

**WRITTEN FINDINGS OF THE
WASHINGTON STATE NOXIOUS WEED CONTROL BOARD**

December 9, 2008

Scientific name:	<i>Rubus laciniatus</i> Willd.
Synonyms:	<i>R. vulgaris</i> <i>R. fruticosus laciniatus</i> Weston
Common name:	Evergreen blackberry Cut-leaf blackberry
Family:	Rosaceae
Subgenus/variety:	<i>R. laciniatus</i> Willd. Subsp <i>selmeri</i> (Lindeb.)
Legal Status:	Class C



Description and Variation:

Overall Habit: Perennial, evergreen herb, with ascending, or arched, but usually trailing to clambering stems that can be over 10 meters long. The leaves are evergreen, with deeply serrated margins (Hitchcock et al. 1994). The stems are angled, finely pubescent, many-branched and trail at the ends. The stems are covered in broad, curved thorns, reddish at the base and yellow to white at the thorn tip (Sunday). Young canes arch as they grow longer, eventually reaching the ground and rooting at the nodes.

This robust, trailing evergreen shrub grows into impenetrable thickets and often shares habitat with the more common and widespread Himalayan blackberry (*R. armeniacus*).

Compared to our native trailing blackberry (*R. ursinus*), evergreen blackberry is an overall more robust plant form, it has the long, arching reddish brown canes, the leaflets are deeply incised and the fruit and flowers are larger (King Co Blackberry Control).

Roots/Rhizomes: Main plants have large, deep woody root balls that sprout.

Stem:

The stems are mostly biennial and they develop from the perennial rootstock or from the creeping stems above ground. Blackberry canes root at the tips, creating daughter plants. The stems are covered in broad curved thorns that are red at the base and yellow to white at the tip. (Sunday – USS Fire Effects Information System, 9/7/07.)



Leaves:

Alternative leaves range from palmately (usually) to pinnately compound. Each leaf has five leaflets. The leaflets are deeply incised, and the leaf margins are very jagged. *Laciniatus* is from the Latin *lacinia*, meaning fringed margin.

The top surface of the leaflets can be glabrous (smooth, hairless) or they may be pubescent (covered with short soft hairs). The leaf underside is densely pubescent (but greenish), and the leaf margins may be pubescent.

Flowers:

The flowers range from white to dark pink, about one inch in diameter and they are found in clusters of 5 - 20. Each flower has 5 petals, 5 sepals and they are perfect (both male and female flower parts). The sepals are covered in silky hair. The petals are 3-lobed. The many stamens are white. The calyx is green with slender prickles. Flowers appear in spring.

Fruits and Seeds: Mature fruit are shiny, black aggregate drupelets (blackberries). They are (very!) edible. Seeds need scarification, but not cold-treatment. The core of the black fruit clings to the center core when picked. Fruit ripens from mid-summer to early August.

Habitat:

In Western Washington, blackberry is found in a wide range of habitats, to include: vacant lands, pastures, forest plantations, roadsides, creek gullies, river flats, riparian areas, fence lines and right-of-way corridors. It is abundant along rivers and wetland edges. It does not grow well in wetland areas. It will grow if the cane tips can root.

Geographic Distribution:

Native distribution: Native to Eurasia.

Distribution in North America: In the United States, *R. laciniatus* is found in two geographic locations. The eastern group is found from Missouri southeast to South Carolina and northeast to Vermont. The western group is found from California north to Washington and south to Colorado. This species is cultivated in Hawaii and widely naturalized in most of its North American territory (Sonday).

History and Distribution in Washington:

Evergreen blackberry is considered naturalized and widespread throughout the Pacific Northwest.

Biology:

Growth and development:

Evergreen blackberry is a robust, perennial, evergreen herb that often grows into impenetrable thickets. The long trailing stems sprout from a woody root. As the young canes grow and arch and eventually reach the ground, they have the capability to root at the nodes, producing daughter plants. Flowers appear in the spring, and the dark, black edible fruit matures from mid-summer to August.

Reproduction:

Evergreen blackberry can produce seed without pollination, and it can also produce seed through pollination. Seeds are spread by many mammals and bird species. This species can reproduce by seed and vegetatively by sprouting from root buds and by rooting at the stem tips, creating daughter plants. *R. laciniatus* is known specifically to use adventitious root suckers and nodal sprouting as methods of vegetative reproduction (Sonday - USFS Fire Effects Information).

The fruiting stems generally die back at the end of the season, but non-fruiting stems can persist for several years before producing fruit (King Co BMP).

Flowers appear in the spring, the fruit ripens by mid-summer to early August.

Control:

Check with local county noxious weed control boards to comply with requirements in critical areas and buffers, or to control in areas where permits are required.

Depending on the size and the location of the blackberry infestation, there may be several control options available, or a combination of control options might be necessary – and they include digging, mowing, use of herbicide, plowing and/or livestock grazing (especially goats) (King Co. - Himalayan and Evergreen Blackberry Control). Burning will not kill the plant, but it can be used to remove any dead plant material above ground (Tirmenstein 1989 as referenced in the Written Finding for Himalayan Blackberry).

Response to herbicide:

The following information is from the King County Noxious Weed Control Program BEST MANAGEMENT PRACTICES for Evergreen Blackberry and Himalayan Blackberry, dated March 2005.

Glyphosate: can effectively control blackberry. Treatment with glyphosate needs to be combined with effective re-vegetation of the site to prevent re-invasion by undesirable vegetation and to control erosion. Glyphosate is most effective on blackberry in September to October when canes are actively growing and after berries have formed. Fall treatments should be conducted before the first frost.

