

Method Statement for the control of non-invasive weed species

At

Sladen Mill
Halifax Road
Littleborough
OL15 0LB

Revision B
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Introduction

This method statement provides information for the removal, treatment of the following non native invasive weed species found or likely to be found on site at Sladen Mill Littleborough.

- Himalayan balsam
- Japanese knotweed
- Rhododendron

This Method statement incorporates the advice set out in JCA's Biodiversity Enhancement Plan Doc 17283a/FS.

Invasive Weed Eradication

1. Invasive plant species are those plants listed under Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended) or described on the Non-Native Species Secretariat (NNSS) website. Invasive species include; Giant Hogweed, Giant Kelp, Japanese Knotweed, Japanese Seaweed, Himalayan Balsam, Rhododendron ponticum, Horsetail and Floating Pennywort. Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to plant or cause the spread of Invasive Plant Species in the wild and therefore it is a legal obligation to remove them.

2. Himalayan Balsam (*Impatiens glandulifera*): Occurs in two distinct patches across the site (north and south). Please see Appendix 1 (Target note 1 "T1") and Photos 2 and 3. Before development starts, this needs to be removed.

2.1 Eradication Strategies: Himalayan Balsam is an annual plant which means it completes its lifecycle from germination through growth, flowering and the production of seed within the year and then dies without any regeneration of that plant. Thanks to this, it is quite simple to stop any further spread of the plant in the coming seasons.

2.2 Chemical Eradication: This should only be used in areas where mechanical control is not possible because access is difficult or unsafe. It is possible to use glyphosate based non-residual herbicides, however, this method requires repeated applications every 3-4 weeks from late March until late July, and other non-chemical alternatives are available which require similar timeframes. Any herbicide must be used in accordance with the manufacturers instructions and agreement must be sought from the Environment Agency where applications of herbicide take place near water courses: Form AqHerb01 Agreement to use herbicides on or near water.

2.3 Mechanical Eradication: Trampling by machine or foot, whacking with a stick or cane or cutting are appropriate for large stands of Himalayan Balsam where the balsam is the dominant plant. Where balsam occurs sporadically amongst other species that are to be retained, it should be hand pulled and the pulled plants piled up and trampled. Following the destruction of the initial flush of plants other seeds will have the opportunity to

germinate and grow where the Himalayan Balsam grew before, so this method should be repeated every 4 weeks during the growing season. Mechanical eradication shall take place from May onwards, but must not continue following flowers setting seed, as disturbance will cause seed to spread. Flowering generally begins in late July - August and may continue into September particularly where there is a second flush of plants following early clearance. Inspection should be carried out the following May and any remaining plants should be removed by the same method. This should be continued for up to 4 subsequent years until the plant has been entirely eradicated.

2.4 Recommended strategy

All areas should be accessible for mechanical control, so unless Himalayan balsam has spread into areas which are inaccessible, herbicide use should not be considered. Mechanical means of removal as described above should be the primary means of control.

Best practice would check for the presence of Himalayan Balsam every April/May for the following 3-5 years. As long as the plant is not permitted to re-seed, the number plants each year will reduce significantly.

3. Japanese Knotweed (*Fallopia japonica*): A dense knotweed stand is present on the embankment in the north east of the site. Please see Appendix 1(Target note 2, "T2") and Photo 1. Before development starts, this needs to be removed. There are several strategies available for the safe control and removal of Japanese Knotweed. The treatment method employed will usually reflect the speed at which Japanese Knotweed removal is required.

The following methods have been considered:

3.1 Single Season Herbicidal Treatment: This method involves targeting weaknesses in the plant's physiology with the use of herbicides over a five month period, May – September, during the active growing period. Sites adjacent to water courses and trees must be treated using a tailored environmentally sensitive herbicide programme. A permit must be obtained from the Environment Agency for pesticide use adjacent to water courses: Form AqHerb01 Agreement to use herbicides on or near water.

3.2 Environmentally Sensitive Areas: This method will involve a site specific eradication program in order to protect any environmentally sensitive features, such as; watercourses, designated sites, woodlands and other ecologically important areas. This method will take two years to complete and will typically involve consultation with the Environment Agency and Natural England.

3.3 Integrated on Site Treatment: This method will involve excavating Japanese Knotweed from sections of the site required for immediate development and then relocating this to a more convenient part of the same site. The Knotweed will then be placed on a plastic membrane and allowed to re-grow to a size sufficient for herbicidal treatment (preferably the following growing season). Once this spoil has been fully treated it can be re-introduced to the site.

3.4 On Site Burial: Suitable for sites in which on site space is limited and urgent removal is required. This is dependant however on features such as water table level and soil type. This method involves excavating the areas of Japanese Knotweed, treating it once with a non-persistent herbicide and then transferring the spoil to a 5m deep pit located on site. The spoil is covered in a membrane and the pit in-filled.

3.5 Cell Encapsulation: This method is similar to the above (on site burial), but instead the pit need only be 2m deep and is lined with a heat joined membrane. Further heat joined membrane is laid on top of the spoil and the edges are sealed and the pit in filled. This method is only suitable where the burial site will not be excavated in the future. The exact location of this pit must be mapped and the information stored.

3.6 Off Site Disposal: This method involves excavating the areas of Japanese Knotweed and burying the spoil in a licensed land fill site. This method will require detailed monitoring and post excavation herbicidal treatment. This is less cost efficient, but yield fast results.

Penny Bennett Landscape Architects and JCA Ltd highly recommends that any eradication programme for Japanese Knotweed is conducted by a trained and qualified specialist. Japanese Knotweed is a highly invasive species and can easily spread if its removal is undertaken incorrectly. Incorrect treatment of Japanese Knotweed can result in hefty penalties, should you inadvertently cause it to spread into other areas.

