

Mount Cottage, Schwabe Street, Middleton: Invasive Species Method Statement

Background and Legislation

Planning permission has been approved for a development, comprising a replacement dwelling and annexe, at Mount Cottage, Schwabe Street, Middleton, Greater Manchester (Planning Application Reference: 23/00603/FUL). Condition 12 of the planning permission specifies the requirement for the eradication or avoidance of non-native invasive species (Himalayan balsam (*Impatiens glandulifera*), wall cotoneaster (*Cotoneaster horizontalis*) and rhododendron (*Rhododendron ponticum*)) on the site as follows:

‘CONDITION 12: Prior to any earthworks, vegetation clearance or demolition, a method statement detailing eradication or avoidance measures for Himalayan balsam, cotoneaster and rhododendron should be supplied to and agreed in writing to the LPA. The agreed method statement shall be adhered to and implemented in full.’

This method statement provides the relevant ecological information required to comply with Condition 12 regarding the presence of non-native plant species.

An extended Phase 1 Habitat Survey and Ecological Appraisal was undertaken at the site in September 2023, by Rachel Hacking Ecology. Appendix A presents the location of the non-native invasive species within the site. The survey identified scattered Himalayan balsam amongst tall ruderal vegetation in the western corner of the garden. Rhododendron also occurs at the western corner of the garden, within a patch of introduced shrub. Wall cotoneaster was found along the northern boundary wall of the site. These species are listed under Section 14, part 2 and Schedule 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended). As such, it is an offence to plant or cause them to spread in the wild, which includes moving contaminated soil or plant cuttings. Material containing these species, including stems, leaves and soil containing roots/rhizomes, should be treated as ‘controlled waste’ under the Environmental Protection Act (1990) and Environmental Protection Act (Duty of Care) Regulations (1991); disposal of such material should not cause pollution of the environment or harm to human health; and it should be transferred to a licensed landfill site, by an authorised person and accompanied by appropriate Waste Transfer documentation. Furthermore, under the Infrastructure Act 2015, new powers are given to environmental authorities to enter into control agreements and orders with landowners, to ensure action is taken to control non-native invasive species on their land. The failure to manage and dispose of these plants in accordance with the relevant legislation can result in prosecution.

Invasive Species Ecology and Identification

Himalayan balsam

Himalayan balsam is a non-native, rapidly colonising, annual plant which can reach three metres in height. It is commonly found along watercourses and other areas of wet or damp ground. Himalayan balsam has

negative impacts on the growth and success of native flora, as dense stands that grow quickly can prevent other plants from successively germinating and producing flowers. The plant is spread predominantly by the dispersal of seeds but may also regrow from cut stems. Pink flowers, present between June and October, develop exploding seed pods which scatter the seeds up to seven metres from the parent plant. Seeds are further dispersed by water and can remain dormant in the soil for 18 to 24 months. Plants may be spread by any movement of soil contaminated by seeds. This includes transferring soil on boots, clothes and machinery, moving soil during landscaping works and transporting soils from one site to another. Areas of bare ground created during construction activities may be particularly sensitive to being colonised by Himalayan balsam.

Wall cotoneaster

Cotoneasters are a group of non-native green shrubs and small trees. All cotoneaster species are without thorns and generally have shiny leaves, which are hairless on the upper surface and slightly hairy below. The flowers are small and white or pink and are followed by clusters of red/orange berries in the autumn. Once established, cotoneaster can dominate areas, outcompeting native flora and creating dense thickets. When plants spread, they are particularly problematic on pavements.

Rhododendron

Rhododendron is evergreen shrub and aggressive coloniser that reduces the biodiversity value of a site and can obstruct the regeneration of woodlands. It spreads through stem layering or by seed dispersal and seedling establishment. As bushes mature, physical access can be reduced by the sheer density and size of the plants present, and the cost of some management operations (e.g. felling) can increase if the bushes require treatment first. Mature bushes also act as a prolific seed source for invasion of adjacent areas and are a continued source of new plant material into areas successfully cleared.

Recommended Control Measures

The following avoidance and control measures are recommended based on the proposed development and distribution and abundance of invasive species on site (Appendix A).

