areas where herbicide use is warranted, wick wipe or spot spray using low pressure and large droplet size.
- When large areas of weeds are removed, the cleared area needs to be replanted with native or non-invasive vegetation and stabilized against erosion.
- Infested areas will need to incorporate a management plan lasting for several years to control plants germinating from the seed bank.

Control Along Road Rights-of-Way

- Pull small infestations if possible.
- Mow or weed whack if plants are not in seed.
- Spot spray with glyphosate if weeds are in areas with no desirable grasses.
- If plants are in grassy areas, use a selective broadleaf herbicide; if controlled with a non-selective herbicide, re-seed after control is completed.



Herb Robert Disposal Methods

- Plants with seeds or mature flowers should be placed in the trash.
- 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.

References

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