



JEFFERSON COUNTY NOXIOUS WEED CONTROL BOARD

380 Jefferson Street, Port Townsend 98368
360 379-5610 Ext. 205
noxiousweeds@co.jefferson.wa.us

BEST MANAGEMENT PRACTICES

Everlasting Peavine (*Lathyrus latifolius*) and Flat Pea (*Lathyrus sylvestris*) (Family—*Fabaceae*—Pea Family)

Legal Status in Jefferson County: Not on the state noxious weed list, no legal requirement for controlling either of these plants, but observations of recent spread indicate that peavines are spreading into restoration sites and off roadsides into natural areas where they are becoming a problem. As such, the Jefferson County Weed Board is collecting data on distribution and providing education about the species. The Board recommends control and containment of existing populations and discourages new plantings.

BACKGROUND INFORMATION

Impacts and History

- Native to Europe but widely established in most US states.
- Have been used as ornamentals and also for erosion control.
- Seeds may still be sold in “wildflower mixes”.
- Can be toxic to livestock and humans if consumed in large enough quantities..
- Grows vigorously, climbs and sprawls over other plants and can establish dense colonies, out-competing other plants.
- On Forest Service roads on the Olympic Peninsula everlasting peavine appears to be significantly retarding regeneration of native understory and tree species.



Lathyrus latifolius

Description (*Lathyrus latifolius*)

- Perennial herbaceous vine.
- The stems, which are hairless with broad wings, grow 6 to 7 feet long. They can climb by means of tendrils; otherwise they sprawl across other plants or on the ground.
- Blue-green, narrowly oval-shaped compound leaves occur in pairs, with a winged petiole about 2” long. The leaves are smooth, about 3” long and 1” across.
- Branched tendrils occur between the leaves.
- The pea-like flowers can be white, pink, or red and grow in clusters of 5 to 15. The flowers are unscented.
- Very similar to ornamental sweet peas but larger, tougher and hardier
- Seeds form in pods resembling edible peas

- *Lathyrus sylvestris* (flat pea or narrow-leaved everlasting pea) has smaller flowers but can grow as tall as everlasting peavine, if it has support. Like everlasting peavine, it is not a listed noxious weed but is becoming equally as invasive and is causing concern to some land managers.



Lathyrus sylvestris

Toxicity

- The fruits and, to a lesser degree, the foliage, contain the toxic amino acid oxalyldiaminopropionic acid and if eaten in large quantities can cause lathyrism, a serious disease.
- Horses, humans and other animals with a single stomach are more susceptible than ruminants such as cattle or sheep.
- Symptoms vary but can include stiffness, weakness and loss of muscular control.

Habitat

- Typically grows on roadsides where it can easily become the dominant species.
- Requires partial to full sun and a relatively dry soil.
- Found mainly in disturbed sites
- Growth becomes very dense, often completely covering all other low-growing vegetation. Vines are often found growing up into trees and shrubs.

Reproduction and Spread

- Above-ground growth dies each winter and regrows each spring from deep roots.
- Reproduction is mainly via rhizomes—horizontal roots that form buds and grow new plants.
- Both species form pea-like seeds. Mature seed pods twist and eject the seeds, which can fall up to 30' away from the parent plant.
- Seeds are also moved by human activities, water and animals.
- Most seedlings emerge from seeds buried 1-2 inches deep.
- Roadside mowing is likely spreading plants to new locations.



Mature seed pods of *Lathyrus latifolius*.

Local Distribution

- Both *Lathyrus latifolius* and *L. sylvestris* are becoming common on many Jefferson County roads.
- Center Road has large populations of both species.
- Many US Forest Service roads are infested with peavine. It was at one time widely planted in Olympic National Forest.

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 invasive species, set priorities and select best control method(s) for the site conditions. Small infestations can be effectively 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 later in this section.
- 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 and reduce the potential for erosion. Minimizing disturbance also avoids creating more opportunities for germination of weed seeds.
- 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 peavine species are **not** state-listed noxious weeds, control in critical areas is not exempted. Consult the Jefferson County Conservation District or the Weed Control Board before starting control of peavine in any critical area.

