

giant hogweed

Heracleum mantegazzianum Sommier & Levier

Synonyms: None

Other common names: giant cow parsnip

Family: Apiaceae

Invasiveness Rank: 81 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

Description

Giant hogweed is a biennial or perennial plant that grows 3 to 4 ½ meters tall. Stems are hollow and 5 to 10 cm in diameter. They have dark reddish-purple spots and are covered in bristles. Leaves are large, compound, and 91 to 152 ½ cm in width. Inflorescences are many-flowered, broad, flat-topped umbels. They can grow as large as 76 ½ cm in diameter. Flowers are small and white to light pink. Fruits are flat, 9 ½ mm long, oval-shaped, and dry. Most plants die after flowering. Some flower for several years (Noxious Weed Control Program 2003).



Umbel and foliage of *Heracleum mantegazzianum* Sommier & Levier.
Photo by Organized Village of Kake.

Similar Species: Giant hogweed closely resembles cow parsnip (*Heracleum maximum*), which is native to the Pacific Northwest and Alaska. Unlike giant hogweed,

cow parsnip rarely exceeds 183 cm in height, has umbels that are 20 to 30 ½ cm in diameter, and has palmately lobed leaves (Hultén 1968).



Infestation of *Heracleum mantegazzianum* Sommier & Levier around Kake, Alaska. Photo by Organized Village of Kake.

Ecological Impact

Impact on community composition, structure, and interactions: Giant hogweed forms dense canopies that enable it to outcompete and displace native riparian species. The plant produces watery sap, which contains toxins that cause severe dermatitis. Dermal injuries to birds and animals have been reported. Flowers are insect-pollinated (Pysek and Pysek 1995, Noxious Weed Control Program 2003). Giant hogweed produces

coumarins, which have antifungal and antimicrobial properties. Giant hogweed hybridizes with eltro (*Heracleum sphondylium*) when both species grow in the same location. Numerous phytophagous animals and parasites are known to feed on giant hogweed (Stewart and Grase 1984, Tiley et al. 1996).

Impact on ecosystem processes: Infestations of giant hogweed reduce populations of native plant species. Giant hogweed increases soil erosion along stream banks in winter (Wright 1984, Tiley and Philp 1992, Noxious Weed Control Program 2003). The availability of nutrients increases in areas infested by giant hogweed because this species supplies a large amount of easily decomposed biomass (Pysek and Pysek 1995).

Biology and Invasive Potential

Reproductive potential: Giant hogweed reproduces by seeds (Noxious Weed Control Program 2003). The number of seeds produced per plant varies from 27,000 (Pysek 1991) to 50,000 (Tiley et al. 1996). Seeds can remain viable in the soil for more than seven years (Noxious Weed Control Program 2003).

Role of disturbance in establishment: Giant hogweed is generally an early colonizer of ruderal communities, disturbed habitats, or bare ground. It can also invade closed communities, such as grasslands (Tiley et al. 1996).

Potential for long-distance dispersal: Wind can disperse seeds a short distance, but most seeds land near the parent plant (Clegg and Grace 1974, Tiley et al. 1996). Fruits can float in water for up to three days and can be transported 10 km along waterways (Clegg and Grace 1974).

Potential to be spread by human activity: Giant hogweed has escaped from gardens and has naturalized readily in Europe and North America. The sale of giant hogweed is prohibited in the U.S., but the plant is sometimes misidentified and sold by nurseries. Dispersal is also facilitated by the use of seed heads in floral arrangements. Seeds can be spread in topsoil and along roadsides (Clegg and Grace 1974, Tiley et al. 1996, Noxious Weed Control Program 2003).

Germination requirements: Seeds germinate well in the surface organic layer of soil. Sufficient soil depth is necessary to allow the taproot to develop (Noxious Weed Control Program 2003).

Growth requirements: Giant hogweed grows most frequently on sandy and silty substrates. It is tolerant of saturated environments and winter flooding, but it can also thrive on drier, well-drained sites. It grows in soils with pH between 3.1 and 8.5 (Clegg and Grace 1974, Tiley et al. 1996). Giant hogweed requires moisture for establishment (Tiley et al. 1996).

Congeneric weeds: Eltro (*Heracleum sphondylium*) is

another non-native *Heracleum* species known to occur in North America, but it is not listed as being invasive or weedy (USDA 2010).

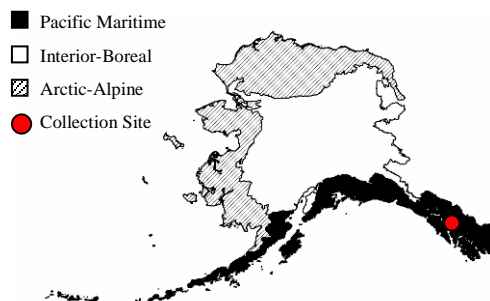
Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (AL, CA, FL, MN, NC, NH, OR, PA, VT, WA)
- Federal noxious weed
- Listed noxious in Canada or other countries

Distribution and abundance

Giant hogweed establishes along rivers and streams. Additionally, it is common in damp places, waste areas, and roadsides. It is considered an invasive wetland weed in Washington (Tiley et al. 1996, Noxious Weed Control Program 2003).

Native and current distribution: Giant hogweed is native to the Caucasus Mountains and southwestern Asia. It has been naturalized throughout central Russia and Europe. It has also been introduced to Australia, New Zealand, Canada, and the U.S. (Tiley et al. 1996, USDA, ARS 2005). Giant hogweed has been documented from Kake, Alaska.



Distribution of giant hogweed in Alaska.

Management

Control of giant hogweed can include mechanical, chemical, and biological methods. Plants must be dug out entirely, or the roots must be cut at least 7 ½ to 10 cm below ground level. Cutting the plant stems is ineffective. Herbicides have been used on giant hogweed with varying success. Grazing by domestic herbivores in springtime may control infestations. A coordinated control program is required over the whole infestation and surrounding area because fresh seeds will continue to spread from uncontrolled plants. A minimum of five years of an intensive control program is required to eliminate giant hogweed infestations (Wright 1984, Tiley and Philp 1992).

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