



**THREE SHIRES LTD**  
ECOLOGY, FENCING, ARBORICULTURE, INVASIVE WEEDS

Falcon Business Centre  
D1, 10 Victoria Street  
Chadderton, Oldham  
OL9 0HB

## **Invasive Species Report**

**Wain**  
**ESTATES**

Scobell Street,  
Tottington, Bury,  
BL8 3DF

**Date of Survey**  
**9<sup>th</sup> September 2024**



**Confor**  
Promoting forestry and wood



Supplier  
Qualification  
Scheme





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## Site Maps





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### Photographs of Himalayan Balsam



### Photos of Horsetail



### Survey findings

A full site walkover was completed by Lesley Vachre C.S.J.K Invasive Species Surveyor on the 9<sup>th</sup> of September 2024. The weather was wet and overcast.

Three Shires were requested to undertake a survey for Invasive plant species by Wain Estates on behalf of their client. Himalayan Balsam (HB) was identified growing on the site boundaries and Horsetail (HT) was found growing along the entry pathway as you enter from close to Watkins place.

HB is growing within the site boundaries in multiple locations as marked on the site map above, mostly growing along the boundary sections of the fields and a large area of HB can be found growing in abundance as you enter the path from Watkins Place. In most of the areas where HB is growing, it can be found in high-density with a few moderate growth areas. Due to the maintenance of the fields, no HB can be seen growing on the outskirts of most areas and areas that have been left undisturbed.



Although HT is not covered by legislation it is classified as an invasive species, HT was observed growing along the entry pathway close to Watkins Place. While it does not pose the same ecological risks as HB, HT can cause significant issues in built environments. Its deep-rooted rhizomes can penetrate and damage paving, concrete, and tarmac surfaces if left untreated, potentially resulting in costly repairs and delays to construction works.

## The Problem

Himalayan Balsam disrupts native plant communities, leading to reduced biodiversity. Its rapid growth and dense stands outcompete native species, particularly along riverbanks, increasing the risk of erosion. When it dies back in winter, it leaves riverbanks bare and prone to erosion, negatively impacting water quality and local ecosystems.

Horsetail is an aggressive plant that disrupts native species, damages agricultural land, and poses a threat to infrastructure. Its deep-rooted rhizome system can penetrate and undermine hard surfaces, such as pathways, patios, and even concrete, causing structural damage. The plant's ability to spread through small fragments and its resistance to many herbicides make it particularly difficult to control, presenting long-term challenges for both land and property management.

We recommend implementing an herbicide treatment plan for both Himalayan Balsam and Horsetail as soon as possible to prevent further spread, damage, and potential loss of biodiversity. Early intervention will help limit the establishment of these invasive species, reducing long-term costs and minimizing ecological, infrastructural, and agricultural damage. Without swift action, both Himalayan Balsam and Horsetail can quickly dominate areas, leading to significant environmental, structural, and agricultural issues.

## Action Plan

### Short Term

Accurately record all current visible Himalayan Balsam and Horsetail (completed 09.09.2024)

Produce a site-specific management plan (completed 27.09.2024)

### Medium Term

Review and update the site Management Plan.

Implement the agreed strategy for eradicating the Invasive Species

Sign the works off as completed.

### Long Term

Monitoring visits (x2)

### Project Management

Three Shires Ltd are very experienced in project management and delivery. We work closely with clients from the design stages (if required) to achieve the target of eradication of Invasive species in the most cost-effective and environmentally aware manner. All works will be documented, and a sign-off report issued on completion of the works. The most important condition is that no work takes place in the infested area without supervision and robust method statements in place.

### Recommended Works

- Excavation and removal of contaminated spoil to a licenced landfill.
- Project management.
- Post-treatment monitoring.