General Measures

Prior to the commencement of works on site, all staff will be made aware of the contents of this method statement. For all three invasive species, contractors must be made aware of the presence and location of the plants within the site and receive guidance on the identification of the species and how best to prevent further spread (Appendix B). Measures applicable to all three species are as follows:

- Signage will be installed, informing all personnel visiting the site of the presence and location of the invasive species.
- No material (including leaves, stems, flowers and soil containing roots/rhizomes) is to be disturbed or removed unless carried out in accordance with the Environmental Protection Act (Duty of Care)

Regulations 1991. A registered waste carrier must be used to dispose of invasive non-native plant waste off site, and the waste must be sent to an authorised landfill site or suitable disposal site.

- Checks should be undertaken to ensure that any landscaping materials brought onto the site from elsewhere are not contaminated by any invasive species.

Himalayan balsam

Himalayan balsam is scattered throughout the western corner of the garden, away from the proposed construction areas. However, proposed landscaping involves stepping the garden to provide more usable outdoor space. As such, Himalayan balsam and associated soil containing rhizomes may be directly disturbed during works to reprofile the garden. Recommended control measures comprise hand pulling of plants and the retention of all potentially contaminated soil on site:

- Hand pulling should be ideally undertaken in spring/early summer (between May and before the end of June) before flowering and seed dispersal. All personnel undertaking the work should be able to identify Himalayan balsam confidently (Appendix B).
- Hand-pulling should be repeated a minimum of three times within the same growing season to ensure the seedbank is exhausted. Where habitats containing Himalayan balsam remain undeveloped this should be repeated during the following season to prevent successful regrowth, as seeds can be viable for two years.
- If plants are pulled prior to forming seed pods, they can be left in a suitable exposed place, preferably on hard ground, where they can dry out and degrade naturally. Signage should be placed around the specimens to alert others on site to not move the plant matter. Alternatively, if seed pods are present (as stated above), plants should be bagged prior to pulling and be disposed of as controlled waste.
- Soil likely to be contaminated by Himalayan balsam (up to 7 m from individual plants) should be retained onsite (e.g. banded or buried) wherever possible. Any contaminated soils that must be removed should be taken to an authorised landfill site by a licenced waste carrier.
- Biosecurity measures should be implemented to prevent the potential spread of Himalayan balsam off site. Personnel will check tools, footwear and machinery prior to leaving the site and clean them to avoid inadvertently spreading Himalayan balsam.

Continual hand pulling offers the most effective method to prevent regrowth of Himalayan balsam on easily accessible land with minor infestations, as plants can re-grow and flower rapidly if not fully removed. It is recommended that ongoing management of the garden should aim to eradicate the species.

Cotoneaster

Cotoneaster is located along a short section of the northern site boundary of the site (Appendix A), away from the proposed construction areas. The plant is unlikely to be directly disturbed, and its removal may

be constrained if it is present on neighbouring land. The following avoidance measures should be implemented with respect to cotoneaster:

- Plants will be marked using hi-visibility fencing to create temporary 'exclusion zones'. Signage will be installed to inform personnel of the reason for these zones. Any additional areas of cotoneaster identified by contractors will be treated in the same manner. Cotoneaster plants will remain undisturbed during the construction period.

If any future landscaping works seeks to remove the cotoneaster, often shallow, widespread root systems should be removed completely to ensure that regrowth of the plant is prevented. Plant material should be burned or chipped on site or removed to a licensed landfill as controlled waste.

Rhododendron

Rhododendron is located within the western corner of the site (Appendix A), adjacent to the site boundary. It is situated away from the proposed construction areas and is unlikely to be disturbed by the proposed landscaping. As such, the following avoidance measures should be implemented with respect to rhododendron:

- Rhododendron bushes will be marked using hi-visibility fencing to create temporary 'exclusion zones'. Signage will be installed to inform personnel of the reason for these zones. Any additional areas of rhododendron identified by contractors will be treated in the same manner. Rhododendron plants will remain undisturbed during the construction period.

If any future landscaping works seeks to remove the rhododendron, this can be achieved by cutting, digging and/or treating the stumps. Cutting low to the ground will reduce the chance of regrowth, and complete removal can be ensured by digging up the root system. A drill and drop method can be implemented on cut stems to inject glyphosate, which can also be sprayed onto any regrowth and seedlings. Plant material should be burned or chipped on site or removed to a licensed landfill as controlled waste.