Selective Broadleaf Herbicides (such as triclopyr, 2,4-D and metsulfuron): most effective when blackberry is growing in a grassy area. Read the label of the product you are using to determine the optimal time to spray. Re-treatment the following year may be necessary to control any returning plants. Continue to monitor for new plants for several years after the initial treatment and following any disturbance to the soil such as tilling or construction. **NOTE: Certain additional restrictions apply for products containing 2,4-D and Triclopyr BEE (e.g. Garlon 4, Crossbow). In King County, refer to the King County Noxious Weed Regulatory Guidelines for more details.**

Selective herbicides that are effective on blackberry include metsulfuron (e.g. Escort, Cimarron, Ally), triclopyr ester (e.g. Garlon 4) or triclopyr amine (e.g. Garlon 3A) and a combination treatment of triclopyr and 2,4-D (e.g. Crossbow).

Metsulfuron should be applied to fully leafed-out blackberry before fall leaf coloration. Good coverage is essential to achieve control.

Triclopyr (amine and ester) and triclopyr + 2,4-D should be applied when actively growing. Foliage must be thoroughly wetted with herbicide.

2,4-D can harm certain grasses, alfalfa, clover and other legumes. The addition of a suitable surfactant may improve the control results.

Response to mechanical methods:

The following information is from the King County Blackberry BMP.

Manual control is the most effective for new sites/first year plants, and it works the best after rains or when canes are suppressed in loose soils of a forest understory. Hand pull the stems close to the ground, and uproot the root ball. On small infestations, dig up the root crowns and any major side roots. A claw mattock or Pulaski/mattock is effective. Cutting followed by digging up root crowns is much more effective than cutting alone. Large root fragments left at a control site can re-sprout.

Mowing is very effective, but it will require several cuttings a year, repeated over several years. If only cutting one time per year, cut when the plants start to flower. However, this could cause the plants to vigorously re-sprout from the roots if there is no follow-up.

Blackberry shrubs growing along wetland margins are typically daughter plants off of a main cane. Cut the canes down to the ground. The roots will not grow in anaerobic soils without the supporting canes.

Biological control potential:

Removal of top growth by mowing, cutting or grazing with goats will eventually kill blackberry if done regularly and over several years. Goats and pigs can clear or control blackberry re-growth from one to four years old. On mature stands, goats tend to only strip leaves off the canes. Re-growth will appear unless the grazing is continuous. Chickens can decrease the seed bank in areas that have been cleared of blackberries (King Co. Blackberry BMP).

Blackberry Rust Fungus (*Phragmidium violaceum*) was found and positively identified by the Oregon Department of Agriculture (ODA) in the spring of 2005 on several blackberry species, including Himalayan and evergreen blackberry, in an area along the southern Oregon coast. This is the first time the rust has been officially confirmed in North America (Edmonds). The original point of inoculation in the US is unknown. It has since been found in many areas of Oregon and Washington. Although the damage to invasive blackberries is variable and unpredictable, commercial blackberries are highly susceptible and growers apply multiple fungicide application each year to reduce damage. Blackberry rust fungus is used as a biological control on unwanted blackberry species in Australia, New Zealand and Chile. However, the rust fungus has not gone through the strict and necessary testing required before it can be introduced into the US. In 2008, USDA-ARS has initiated a project to assess the rust's potential as a biological control agent.

Images of the blackberry rust fungus can be found online at:
http://oregon.gov/ODA/PLANT/gallery_bbr.shtml or
http://whatcom.wsu.edu/ag/homehort/pest/P_violaceum.htm or
<http://plant-disease.ippc.orst.edu/disease.cfm?RecordID=1476>

Economic importance:

Detrimental:

The non-native Himalayan and evergreen blackberry species outcompete native understory vegetation and prevent the establishment of native trees that require sun for germination, such as Pacific Madrone, Douglas Fir and Western White Pine. Impenetrable blackberry thickets can block access of larger wildlife to water and other resources. Himalayan and Evergreen blackberry lack the deep, bank stabilizing roots of native wetland shrubs and trees. Riversides covered with blackberry often indicated degraded conditions and may mask eroding banks. In the relatively pristine Middle Fork Snoqualmie Valley, Himalayan and evergreen blackberry covered more area than all of the other invasive species combined. In a survey of Seattle's public forests (Seattle Urban Nature), Himalayan and evergreen blackberry were the most invasive species in Seattle's forests (King Co. Blackberry BMP).

Beneficial: Blackberry was originally introduced for fruit production.

Rationale for listing:

References:

Photos: Virginia Tech, Department of Forestry Website

<http://www.cnr.vt.edu/DENDRO/dendrology/syllabus/factsheet.cfm?ID=251>

Edmonds, Cyndi. 2007. Blackberry Rust Fungus Found In Columbia County West of Clatskanie. Lower Columbia River Watershed Council.

http://oregon.gov/ODA/PLANT/gallery_bbr.shtml

Hitchcock, C. L., and A. Cronquist, M. Ownbey and J.W. Thompson. 1994. Vascular Plants of the Pacific Northwest. *Rubus laciniatus*. Part 3: Pp 176-77.

King County Noxious Weed Control Program, Himalayan Blackberry and Evergreen Blackberry Control <http://www.kingcounty.gov/environment/animalsAndPlants/noxious-weeds/weed-identification/blackberry.aspx>

King County Noxious Weed Control Program, Best Management Practices, Evergreen Blackberry and Himalayan Blackberry, March 2005,

<http://dnr.metrokc.gov/wlr/lands/weeds/pdf/blackberry-control.pdf>

Sunday, ReBecca J. *Rubus laciniatus* Willd. Plant Diversity Website: <http://www-personal.umich.edu/~rburnham/SpeciesAccountsdfs/RubulaciROSAFINAL.pdf>

Washington State Noxious Weed Control Board. 2008. Written Finding – Himalayan Blackberry