

**WRITTEN FINDINGS OF THE  
WASHINGTON STATE NOXIOUS WEED CONTROL BOARD**  
(Adapted from proposal for 2000 quarantine list)  
(2003)

**Common Name:** hairy willow-herb

**Scientific Name:** *Epilobium hirsutum* L.

**Family:** Onagraceae

**Legal Status**                      **Proposed as a Class C noxious weed 2004**

**Key Identifying Traits:** Hairy willow-herb is a semi-aquatic, softly-hairy herb that ranges in height from 3 feet to 6 feet tall. The overall plant is covered with fine soft hairs. The leaf arrangement is mostly opposite, and the toothed leaves are lanceolate shaped (much longer than wide, and widest below the middle). The showy rose-purple flowers extend from leaf axils near the top of the plant. Flowers are approximately 3/4” across. Each flower has four sepals, four notched petals and eight stamens. Flowering occurs in July and August.

**Economic importance:** Hairy willow-herb is a tall, attractive plant capable of escaping cultivation to form monotypic stands in natural wetland areas, where aggressive and dense growth can crowd out native or beneficial species. While initially found along ditch-banks and roadsides, hairy willow-herb is capable of spreading to undisturbed meadows. Records indicate this species is considered established throughout most of the northeastern United States, and the distribution continues to spread westward. The majority of Washington populations are limited to Whatcom County, where this plant is regularly found as a garden ornamental, and as an escapee to natural wetland areas.



Hairy willow-herb shares habitat, and the northeast to westward movement and establishment history, with purple loosestrife. These two exotic species co-exist and establish in riparian areas. Purple loosestrife has the ability to take advantage of early spring growing conditions, and hairy willow-herb takes advantage of increased growth in autumn growing conditions. Hairy willow-herb is aggressive and capable of spreading by wind dispersed seeds, and by a large root system that produces rhizomes which facilitate vegetative spread. Hairy willow-herb is another exotic, aquatic species capable of disrupting the ecology of our wetlands by altering food chains, hydrologic cycles and floral composition. These factors all determine the succession or long term management plans of these wetland areas.

**Beneficial:** sold as a replacement plant for purple loosestrife. Noted to be used as a medicinal herb.

**Habitat:** stream sides, waste places, ditches, and gardens.

**Geographic Distribution:**

**Native Range:** Hairy willow-herb is native to Eurasia, where it is found in moist waste ground of the Mediterranean, Europe, Asia and Africa. It is widespread, often forming large, long-lived colonies in England, Wales and Ireland. In Scotland it is confined to the east coast. Intolerant of shade, hairy willow-herb is found in damp and waste places to elevations of 2500 meters (8100 feet).

**Introduced Range:** Hairy willow-herb is considered a common weed in Belgium, Egypt, Turkey and the U.S. It is also known from southern Australia as of 1990, and it is reported as a nursery weed in Norway.

Records indicate that hairy willow-herb is established in the northeastern United States, with initial sites reported 140 years ago. This species was known as a garden ornamental, a garden weed and as a species that grew in ballast areas. Hairy willow-herb escaped cultivation and traveled inland, where it went on to establish in a wide range of wetland habitats. It continues to travel westward.

**History:** The earliest collection records are from 1965 from the Bellingham area of Whatcom County, growing along wet railroad ground; in 1966 and 1984 specimens were collected from the Bingen area of Klickitat County; a specimen was collected in 1990 from the Lyle area of Klickitat County; and a 1991 specimen was again recorded from Whatcom County. A 1999 survey of southern Whatcom County reported 115 sites, covering an estimated 9.25 acres. A Whidbey Island (Island County) site was identified in 1999 and reports have been streaming in from Grant, Benton, and Franklin counties in 2003 with no known acreage.

**Growth and Development:** This semi-aquatic, perennial herb is found in a wide range of moist soils, including wetlands, ditch and stream banks, low fields, pastures and meadows. In its native range hairy willow-herb is found in damp lands and waste places to an elevation of 8100 feet, and it is intolerant of shade. Once established, hairy willow-herb is somewhat shade tolerant. In England (and WA), hairy willow-herb co-exists with purple loosestrife, where both species colonize gaps along riparian areas created by erosion. Hairy willow-herb outcompetes and grows faster than purple loosestrife in the shorter days and colder temperatures of autumn. In the spring, this relationship is reversed, with purple loosestrife having a faster growth rate. Hairy willow-herb requires habitat with a pH of 5.5 or higher for seed germination.

**Reproduction:** Hairy willow-herb is a perennial, and it spreads by seeds and by rhizomes. Flower buds develop after 10 to 12 weeks of growth. Side shoots also produce flowering stems, and the whole plant is flowering by mid-summer (July – August). Self-pollination is possible, but seed production is reduced by self-pollination. Seeds are ripe and begin to disperse 4 to 6 weeks after flowering. Each seed is oblong and flattened, with a tuft of long white hairs.

Axillary buds, found at the base of the stem, produce stolons. These stolons develop adventitious roots, which pull the stolons into the ground, where they develop into fleshy, soft rhizomes. These rhizomes branch repeatedly, and spread to new areas. When the axillary buds produce stolons that spread along the soil surface, the stolons root and produce a pseudo-rosette of leaves. If this rosette gets separated from the parent plant, it produces an aerial shoot and develops much the same way as an autumn seedling. The aerial shoots die back each autumn, but the rhizome system remains. These rhizomes can reach almost 2 feet in length from the time of initial development to aerial shoot production.

Hairy willow-herb adapts to its growing conditions. The rhizomes growing in submerged water or water-saturated mud, develops arenchyma tissue. Rhizomes not submerged are mostly cork.

**Response to Herbicide:** Chemical defoliant have not been effective in preventing regrowth from root stocks, or prevented germination of new seedlings. However, the broad spectrum, systemic herbicide Round-up (glyphosate), in the form permitted for use in aquatic ecosystems and branded Rodeo, has been shown to effectively reduce populations of purple loosestrife, but dormant root-crowns can persist and provide a basis for a resurgence. In addition, herbicides may kill desirable species, create space for noxious weeds to proliferate, with repercussions that may resonate through the food chain and effect the integrity of nutrient cycles and other ecosystem processes.

**Response to Mechanical Controls:** Historically, burning, mowing, water level manipulation, and chemical defoliant have failed to control hairy willowherb .

Mowing within three weeks before anthesis may effectively prevent additions of new seed to the seed bank. Vegetative regrowth after mowing occurs from stems intact to the first node, or from lateral meristems growing horizontally from the leaf axil; root systems from which all stems have been severed below the first node do not issue new growth, although the elongation of lateral meristem, and the formation of adventitious roots on those stems, may be mistaken for shoot primordia developing on root tissue.

**Biological control potentials:** None Currently known

**Rationale for listing:** Hairy willow-herb was listed as a Monitor Species of the Washington State Noxious Weed Control Board in 1999, to gather information on distribution and plant biology. A 1999 survey of southern Whatcom County found this species as both a garden ornamental and as an escaped ornamental established in natural wetland areas. Hairy willow-herb shares habitat and a nation wide east to west spread with another invasive wetland plant, purple loosestrife. At this time the distribution of hairy willow-herb is somewhat limited in western Washington to Whatcom County. Hairy willow-herb is offered for sale as a garden ornamental, and it could easily increase its range to a widespread distribution, statewide.



Island County 2003

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