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Appendix A – Invasive Species Location Plan



Appendix B – Information Sheets for Contractors

Invasive Non-Native Species




Information, legal responsibility and practice in the consultancy industry

Overview and Impacts

A non-native invasive species is one that has been introduced and established to an area outside its native geographic range and causes harm to the environment, economy or human health. A comprehensive study by Maxwell et al (2017) of 8688 threatened or near-threatened species groups on the IUCN Red List showed that invasive species and disease was the fourth largest threat to global biodiversity loss worldwide. Invasives thus threaten our ability to meet wider environmental targets and respond to the climate emergency we face.

Non-native rapidly colonising plants negatively impact the growth of native plants by preventing them from successfully germinating. The result is then often dense monocultures such as that common of Himalayan balsam that greatly reduces the biodiversity of species observed on riverbanks.

As of 2021 in the UK, there were approximately 2000 established NNs with an additional 10-12 becoming established every year. This costs the UK approximately £1.9 billion per year and if not adequately addressed, numbers and thus cost will continue to increase for the foreseeable future.

Legal Information

Under section 14 of the Wildlife and Countryside Act (1981) it is **illegal** to plant or provoke the spread of several invasive non-native plant species. If taken away from the site of origin, the plant and its associated materials, e.g., soil, are classed as **controlled waste** and must be disposed of at an authorised landfill site. New powers are given to environmental authorities to enter into control agreements and orders with landowners, to ensure action is taken to control non-native invasive species on their land. Other major legislation in the UK includes

- Environmental Protection Act 1990 S33 & 44;
- Infrastructure Act 2015 Sections 23 to 25.
- Natural Environment (Scotland) Act 2011
- Invasive alien species order 2019

Management

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- Prior to commencement of works staff should be made aware of the presence and location of Invasives
- Biosecurity measures implemented whilst on site to prevent cross contamination. This includes cleaning of footwear and machinery, prior to, and on completion of each working window to ensure invasives are not taken off or spread around the site.
- Invasive species are classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of

Some common management practices for invasive species include:

Spraying with chemicals – Herbicides are often an effective option. Usually, you'll have to kill large patches of a species to prevent any regrowth. Herbicides often require certificates of competence of permits

Burning – To burn plant material after removal, you'll require a burning waste in the open exemption. Whilst burning it is illegal to cause any risk to surrounding water, air, soil, plants or animals

Disposing – At an authorised landfill site (check with local council or Environment Agency. All contaminated soil is considered hazardous waste

Digging – When strands are not particularly abundant this may be the best option

Burying – This may be an option when you need to conserve landfill space. It is recommended that you bury at least 5m deep as some invasive species can be resilient to a lack of sunlight.

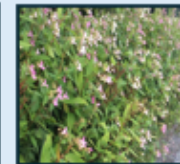
Common INN



Giant Hogweed – A tall biennial weed belonging to the umbellifer family, can grow up to 5m tall. Can be especially dominant by lowland streams and rough pastures. The plants sap can cause burns when in contact with skin



Japanese knotweed – A herbaceous perennial that produces green/red shoots and grows up to 3m tall. The plant is unique in that it spreads underground via rhizomes which extend up to 7m deep. The plant can grow through concrete causing damage to buildings and roads



Himalayan Balsam – A tall annual plant with pink/purple flowers, a fleshy stem turning more pink/red in the summer and long lanceolate green leaves. It rapidly colonises creating dense monocultures near riverbanks



Cotoneaster – A large group of trees and shrubs that all have small white or pink flowers and clusters of red/orange fruits in summer. Its extensive root system makes it particularly difficult to remove



Rhododendron ponticum – An evergreen shrub with large, dark-green leaves growing in whorls around the stem and large pink/purple flowers in summer. Has strongly acidic unpalatable leaf litter which can have pronounced effects on soil fertility and fauna






Himalayan Balsam

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Legal Information

In England it is illegal to plant or provoke the spread of Himalayan balsam. If taken away from the site of origin, Himalayan Balsam and its associated materials, e.g. soil, become classed as Controlled Waste and must be disposed of at an authorised landfill site. New powers are given to environmental authorities to enter into control agreements with landowners, to ensure action is taken to control non-native invasive species on their land. Legislation governing the spread of Himalayan balsam in England includes:

- Wildlife and Countryside Act 1981 (as amended) Section 14;
- Environmental Protection Act 1990 S33 & 44; and
- Infrastructure Act 2015 Sections 23 to 25.

