Heracleum mantegazzianum Sommier & Levier

Giant hogweed

Family: Apiaceae
Range: Western Washington and isolated locations in northwestern Oregon. Also found in the northeastern U.S. and is expanding its range elsewhere.
Habitat: Riparian areas, disturbed sites, roadsides, waste places. Often grows in wet places.
Origin: Native to southwestern Asia.
Impact: Giant hogweed can develop a dense canopy that will crowd out native and other species. This loss of understory vegetation increases stream bank erosion. While cattle and pigs can consume giant hogweed without any apparent problems, skin contact with sap can cause severe photosensitizing dermatitis on most people and animals.
Western states listed as Noxious Weed: California, Oregon, Washington

Robust biennial or perennial to 16 ft tall with large three-part compound leaves. Once cultivated as an unusual garden ornamental, giant hogweed has escaped cultivation to become an ecological and health problem. Infestations are nearly always associated with garden escapes. Unlike other emergent aquatics, giant hogweed cannot tolerate prolonged root submergence in water.

Plants reproduce by seed and vegetatively by forming new crowns from the tuberous rootstocks. Giant hogweed can produce abundant seed that primarily disperse with water. Seeds survive 7 years or more under field conditions. Individual plants appear to flower once and die, but new plants grow from crowns developed from rootstock during the previous year.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Root cutting is usually performed with an ordinary spade with a sharpened blade. It is best undertaken in early spring, and should be repeated in summer if regrowth appears. The main tap root should be cut 3 to 4 inches below the soil level. The method is very effective but labor intensive (therefore potentially costly) and thus suitable only for single plants or small stands. Removal of umbel inflorescences can temporarily prevent seed set, but the inflorescence may regrow and set seed after a single cutting. Therefore, umbel removal requires several visits over the flowering season. Umbel removal is most effective when terminal umbels just start to flower. It is important to wear protective clothing and avoid getting the sap on skin. Mechanical mowing, e.g., using a flail mower, has been shown to be useful for clearing large areas of giant hogweed. Smaller stands can be trimmed or scythed. However, plants usually regrow from the rootstalk. Mowing may control plants if done persistently, two to three times during the growing season, to starve the rootstalk. Mowing multiple times also hinders resprouting plants from flowering and setting seeds. Cutting in late spring (May to June), when plants are taller and have used more root reserves, is more effective than cutting in early spring (March). It appears particularly effective to repeatedly mow plants in the mid-flowering stage. This timing prevents seed production and depletes the underground reserves, and should eradicate a population within a few years as the seedbank declines. Digging or plowing to destroy the crown (below 4 inches soil depth) can completely kill the plant. It is possible that large infestations may be controlled by deep cultivation (plowing) although this has not been tested and is generally impractical on river banks.
Cultural	Giant hogweed is not controlled by light grazing. Intensive grazing by sheep and rooting by pigs has been shown to be effective. In Denmark, the population of the weed was much reduced after two years of sheep grazing and completely eliminated after five years, when no viable seeds were found to remain in the soil.

	The weed may be slightly less palatable to cattle, but grazing by cattle as well as pigs is recommended in Ireland. Sheep and goats often seek out young plants of giant hogweed. Recommended grazing timing is in mid-spring. Herds should preferably include individuals already familiar with the weed to reduce the risk of over-eating and poisoning. Dark-skinned, thick-pelted animals are less likely to acquire dermatitis. Burning is not practical or effective for the management of giant hogweed.
Biological	There are no biocontrol insects available for giant hogweed at this time.

CHEMICAL CONTROL

The following specific use information is based on published papers and reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

GROWTH REGULATORS	
Triclopyr *Garlon 3A*, *Garlon 4 Ultra*, *Renovate*	**Rate:** Spot treatment: 1% v/v solution *Garlon 3A* or *Garlon 4 Ultra* **Timing:** Postemergence in summer months during bud stage and while the plant is rapidly growing. **Remarks:** Triclopyr is a broadleaf herbicide. It has very little soil residual activity. *Garlon 4 Ultra* is formulated as a low volatile ester. However, in warm temperatures, spraying onto hard surfaces such as rocks or pavement can increase the risk of volatilization and off-target damage.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup*, *Rodeo*, *Aquamaster*, *Accord XRT II*, and others	**Rate:** Broadcast application with *Rodeo* or *Aquamaster*: 3 to 5 pt product/acre (1.5 to 2.5 lb a.e./acre) **Timing:** Optimal treatment timing for postemergence application is during summer months when plants are at the bud stage and rapidly growing. **Remarks:** Glyphosate is the most widely used compound for the control of giant hogweed. It is important to cover the leaf surfaces thoroughly (spray-to-wet), but do not spray to the point at which liquid is dripping off the leaves. Do not cut or dig up the plant until the top growth has died back. If the leaves remain green two weeks after initial treatment, spray again with glyphosate. Control methods can also include cutting to the ground (see above), cutting and spraying regrowth with glyphosate in spring and summer, or treating uncut plants with glyphosate (sometimes with more than one application). Glyphosate is a nonselective herbicide with no soil activity. Glyphosate can also be used in an injection technique for individual plant control. Using a hand-held injector, inject 5 ml of a 5% v/v solution into one leaf cane per plant, 12 inches above the root crown. Treated canes should be marked to avoid unnecessary retreatment. It is important to note that for treatments that use high concentration, such as injection, glyphosate cannot exceed 8.5 qt product/acre of *Roundup Pro Concentrate* (or other trade name). This volume of product would treat about 32,000 stems/acre.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapic *Plateau*	**Rate:** 12 oz product/acre (3 oz a.i./acre) **Timing:** Postemergence in spring during the bolting stage. **Remarks:** Avoid physically contacting plant when applying. Imazapic has some soil residual activity. Add an appropriate adjuvant to spray mix. Imazapic is not registered for use in California.
Imazapyr *Habitat*	**Rate:** Up to 6 pt *Habitat*/acre for aquatic use **Timing:** Postemergence early in the season (March to May) for best effect. **Remarks:** Imazapyr has a long residual effect in the soil that prevents further germination but may also impact non-target species.

RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.