



JEFFERSON COUNTY NOXIOUS WEED CONTROL BOARD

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BEST MANAGEMENT PRACTICES Poison-hemlock (*Conium maculatum*)

(Family—*Apiaceae*—Carrot or Parsley Family)

Legal Status in Jefferson County: Poison-hemlock is a Class B Noxious Weed (non-native species selected for control under State Law RCW 17.10). Jefferson County Noxious Weed Control Board requires property owners to control and prevent the spread of poison-hemlock on private and public lands throughout the county. State Weed Law defines control as *to prevent all seed production and to prevent the dispersal of all propagative parts capable of forming new plants.* (See WAC 16-750-003)



BACKGROUND INFORMATION

Impacts and History

- Highly aggressive and toxic plant that invades pastures and riparian areas displacing valuable forage species and native plants.
- The toxins are present in both fresh and dried plants and decompose slowly.
- Toxic to livestock including cows, horses, and pigs; pregnant animals may abort or produce offspring with birth defects.
- Poisoning in humans has occurred when the plant was confused with other, edible members of the carrot family such as parsley, carrots, anise or dill.
- The use of hemlock as a poison goes back many years in history. It is said that the ancient Greeks used it to poison their enemies and political prisoners. Socrates, condemned to die as a political prisoner in 329 B.C., drank the juice of the hemlock plant and committed suicide.
- Poison-hemlock is a native of Europe, western Asia and North Africa. It was brought to the United States from Europe as a garden plant. It is common and spreading in parts of the United States and Canada, particularly on the West Coast.
- The earliest recorded specimen in Washington State was found in 1926, near Vancouver in Clark County.

Toxicity

- Poison-hemlock is acutely toxic to people and animals, with symptoms appearing 20 minutes to three hours after ingestion.
- It contains at least five distinct yet closely related alkaloids: coniine, N-methyl coniine, conhydrine, lambda-coniceine, and pseudoconhydrine.
- All parts of the plant are poisonous and even the dead canes remain toxic for up to three years.
- The amount of toxin varies and tends to be higher in sunny areas.
- Eating the plant is the main danger, but it is also toxic to the skin and respiratory system. When digging or mowing large amounts of poison-hemlock, it is best to wear gloves and a mask or take frequent breaks to avoid becoming ill. One individual had a severe reaction after pulling plants on a hot day because the toxins were absorbed into her skin.
- The typical symptoms for humans include dilation of the pupils, dizziness, and trembling followed by slowing of the heartbeat, paralysis of the central nervous system, muscle paralysis, and death due to respiratory failure.
- For animals, symptoms include nervous trembling, salivation, lack of coordination, pupil dilation, rapid weak pulse, respiratory paralysis, coma, and sometimes death.
- For both people and animals, quick treatment can reverse the harm and typically there aren't noticeable aftereffects. If you suspect poisoning from this plant, call for help immediately because the toxins are fast-acting – for people, call poison-control at 1-800-222-1222 or for animals, call your veterinarian.

Description

- Tall biennial, typically 4 to 10 feet tall when in flower.
- First year plants form low clumps of lacy leaves.



Poison-hemlock before blooming

- Leaves are bright green and fernlike with a strong musty smell.
- Second year stems are hollow, **hairless** and bright green with **purple blotches or mottling**.
- Root is a long, forked, fleshy taproot, pale yellow in color, with numerous lateral roots (may be mistaken for a pale carrot or a skinny parsnip)
- Flowering plants are covered with numerous small, umbrella-shaped clusters of tiny white flowers that have five petals.



Purple-blotched stem

- Flowers bloom from late June until September or October.
- Seeds form in green, ridged capsules that eventually turn brown.
- The lack of hairs anywhere on the plant and the purple blotches are important identifying characteristics that differentiate poison-hemlock from other, similar plants.

Look-Alike Plants

- **Wild chervil (*Anthriscus sylvestris*)** is increasingly common on Jefferson County roads and can easily be mistaken for poison-hemlock. However, wild chervil stems have purple or red streaks, **not** blotches like poison-hemlock the stems are ridged, and the stems and leaves are somewhat hairy. Also, wild chervil grows 4 to 5 feet tall, not 8 to 10 feet, and it blooms earlier than poison-hemlock. Flowers appear in late April or May. Wild chervil is a noxious weed, with control required county-wide.



Wild Chervil



Bur Chervil

- **Bur chervil (*Anthriscus caucalis*)** resembles both poison-hemlock and wild chervil, but is much smaller, growing only 2 to 3 feet at most, and often sprawls among other plants instead of growing upright. It blooms even earlier than wild chervil—March to April.

- **Rough chervil (*Chaerophyllum temulum*)** is less common but also occurs in western Washington. Stems have purple spots or blotches like poison-hemlock but stems are also rough and hairy and the plants are shorter, similar to wild chervil in height.



Rough Chervil



Wild Carrot

- **Wild carrot, or Queen Anne's lace (*Daucus carota*)** is another carrot-family plant that resembles poison-hemlock. It is extremely common on roadsides throughout the county and can be distinguished by conspicuous hairy bracts underneath the flowers. Wild carrot does not bloom until August.

Habitat

- Poison-hemlock rapidly colonizes roadsides, vacant lots, open fields, streambanks and other open, disturbed areas.
- Has been found growing in vegetable gardens, p-patches and community gardens, and backyards.
- It prefers moist soil and plants will be larger and grow more rapidly when moisture is abundant. However, like many invasive plants, it can grow in almost any conditions.

SUMMARY OF BEST MANAGEMENT PRACTICES

Small Infestations in Desirable Vegetation

- Seedlings and small plants can be hand-pulled. This is easiest early in the year when the soil is moist and loose. Always wear gloves to protect yourself from the toxins.
- Mature plants can be removed with a shovel or weed tool--the first 4-6 inches of root should be removed.
- OR--apply appropriate herbicide by spot spray to minimize off target injury.
- Monitor site throughout growing season and remove any new plants.

Large Infestations\Monocultures

- Mowing is not effective for controlling mature poison-hemlock. Mowing can stimulate plant growth, causing prolific re-sprouting and flowering. It can also cause the roots to become large, tough and woody, making control difficult.
- Mowing can be effective in controlling seedlings, but repeat visits are necessary to check for any seedlings that may have survived.
- If a large area of plants is approaching bloom time, mowing to prevent flower and seed production is preferable to no action. Mowing in this situation should be followed up with some other control measure.
- Covering with cardboard with a layer of organic mulch on top may serve to suppress re-growth after mowing.
- Large infestations can be controlled with selective broadleaf herbicides. Suppression of large infestations of poison-hemlock with a selective broadleaf herbicide will greatly increase grass production, which in turn increases the suppression of the poison-hemlock.
- Manage pastures to promote grass and clover vigor. Fertilize according to the soil needs.
- Avoid overgrazing and move animals when grass is still about 3 inches tall. For more information on pasture management, contact the Jefferson County Conservation District (<http://www.jeffersoncd.org/links.html>).

Riparian and Aquatic Area Control

- Focus on manual removal for small infestations if possible.
- Cutting will not control poison-hemlock but it can serve in the interim until more effective control measures can be utilized.
- If manual control is not possible, spot spray an appropriate herbicide.
- When large areas of weeds are removed, the cleared area needs to be replanted to stabilize 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

- Dig up small infestations if possible.
- If plants are about to flower, they can be cut down until a more effective control strategy can be used.
- If manual control is not possible, spot spray an appropriate herbicide.
- Replant bare spots that are left with low-growing native plants.