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Invasive species survey for Great Haworth

Land proposed for development of allotments

Michael Cummings
ROCHDALE BC

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1 Abstract

1.1 Survey for the presence of invasive species as outlined in schedule 9 of the wildlife and countryside act 1981(as amended) section 14 in and around the proposed development area.

1.2 Strategies for the remediation of any listed species to be found present and guidance to prevent re-occurrence and introduction of measures to minimise risk of other introductions of schedule 9 species.

2 Introduction

2.1 The purpose of the report is to ascertain the presence of any species listed under schedule 9 which may have or have the potential to enter the boundaries of the site and hinder the development and/or running of the proposed allotment site. These species may also have detrimental effects on local biodiversity.

2.2 Species on the schedule include plants which can pose development issues such as Japanese Knotweed and plants which can cause serious injury such as giant hogweed. The report will include treatment proposals for any species found to be present and offer advice on preventing future introductions.

2.3 Legislation pertaining to Schedule 9 plants makes it an offence deliberately introduce these species into the 'wild' under the wildlife countryside act 1981 (as amended) section 14. Reasonable efforts should be made to prevent plant species classed as invasive from entering neighbouring properties under Anti-Social Behaviour, Crime and Policing Act 2014 and Community Protection Notices.

3 Methodology

3.1 The survey work and report have been carried out by Michael Cummings (CSJK) of Environmental Management, Rochdale BC.

3.2 A walkover survey of the site was carried out on the morning of the 16th June 2020, boundaries outside of the site and public rights of running through and around the site were also surveyed as potential vectors for invasive spices

4 Location

4.1 The site is located off Great Howarth, Rochdale, Greater Manchester SD 90759 15753



Fig 1 above showing area of proposed allotments

5 Description

5.1 The site consists of open unmanaged grassland with deciduous woodland and groups of deciduous trees around the north, west and southern sections of the boundary (fig1).

5.2 A right of way run along the north boundary and through a section of the site adjacent to a triangle of woodland which forms the north boundary (fig 2).

5.3 The age and species composition of the woodland and trees suggest the majority of the trees have been planted in the last 30-40 years, there is a mixture of native and ornamental species.