Early Detection and Prevention

- Small clumps of peavine species can be observed along streets and roadsides. Flowering plants are very obvious from mid-June till September or October.
- Isolated small populations can be dug up but the site should be monitored for several years for plants growing from the seed bank.
- Prevent plants from spreading from existing populations by washing equipment, vehicles, and boots that have been in infested areas.
- Cover all noxious weed loads when transporting to a landfill.

Manual

- Hand pulling may be effective for small infestations, in removing seedlings and young plants. Seedlings are easiest to remove after rain, when it may be possible to remove the entire root system..
- Pulling or digging will disturb the ground and likely cause germination of seeds already in the ground. Monitoring for three to five years is essential. Planting a ground cover to compete with seedlings may help in the long term.

Mechanical

- Cutting stems will remove aboveground growth only and is a temporary treatment. The roots remain in the ground and will re-sprout. Cutting can be appropriate to increase the accessibility to the plants, reduce standing biomass to assist in future manual control, and to prevent seed-set for a growing season.
- Follow up control methods will need to be incorporated following initial mechanical control.
- Cutting to the ground can be combined with covering with heavy duty geotextile fabric (woven plastic fabric) or other covering material. Covering needs to be kept securely in place for at least two years. Do not place bark, wood chips or any other kind of mulch on top, because weeds will grow in it, and it will be more difficult to remove the fabric when the peavine is gone. Plus, covering the fabric with mulch may encourage animals to walk across it and make holes in it. The site should be visited several times during the growing season and it may be necessary to stomp down plants which are trying to grow under the fabric. Also, the edges should be checked for escaping plants, which can be cut back or sprayed. This method of control will kill all plants so may not be appropriate if desirable plants are present on site.

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.

- Other than goats, no biocontrol agent is currently available for peavine species.

Chemical

- Effective chemical control of biennial and perennial weeds can be achieved only with *translocated* herbicides (ones that move through the plant and kill the roots).
- 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 peavine.
- Herbicides are most effective on actively growing plants in warm, dry weather.
- 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.**
- 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.

SUMMARY OF BEST MANAGEMENT PRACTICES

Small Infestations in Desirable Vegetation

- Pull plants by hand if soil is wet; if the soil is dry or compacted plants may need to be dug. A shovel or weed-digging tool can help. Pulling or digging is effective on seedlings.
- OR apply appropriate herbicide with spot spray, to minimize off target injury (see the Chemical section).
- 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 (pulling and\or digging)
- OR, plants can be cut, covered and mulched (see the Mechanical section). No data exists to verify the effectiveness of this method.
- Otherwise, large infestations can be controlled with herbicides. (See the Chemical section of this BMP).
- Smaller amounts of herbicide need to be used if the plants are first cut. Allow new shoots to emerge before applying herbicides. (However, note that because cut or mowed plants will re-sprout, cutting or mowing alone are NOT effective methods for peavine control)
- Promote healthy grassy areas by seeding and fertilizing. Healthy grass will suppress re-infestation by peavine or other weeds.

Riparian and Aquatic Area Control

- Focus on manual removal for small infestations if possible.
- If manual control is not feasible, use an appropriate herbicide. Apply as spot spray to minimize damage to non-target plants.
- 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

- Pull small infestations if possible.
- If manual control is not feasible, use an appropriate herbicide. Apply as spot spray to minimize damage to non-target plants.
- If bare spots are left, replant with low-growing native plants.

REFERENCES

Stevens County Noxious Weed Control Board Web Site. Accessed 12/6/12 at <http://www.co.stevens.wa.us/weedboard/other%20weeds/HTM%20pages/everlasting%20peavine.htm>

Wikipedia—Lathyrus latifolius. Accessed 12/6/12 at http://en.wikipedia.org/wiki/Lathyrus_latifolius

Wikipedia—Lathyrus sylvestris. Accessed 12/6/12 at http://en.wikipedia.org/wiki/Lathyrus_sylvestris

Woodward, Andrea, Torgersen, Christian, Chenoweth, Joshua, Beirne, Katherine, and Acker, Steve, 2011, Predicting spread of invasive exotic plants into de-watered reservoirs following dam removal on the Elwha River, Olympic National Park, Washington: U.S. Geological Survey Open-File Report 2011-1048, 64 p. Accessed 12/6/12 at <http://pubs.usgs.gov/of/2011/1048/pdf/ofr20111048.pdf>

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