## Quote for Excavation of the Himalayan Balsam & Horsetail

| Item Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Measure /Unit | Rate   | Total      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------|------------|
| Three Shires to provide fully qualified operatives, supply of plant, machinery, hand tools, equipment (360 Excavator, dumper and fuel)<br>Excavation of the INNS as per site map.<br>A day rate is offered due to the unknown potential for delays in access etc. works are estimated to take 6 weeks with full un-hindered access.                                                                                                                                                                                                                                  | Day rate      | £1,707 | £51,210    |
| To obtain a soil sample for Soil Analysis & Wac tests – required for the spoil to be removed to a licenced landfill that accepts contaminated spoil                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit          | £825   | £825       |
| Muck away inclusive of Haulage, Labour, and Land Fill Tax<br>(Expected 2,060 x wagons required).<br>*Please note that that the amount of spoil to be removed can vary and the price will depend on the final load and results of the Soil analysis and Wac tests.                                                                                                                                                                                                                                                                                                    | Unit          | £695   | £1,431,700 |
| Bio Security Management<br>To set up a decontamination and bio security area to prevent cross contamination on and off site.<br>Decontaminate all plant, tools, and equipment.<br>Upon completion of the excavation the plant and machinery involved must all be cleaned to the satisfaction of the Three Shires representative before it leaves the work area for other duties. A pressure washer will then be used to clean all the potential JKW off the machine including bucket.<br>Three Shires to provide hand tools, membrane, herbicide and pressure washer | Unit          | £850   | £850       |
| To prepare a method statement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Unit          | £650   | £650       |

\*The above costs are subject to change dependent on the results of the soil analysis and the impacts that would have on the landfill tax.

**Other options are available which would be cheaper but would depend on timescales and budget:**

Cell burial on site  
Herbicide treatments  
Bunding and herbicide treatment

A separate quote can be provided for the herbicide treatment if required.

Further information regarding Himalayan Balsam and Horsetail is provided at the end of this report.

Please do not hesitate to contact me should you have any questions or require anything further.

Kind regards



Lesley Vachre  
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C.S.J.K Invasive Species Surveyor  
Three Shires Ltd



## **Himalayan balsam (*Impatiens glandulifera*)**

### Species identification

Height: 2.0 – 3.0 meters

**Stem:** Himalayan balsam stem is smooth and hollow, typically displaying a green or reddish colouration. It is characterized by nodes or joints along its length, which give it a segmented appearance. The stem grows erect, supporting the plant's leaves, flowers, and seed pods. While sturdy overall, the stem may become somewhat fragile, especially near the top where it branches out to accommodate the plant's foliage and reproductive structures.

**Leaf:** The leaves of Himalayan balsam are arranged oppositely along the stem, occurring in pairs with one leaf positioned directly opposite another. They are generally lanceolate or elongated in shape, featuring a pointed tip and serrated edges. These leaves are relatively large, typically measuring between 5 - 15cm in length, and have a smooth texture with a glossy appearance, particularly on the upper surface. They are predominantly medium to dark green in colour, with a lighter underside, and may exhibit reddish veins or stems. Prominent veins run from the central midrib to the edges of the leaf, forming a distinct network throughout the leaf blade.

**Flower:** The flower of Himalayan balsam is large, showy, and trumpet-shaped, consisting of five petals arranged in a radial symmetry. The petals are usually pink, purple, or white in colour, often with darker markings or spots towards the centre of the flower. Each flower has a spurred base, which contains nectar and serves to attract pollinators such as bees and butterflies. The flower is typically borne on a long, slender stalk that arises from the leaf axils along the stem. Himalayan balsam flowers bloom in late summer to early autumn, creating a striking display of colour in the landscape. Overall, the flower of Himalayan balsam is a visually striking feature of the plant and is an important adaptation for attracting pollinators.

**Seed:** The seeds of Himalayan balsam are small, oval-shaped, and typically dark brown or black in colour. They are contained within elongated seed pods, which develop from the flowers after pollination. Each seed pod contains multiple seeds, arranged in rows within the pod. When ripe, the seed pods split open explosively along their length, scattering the seeds several meters away from the parent plant. The seeds themselves are smooth and shiny, with a hard outer coat that helps protect them during dispersal and germination. Additionally, the seeds have the ability to form a persistent seed bank in the soil, where they can remain viable for several years.

