

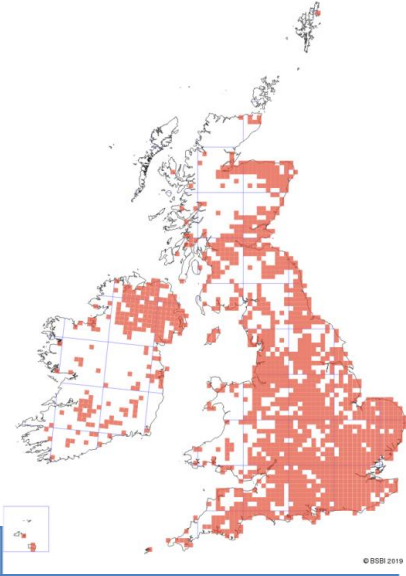
Giant Hogweed

Heracleum mantegazzianum

Invasive Species Identification and Control Guide

Species Description

Giant Hogweed is a species native to the Caucasus mountains in South West Russia and Georgia. It was introduced to the UK in 1820 for ornamental purposes but escaped from gardens and became naturalised in Britain in the 1828. It rapidly colonises the river banks and waste land and is now well established in lowlands across the United Kingdom, as illustrated on the right. The species is a perennial monocarpic plant i.e. can only reproduce once solely by seeds which are viable for up to seven years. Each plant can self fertilise and on average produces 20,000 seeds spread by wind, water and humans. The species dominates riverbanks suppressing the growth of native plant species and dies back in autumn leaving riverbanks bare throughout winter which leads to increased riverbank erosion. It also threatens human health due to its phytotoxic sap causing severe skin blistering.



Affect on Aquatic Environment and River Users

Giant Hogweed's ability to spread seed widely enables colonisation of vast sections of riverbanks and other habitats which has a detrimental affects on the riparian and aquatic environment:

- The plant has phytotoxic sap so when it comes into contact with human skin under sunlight it causes skin burning and blistering (see photo below) which can last >6 years threatening human health.
- Large dense populations reduce the available light and space on the riverbank outcompeting native plant species. This leads to a less diverse plant community and habitat degradation.
- In autumn the plants die back leaving hollow stems and bare riverbanks which increases riverbank erosion. This results in siltation of the river bed which in turn reduces the amount of vital fish and aquatic invertebrate spawning habitats.

The species also negatively affects river users accessibility and enjoyment of watercourses as Giant Hogweed, spoils the river aesthetics, threatens human health and reduces the diversity of river wildlife.

Preventing the Spread of Giant Hogweed

Giant Hogweed spreads through natural transport routes such as rivers, wind, and through human transportation such as boats and footwear. To reduce the spread of the invasive species annual control programmes and good biosecurity control are essential.

Biosecurity is extremely important to prevent cross contamination of water bodies especially as the species seeds are viable up to seven years and spread easily by water. Any equipment used when working with Giant Hogweed needs to be checked and cleaned of plant material, then sterilised and dried before being used again.

CHECK → **CLEAN** → **DRY**



Report Sightings

All sighting of Giant Hogweed should be reported to help direct control action to prevent their spread. Please report to non-native species recording database in the Colne Valley: cvfc.org.uk/nnis

Responsibilities

Legal responsibility – Giant Hogweed is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and the updated EU Invasive Alien Species Regulations 2017, making it an offence to plant it or cause it to grow in the wild. Under the Environment Protection Act 1990 the species is classified as controlled waste.

Riparian Landowners – have an obligation to control Giant Hogweed populations on their land and help prevent the spread of the non-native invasive species.

Environment Agency (EA) - The EA is under no obligation to remove Giant Hogweed on land outside of their ownership.

WARNING - Health Hazard

Contact with the plant's phytotoxic sap causes severe blistering and skin irritation which is heightened when in sunlight. Blistering symptoms occur 24-48 hours after exposure and dense pigmentation is visible after 3-5 days and may persist for 6 years or more. Ensure to avoid the plant and wear protective clothing.

Key Identification Features



Stem

Hollow green stems with sharp bristles and red or purple spots. Grow up to 5m high and 100m across.

Flowers

Umbrella shaped flower head up to 80cm with small white flowers from June to August.



Seeds

Seeds with dark stripes 2 on one side and four on the other. 10mm long by 7mm wide.



Leaves

Large dark green sharply divided leaves with serrate edges. Can span up to 3m appear from April onwards.