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Management

Risk of cross contamination

- Prior to commencement of works staff should be made aware of the presence and location of Himalayan balsam on site, including a 7 m buffer zone should be marked out with hi-viz fencing;
- Prior to the plant setting seed in June it should be strimmed to prevent dispersal of seeds;;
- Biosecurity measures implemented whilst on site to prevent cross contamination. This includes cleaning of footwear and machinery, prior to, and on completion of each working window to ensure Himalayan balsam is not taken off or spread around the site.
- Himalayan balsam is classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of to ensure that the waste does not cause pollution of the environment.

Impacts

Himalayan balsam is a non-native, rapidly colonising plant. It negatively impacts the growth and success of native plants by preventing other plants successively germinating. The species rapidly dominates an area, creating dense monoculture stands, commonly observed on river banks, but also within woodland and other habitats with damp ground.

Distribution -
Widely found
across lowland
England and Wales.
More scarce in
Scotland.



Identifying Himalayan Balsam

Himalayan balsam is a tall, annual plant. As a mature plant it can grow up to 3 m in height and is easily recognisable with pink/purple flowers, a fleshy stem, turning more pink/red in the summer and lanceolate shaped, long, green leaves tinged with pink forming dense strands, common along watercourses and other damp habitats. In late July/August the exploding seed pods appear. These pods, enable the plant to disperse seeds up to distance of 7 m from the mature plant, enabling the effective spread of the plant in the wild.

As an immature plant it is more difficult to identify, the saplings begin to appear in March, however it still has the pink tinge to the leaves. In winter, when the plant dies back it can resemble the remains of hay.

Identifying key features


Young seedling


Reddish leaves


Single stem


Flower head/ seed pods


Flower head


Reddish stem


Short roots


Dense stand


Dead stand

Useful Guides
 GB non-native species secretariat <http://www.nonnativespecies.org/home/index.cfm>
 Prevent harmful weeds and invasive non-native plants spreading
<https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>
 Property Care Association
<http://www.property-care.org/homeowners/invasive-weed-control/>



Cotoneaster

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Legal Information

It is illegal to plant or provoke the spread of five species of Cotoneaster; Wall cotoneaster (*Cotoneaster horizontalis*), Himalayan cotoneaster (*Cotoneaster simonsii*), Small-leaved cotoneaster (*Cotoneaster microphyllus*), Entire-leaved cotoneaster (*Cotoneaster integrifolius*) and Hollyberry cotoneaster (*Cotoneaster bullatus*). New powers are given to environmental authorities to enter into control agreements and orders with landowners, to ensure action is taken to control non-native invasive species on their land. Legislation covering Cotoneaster includes

- Wildlife and Countryside Act 1981 (as amended) Section 14
- Environmental Protection Act 1990 S33 & S44

Impacts

Five species from the cotoneaster family are non-native, rapidly colonising species that when established from dense strands, commonly found in priority habitats like limestone grasslands. Dense monocultures can dominate the landscape thus outcompeting native species and reducing biodiversity. Cotoneaster is particularly problematic due to its extensive root system making it difficult to remove. It can however have a positive impact in urban areas as flowers are highly attractive to bees and birds in the winter when other food sources are scarce.

Key ID features



Habitat and ID

Cotoneaster is a large genus of small trees and prostrate shrubs that can be either evergreen or deciduous. All species have small white or pink flowers followed by clusters of red/orange berries in the autumn. Other shared traits within the group include absence of thorns, leaves hairless on upper surface and slightly hairy on underside, leaves often shiny.