### Ecology

**Habitat description:** Himalayan balsam is prevalent across various habitats in the UK, notably thriving in riparian areas, such as riverbanks, stream sides and canal banks, where the soil is rich in nutrients and moisture levels are consistently high. It also flourishes in wetland environments like marshes, fens, and damp woodlands, adapting well to conditions of periodic flooding and fluctuating water levels. Himalayan balsam frequently colonizes disturbed sites along roadsides, railway tracks, and urban areas, where the soil has been recently disturbed and exposed. Additionally, it can be found at woodland edges and clearings, taking advantage of the transition between open spaces and shaded habitats. Despite its less common occurrence in gardens and urban areas.

**Reproduction & Life Cycle:** Himalayan balsam follows a reproductive and life cycle that begins with prolific seed production, typically ranging from 800 to 2,500 seeds per plant. These seeds are contained within elongated seed pods, which develop from the flowers after pollination. Germination occurs in early spring, facilitated by moist soil and warmth, although some seeds may remain dormant in the soil, forming a persistent seed bank. The plant undergoes rapid vegetative growth, reaching heights of up to 2 to 3 meters within a single growing season. By mid-



summer, Himalayan balsam begins flowering, with large, showy flowers attracting pollinators such as bees and butterflies. As the flowers are pollinated, they develop into seed pods, which mature and explosively eject seeds several meters away. Despite its annual life cycle, the plant's ability to produce numerous seeds and form a persistent seed bank allows it to reestablish populations in subsequent years.

### Impact

Himalayan balsam poses several significant challenges for people in the UK. Its highly invasive nature threatens native ecosystems by outcompeting indigenous plant species, disrupting habitats, and altering ecological dynamics. The plant's shallow root system contributes to soil erosion along riverbanks and watercourses, increasing the risk of sedimentation and habitat degradation. This invasion not only impacts biodiversity and ecosystem health but also interferes with agricultural activities, reducing crop yields and causing economic losses for farmers. Himalayan balsam hinders riverbank management efforts, impeding navigation, recreational access, and flood management. Despite efforts to control its spread, the plant's prolific seed production and resilience make effective management a continuous challenge, requiring coordinated strategies and resources. Overall, addressing the problems posed by Himalayan balsam requires comprehensive management approaches to mitigate its ecological, economic, and social impacts in the UK.

### Legislation

1. Wildlife and Countryside Act 1981: Himalayan balsam is both an IAS (Invasive Alien Species) and listed under Schedule 9 of the Wildlife and Countryside Act 1981. This legislation prohibits its intentional planting in the wild to prevent its spread. act as a species that is "not ordinarily resident in and is not a regular visitor to Great Britain in a wild state." It is an offence to plant or cause Himalayan balsam to grow in the wild without a license.
2. Environmental Protection Act 1990: Regulates the disposal of controlled waste, including invasive plant species like Himalayan balsam. It prohibits the introduction of non-native species into the wild.
3. Housing Act 2004: Requires sellers and landlords to disclose the presence of Himalayan balsam on their property. Failure to do so can lead to legal consequences.
4. Infrastructure Act 2015 (UK): Provides powers for organizations such as government bodies and environmental agencies to enter land and carry out eradication work, particularly for species like Giant Hogweed.
5. The Invasive Alien Species (Enforcement and Permitting) Order 2019 (UK): This law enforces the UK's post-Brexit approach to dealing with invasive species. It outlines rules on the handling, sale, import, and release of species listed as invasive in the UK. Follows similar principles to EU Regulation 1143/2014, with surveillance, control measures, and management plans.

Non-native Species Framework Strategy for Great Britain: Provides a framework for addressing the impacts of non-native invasive species, including Himalayan balsam. It emphasizes prevention, early detection, rapid response, and control measures.

Property Care Association (PCA) Code of Practice: The PCA has developed guidelines for the management and treatment of Himalayan balsam, outlining best practices for its control and eradication.

Royal Institution of Chartered Surveyors (RICS) Guidelines: RICS provides guidelines for surveyors and property professionals on assessing and managing Himalayan balsam in property transactions.

### Biosecurity measures



When treating or excavating Himalayan balsam, strict biosecurity is vital to prevent its spread. Establish clear boundaries, clean equipment thoroughly, dispose of plant material properly, and decontaminate vehicles leaving the site. Monitor for regrowth and train personnel in biosecurity protocols to minimize the risk of spreading this non-native invasive plant and protect native ecosystems. This plant would have to go to a licensed landfill and be classed as contaminated spoil.