Spring



Summer

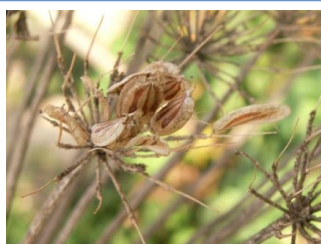


Winter

Control Measures:

Giant Hogweed takes up to 2-5 years to mature and flower after which it dies, producing an average of 20,000 seeds viable for 7 years. For maximum effect carry out control measures **before seed production**. A control programme can successfully eradicate the population over five years. Although re-establishment of seeds from seed bank in the soil and from an infestation upstream is possible, co-ordinated management is beneficial for long term success. The methods of control that can be used are summarised below. If you require bespoke advice for a particular site please contact our Landscape Partnership Team.

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Mechanical Control:

Large populations of Giant Hogweed can be controlled using **cutting** methods to prevent populations from seeding but provides no long term solution as the plant can rapidly regrowth from below ground. Ensure to cut in March and June prior to seed production and help to minimise regeneration. Strimming is not recommended to avoid contact with phytotoxic sap. **Hand pulling** can be effective on young seedlings but is impractical on larger plants, ensure completion in early spring. **Digging** or **ploughing** can destroy the crown preventing regrowth; ensure to dig below 20cm soil depth. Alternatively sever the tap root by cutting with a spade at 45° over 15cm below soil level to prevent regrowth. Complete digging method from March – June Spoil and ensure to disposed of at a landfill or piling on site and composting. Ensure to wear protective clothing and follow strict biosecurity methods; check, clean, and dry all equipment used.

Giant Hogweed germination begins in winter during the wet cold soil conditions, followed by shoot extension and leaf expansion begins from March. It is recommended to hand pull young saplings between April and May, when the stem is still pliable making it easier to pull out the whole root. Alternatively dig, plough or cut of root tap off from February – April to prevent regrowth and seed production.

Method	Pros	Cons
Cutting	<ul style="list-style-type: none"> Great for quickly tackling large populations to prevent seeding. A repeat cut can be used to tackle regrowth. 	<ul style="list-style-type: none"> Requires proper site access. High likelihood of regrowth. Not suitable if sensitive species and habitats present on river e.g. water voles. High risk of contact with phytotoxic sap.
Hand Pulling	<ul style="list-style-type: none"> Very good for selective picking in sensitive areas. Can be undertaken by anyone with appropriate PPE Prevents population establishment. 	<ul style="list-style-type: none"> Only effective on young seedlings Can be physically demanding for those less able. Time consuming & labour intensive.
Digging / Ploughing	<ul style="list-style-type: none"> Great for tackling large populations. Prevents population establishment. Extremely effective 	<ul style="list-style-type: none"> Requires proper site access. Can be physically demanding for those less able. Time consuming & labour intensive.

Chemical Control:

Herbicide treatments can work well for large populations of Giant Hogweed. The recommended **herbicide** is **glyphosate** via foliar spray for large dense swards and via weed wiper for small infestations, mixed swards and individual plants. The plants should be treated in spring from April to June when plants are under 1.5meters. Stem injection is suitable later in the season from June to September when plants are established, ensure to cut and inject chemical below the first node. Repeated herbicide treatments may be required up to 10 years and shouldn't used around sensitive habitats or species for example water voles.

Chemical control near water requires an Aqherb01 licence and an agreement must be obtained from the local Environment Agency office before application of herbicides in, on or near water. Check your contractor has these documents before work begins.

Method	Pros	Cons
Foliar Spray / Weed Wiper	<ul style="list-style-type: none"> Allows for treatment of large areas in a short length of time. 	<ul style="list-style-type: none"> Not always suitable for sensitive habitats. Should be used in conjunction with other methods to ensure complete eradication. Repeated treatment required over a long time period. Aqherb01 licence required http://www.gov.uk/government/publications/application-to-use-herbicides-in-or-near-water
Stem Injection	<ul style="list-style-type: none"> Less invasive and disruptive to surrounding wildlife. Can treat established plants late in season. 	<ul style="list-style-type: none"> Time consuming and physically demanding. Repeated treatment required over a long time period. Aqherb01 licence required http://www.gov.uk/government/publications/application-to-use-herbicides-in-or-near-water



Biological Control

The species is not effectively controlled through biological methods, there are no species which specifically target Giant Hogweed and light grazing has minimal effect. However intensive grazing has been shown to provide control measures over a 5 year period with sheep, pigs and goats but the animals should already be familiar with plant to reduce risk over eating and poisoning.

Pros	Cons
<ul style="list-style-type: none"> - Not disruptive to native wildlife. - Treats large populations. - Not labour intensive. 	<ul style="list-style-type: none"> - Control not specific to Giant Hogweed. - Animals at risk of poisoning due to over eating the plant. - Long treatment period with varying control efficiency.