There are five invasive species that are protected by the Wildlife and Countryside Act:

- Wall cotoneaster (*Cotoneaster horizontalis*) – Most widely recorded species, distinct in having horizontally spreading stems in flattened herring-bone like branches, underside of leaves are hairless, deciduous
- Himalayan cotoneaster (*Cotoneaster simonsii*) – Leaves alternate and not serrated, large plump red berries, erect deciduous shrub 3-4m high with 1.5-2.5cm leaves
- Small-leaved cotoneaster (*Cotoneaster microphyllus*) – Evergreen low-growing shrub with small (0.5-0.8cm) leaves
- Entire-leaved cotoneaster (*Cotoneaster integrifolius*) – Leaves are small, obovate-oblong with rounded tips (others are more elliptic with pointed tips). Up to 1.5m tall
- Hollyberry cotoneaster (*Cotoneaster bullatus*) – Large leaves (50-128mm) and distinct indented and deep veins

Similar species

Cotoneaster can be difficult to identify when young and can easily be confused with Firethorn, Wilson's honeysuckle, Aromatic wintergreens, Escalloia, Barberry and Sea buckthorn

Management

- Prior to commencement of works staff should be made aware of the presence and location of Cotoneaster
- Biosecurity measures implemented whilst on site to prevent cross contamination. This includes cleaning of footwear and machinery, prior to, and on completion of each working window to ensure Himalayan balsam is not taken off or spread around the site.
- Invasive Cotoneaster species are classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of
- The best option for removal is usually digging e.g. using garden fork to loosen roots
- Large established cotoneasters may require burning or chipping by professionals
- Herbicide treatments may be used when a mechanical solution is not a viable option

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Distribution



Widespread throughout the entirety of the British Isles

Rhododendron Ponticum

Information, legal responsibility and practice in the consultancy industry




Legal Information

In the UK, it is illegal to plant or provoke the spread of *Rhododendron ponticum* under schedule 9 and 14 the Wildlife and Countryside Act 1981. e.g., soil, are classed as controlled waste and must be disposed of at an authorised landfill site. New powers are given to environmental authorities to enter into control agreements and orders with landowners, to ensure action is taken to control non-native invasive species on their land.

Overview and Impacts

Williamson (2002) described *Rhododendron ponticum* as the major alien weed in the British isles. The invasive evergreen shrub is found growing in strictly acid soils on moorland, woods, screes, rocky banks, derelict gardens and streamsides. It is incredibly resistant to unfavourable conditions and maintains or escalates its invasiveness in disturbed environments. In its native Turkey for example it was found to withstand mean monthly temperatures ranging from -17 to 26°C in one particular location.

The competitive success of Rhododendron is accredited to its extremely dense thickets of branches with large evergreen leaves. These leaves reduce the light availability and thus photosynthetically active radiation under the canopy. As a result, native tree seedlings are unable to germinate. Once rhododendron has invaded an area, few native plants survive.

Other impacts include the unpalatability of its leaf litter that alters the composition and causes declines in diversity of soil invertebrates and microbes. Honey from rhododendron can also be toxic to humans and can result in intestinal and cardiac problems (although rarely fatal).

Recognising Rhododendron ponticum



Leaves – Dark green and glossy in an oblong elliptical shape. Typically in a spiral at the end of the stem



Flowers – Vary in colour from light pink to dark purple. Grow in large clusters or 'trusses' at the end of stems. 5 petals.



Stem/trunk – Up to 5m tall and 15cm in diameter. Often dense and twisted



Dense stand – Preventing germination of natives and thus reducing biodiversity



Seed pods – Dry capsules that are 1.5-2.5cm long formed after flowering



Young seedling – Can form in the nutrient poorest soils because they can form a connection with soil fungi

Management

- Prior to commencement of works staff should be made aware of the presence and location of Cotoneaster
- Biosecurity measures implemented whilst on site to prevent cross contamination. This includes cleaning of footwear and machinery, prior to, and on completion of each working window to ensure Himalayan balsam is not taken off or spread around the site.
- Invasive Cotoneaster species are classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of

Control Measures

Mechanical control – Heavy machinery with long hydraulic arms is best for digging up the root material and crushing branches. Mechanical clearance must be followed by herbicide application for at least two years to prevent recolonisation

Chemical – Spray cut stems with chemicals, although will need to consider the effect this may have on other vegetation

Burying – Bury the contaminated material deep within a landfill site

Disposal through production of biochar – Achieved through on-site charcoal production using portable reactors. Can lead to a yield of 25-33% of the original material

Past studies have shown that understory plant community composition does not return to its pre-invasion state for even decades after removal of Rhododendron. Restoration should as a result focus on aiding the arrival of grasses and forbs than altering soil condition.

Distribution

Widespread across the entirety of Britain. Is particularly problematic in Snowdonia National Park (Wales) and Western Scotland

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Species
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