3.7 Recommended Strategy

On site burial in an encapsulated cell following herbicide treatment is recommended as the most practical means of treatment on this site. A large gabion wall is proposed across the northern part of the site, the knot weed would be buried in a 2 m deep pit lined with a heat jointed membrane immediately beneath the gabion wall footprint. Prior to excavation, and within the growing season, the knotweed would be treated with glyphosate in accordance with the manufacturer's instructions. All parts of the plant including dead stems and root parts must be buried and then the encapsulated membrane heat sealed to fully enclose the knotweed remains and buried.

The EA must be notified of the intent to bury knotweed at least one month prior to burial. Accurate plans showing the quantity and exact position of the knotweed on site must be kept and markers placed to show the extent of any burial which extends beyond the base of the gabion wall.

4. Rhododendron (Rhododendron ponticum): there is no record of this growing on or near the site at present however there are areas of Rhododendron growing within a 1000 m radius of this site and seed dispersal can extend over some distance. The appropriate means of treatment for small plants is included here.

4.1 Hand pulling: Small seedling Rhododendron plants can be removed by hand pulling in small areas or where there are small numbers of plants over a larger area, and this avoids the need for herbicide use. Operatives need to be able to accurately identify the seedlings.

4.2 Recommended Strategy

Hand pulling can take place at any time of year, it is most easily achieved when the ground is moist.

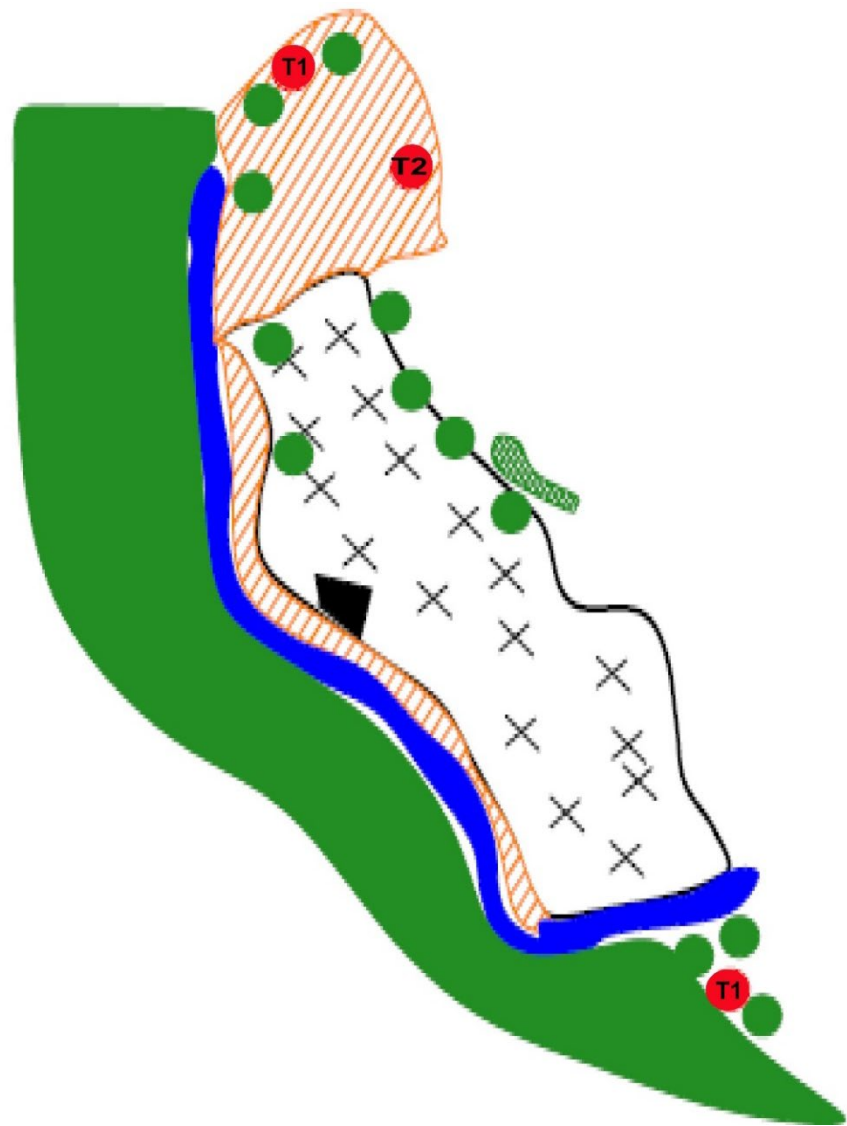


Rhododendron ponticum seedling

5. Avoidance of importation of invasive species

Correct specification of topsoil and subsoil for importation to the site is essential to prevent invasive weeds seeds being inadvertently brought to the site. Topsoil should conform to BS 3882:2015 and subsoil should conform to BS 8601:2013. The main contractor must ensure that samples are provided and allowance made for testing all soils and subsoils prior to supply to site. The source of all soils, and a description of the site they have come from must be given.

Appendix 1



NORTH

KEY	
	Broad-leaved woodland (Semi-natural)
	Dense/continuous scrub
	Scattered broad-leaved trees
	Acid grassland (Semi-improved)
	Running water
	Buildings
	Ephemeral/short perennial
	Target note



Photo 1: North of site with semi-improved grassland where Japanese knotweed is located



Photo 2: Himalayan Balsam far north of site



Photo 3 Himalayan balsam where arrow indicates, on south half of site facing west