### **Field Horsetail (*Equisetum arvense*)**

#### **Species identification**

Height: 0.1 – 0.8 meters

**Stem:** The stem is erect, cylindrical and hollow, resembling a bamboo shoot or a segmented straw. It's usually a pale green to brownish colour with a rough texture.

**Leaf:** Field Horsetail doesn't have typical leaves like many other plants. Instead, it features small, scale-like structures called microphylls. These microphylls are arranged in whorls around the stem, forming a distinctive pattern. They are tiny and scale-like, with a narrow shape and a pointed tip. The microphylls are attached directly to the stem and are usually fused to it, making them appear as though they are part of the stem itself, they are often green or brownish-green in colour.

**Flower:** The cones of Field Horsetail are not showy like typical flowers; they are inconspicuous and can be easily overlooked. They are typically brownish in colour and may resemble miniature pinecones. When mature, they release spores dispersed by the wind to propagate the plant.

**Seed:** Horsetail does not produce seeds like flowering plants. Instead, it reproduces via spores.

#### **Ecology**

**Habitat description:** Field Horsetail is a versatile plant that can adapt to a range of soil and moisture conditions, but it thrives in habitats where moisture levels are relatively high. It is commonly encountered throughout the UK, from lowland areas to upland regions, where suitable habitats are present.

**Reproduction & Life Cycle:** Field Horsetail, reproduces primarily through spores, which are produced in cone-like structures called strobili. These spores are dispersed by various means and germinate into small gametophyte plants. These gametophytes produce male and female gametes, which fuse to form a zygote. The zygote develops into a new sporophyte plant, which is the dominant phase of the life cycle and consists of stems with segmented nodes and whorls of microphylls. Field horsetail can also reproduce asexually through rhizomes, allowing it to spread vegetatively. This cycle of spore production, gametophyte development, fertilization, and sporophyte growth continues completing the life cycle of Field Horsetail.

#### **Impact**

Field horsetail poses challenges for people due to its invasive growth and resilient nature. Its rapid colonization of disturbed or degraded areas can outcompete native vegetation, leading to a decline in biodiversity. In gardens, farms, and landscaping, field horsetail is considered a nuisance weed, difficult to eradicate due to its deep rhizomes, which compete with desired plants for resources. Additionally, its aggressive growth can cause damage to infrastructure such as drainage systems and building foundations. Overall, efforts are needed to manage and mitigate the impacts of field horsetail on ecosystems, agriculture, landscaping, and human activities.





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### Legislation

In the UK, field horsetail is not subject to specific legislation or regulations targeting its control or management. However, it is recognized as an invasive and persistent weed in agricultural and horticultural settings, and its spread may be addressed through broader legislation related to land management, environmental protection, and weed control. Relevant legislation and guidelines that may indirectly apply to the management of field horsetail include:

1. Wildlife and Countryside Act 1981: This legislation provides protection for native species and habitats and includes provisions for controlling certain non-native invasive species. While field horsetail is not specifically listed, it may be subject to control measures under the broader framework of invasive species management.

2. Weeds Act 1959: This act empowers local authorities in England and Wales to take action against injurious weeds, which can include certain invasive plant species. While field horsetail is not designated as an injurious weed under this act, it may still be subject to control measures under local authority regulations.

**Agricultural and Horticultural Acts:** Various agricultural and horticultural acts and regulations may include provisions for managing weeds and invasive species on agricultural land and in horticultural settings. Field horsetail may be addressed within the context of these regulations.

**Local Authority Bylaws:** Some local authorities may have specific bylaws or regulations pertaining to weed control, which could include measures related to the management of field horsetail in public or private land.

### Biosecurity measures

When treating or excavating field horsetail, strict biosecurity is vital to prevent its spread. Establish clear boundaries, clean equipment thoroughly, dispose of plant material properly, and decontaminate vehicles leaving the site. Monitor for regrowth and train personnel in biosecurity protocols to minimize the risk of spreading this native invasive plant and protect native ecosystems. This plant would have to go to a licensed landfill and be classed as contaminated spoil.



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