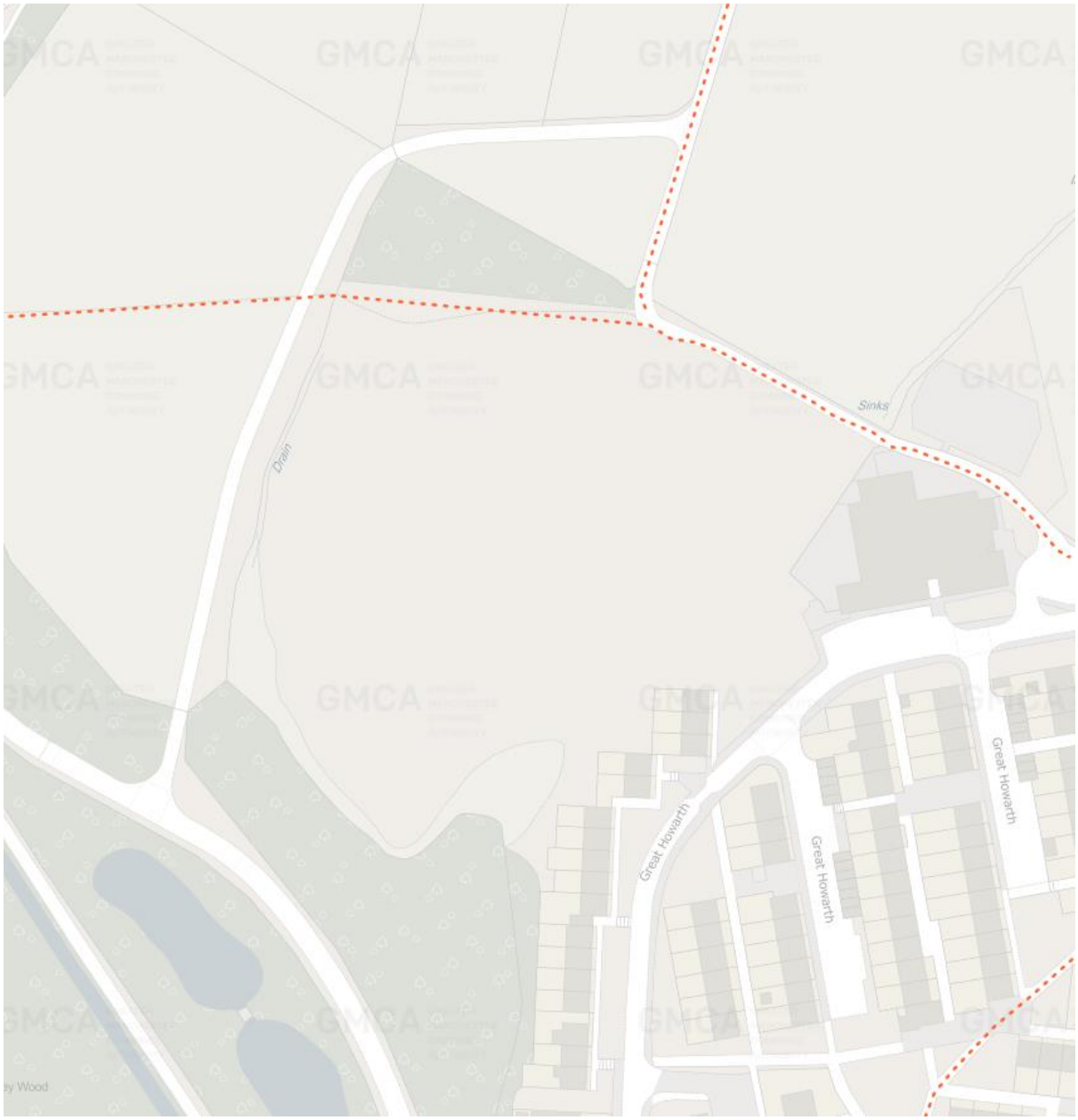

Fig 2 above shows line of right of way passing adjacent to woodland drainage on the north boundary of the site

6 Results

6.1 The annual invasive species Himalayan balsam (*Impatiens glandulifera*) was found to be the dominant ground flora within the triangular woodland along the north section of the site.

6.2 Himalayan balsam was also found outside of the boundary adjacent to metalled track which is also crossed by a public footpath and is an access to farmland. Horse manure is being stored adjacent to the woodland prior to being moved from site and presumably spread onto fields nearby.

6.3 Under the proposed plans the woodland triangle is be retained, however, allotment plots 54,55,67,68,74 and composting areas are adjacent to the infestation. Himalayan balsam is a prodigious coloniser which produces explosive seed heads flinging seeds for up to four meters from the parent plant. The potential for plants to be spread into neighbouring plots and into compost bays is very high.

6.4 The presence of other invasive species was not recorded for the remaining site or boundaries. There is some Himalayan balsam present within the woodland below the proposed allotments along a stock proof fence placed along the side of Rydings Road.

6.5 A large stand of field horsetail was observed between the properties and the small clump or trees close the boundary with the school. Whilst not a listed invasive spices this plant can be difficult to control particularly if it is present in areas to be cultivated due to spreading rhizomes and a degree of natural protection against certain herbicides including glyphosate.

7 Discussion and recommendations

7.1 Himalayan balsam

The main objectives of treatment of Himalayan balsam are

- Prevent further spread of Himalayan balsam
- Remediate all Himalayan balsam on site within five years
- Prevent introduction of invasive species onto site

7.1.1 Management of Himalayan balsam will involve destroying the plants before they are able to set seed which usually begins in June and can last into September. Most of the seed produced by Himalayan balsam germinates in the first or second year with a far smaller percentage being viable after two years. However, the management will need to continue for at least three years with additional monitoring to ensure the infestation is fully remediated.

7.1.2 Control options for Himalayan balsam include pulling up manually and stacking/placing on a polythene sheet to rot down, or cut down to below the first node. Cutting can be done mechanically using strimmers/pedestrian flail or a scythe type tool. Himalayan balsam is also very sensitive to the herbicide glyphosate which is approved for use underneath trees.

7.1.3 Control of Himalayan balsam can be more problematical to deal with when mixed in with other vegetation and structures which hamper access or result in non-targeted plants being treated. Woodland work to remove fallen branches or dense growth should be carried out after the bird nesting season to facilitate better access the following year.

7.2 Field horsetail

7.2.1 The main objectives of treatment of horsetail are

- Prevent further spread
- Remediate insofar is as possible the bulk of the plant from the portion of site to be developed for allotment plots

7.2.2 Depending on the development work to be carried it is worth considering taking additional action to control this plant prior to the creation of allotment plots. Belonging to the Equisetaceae horsetail are a very ancient plant and have a unique physiology which can make them very difficult to control and fragmentation of rhizomes through cultivation can cause this plant to spread considerably – a feature it has in common with Japanese knotweed.

7.2.3 Hard surfaces such as tarmac can be damaged and joins in flags, blocks and concrete exploited. Whilst hard to treat with the most commonly used herbicide glyphosate, the addition of the adjuvant Mixture B can give better results through helping the active substances penetrate the outer cuticle. Other products containing a mixture of glyphosate and 2 4 D are also effective in the

treatment of horsetail but may have a residual effect which will need factoring into timings between treatment and sowing of crops. Bruising of plants prior to treatment is also frequently recommended and could be carried using a pedestrian roller.

7.2.4 Regular cutting of the sections affected can alter conditions and make the environment less hospitable for horsetail, horsetail is not known as a strong competitor when growing with vigorous grass swards created by such conditions. However, control through this method may take a number of years before the rhizomes become exhausted.

7.2.5 Excavation of the soil containing horsetail rhizomes is another control option, soil containing the rhizomes can be removed and stockpiled elsewhere on site for treatment as part of a landscape scheme and managed in such a way to prevent re-infestation back onto cultivated land – i.e. in a regularly mown grassland. However, careful consideration should be given before commencing a dig and dump strategy as fragments of rhizome can be spread to other parts of the site if bio security controls are not in place. Field horsetail can possess rhizomes up to a meter deep, this methodology could be prohibitively expensive.

7.2.6 Removal to landfill is possible but less desirable unless necessitated for other developmental considerations due to likely costs.

8 Control action to be taken

8.1 Himalayan balsam

8.1.1 Avoidance of development close to the infested area for at least four meters from the identified stand of Himalayan balsam until such a time as the infestation is considered to be remediated and seed bank no longer viable. During development the area (B1) should be isolated to prevent seeds being spread by machinery or boots into the development site. Any material likely to contain Himalayan balsam seeds should be treated as controlled waste and should not be spread to other parts of the site.

8.1.2 If possible, before development takes place, initiate control action. It is proposed that the majority of the infestation can be mechanically cut down to the base. Prior to control actions operatives should take care to ensure no work takes place near vegetation being used by nesting birds. A follow up visit within 4 weeks will be required to capture any secondary growth from plants missed, cut too high and newly germinated plants. Areas which cannot be cut due to dense woody/desirable vegetation can be hand pulled or treated with a glyphosate based herbicide. Care should be taken to target the balsam and not to treat desirable species. A spray of 4l/ha for 360g/l glyphosate is recommended for the treatment of Himalayan balsam. Again, monitoring should be carried out at around 4 weeks to ensure all the visible plants have been successfully treated and spot treatment of any escapees should be carried out.

8.1.3 From September – February it is advised that woody vegetation/fallen trees/bramble be cleared from the treatment area to enable full access for control measures to be carried out. Himalayan balsam is adept at sheltering in areas hard to access and hampering control actions. Material can be stacked neatly on site to decompose but additional scrutiny of piled material will be required to ensure Himalayan balsam in not being shielded by the structure.

8.1.4 Following the initiation of control action is recommended the site is resurveyed for Himalayan balsam each growing season for at least two years after the last record for the presence of Himalayan balsam.

8.1.5 Excavation and grazing are not appropriate control measures due to the presence of desirable tree species. If excavation is required within four meters of the infestation this soil should be treated as controlled waste and care should be taken that the soil is not spread to other parts of the site unless it is to be stockpiled for treatment or burial over two meters deep is to take place. If excavated soil is to be taken off site for landfill the receiving facility should be able to provide evidence of the appropriate licensing to deal with waste of this nature. All machinery involved should avoid tracking over the affected area and bio-security plan should be drawn up including wash down procedures or clothing, tools and machinery.

8.1.6 Hand pulling of the entire infestation will require additional resources which are not currently available due to staffing levels and Covid-19 restrictions impacting on volunteering activities.

8.2 Horsetail

8.2.1 Avoid excavating in areas affected by horsetail until treatment has been carried out. The least disruptive and cost effective option will be to treat the worst affected area in-situ with herbicide, the choice of product to be dictated by development timetables. Glyphsoate combined with the adjuvant Mixture B has the least residual effect. Kurtail Evo (Glyphosate/2 4 D) will persist in the soil for longer periods, crops such as potatoes should not be sown in treated areas for at least 60 days).

8.2.2 Repeat cutting is unlikely to be an acceptable control due to the extended period of time this will take to reduce the infestation.

8.2.3 Should excavation be required for development purposes it is still recommended that chemical treatment is initiated in the first instance to reduce the vigour of the rhizomes and that care is taken not to spread rhizome to other parts of the site unless done as part of a managed approach i.e. stockpile and treatment or excavation to landfill. If only partial excavation is carried out it may be worth considering the installation of a membrane over and beyond the affected area to prevent re-infestation.

9 Himalayan balsam in the wider environment

9.1 Himalayan balsam was recorded growing on land adjacent to the metalled track adjacent to the wooded triangle in an area outside of RBC ownership. It is recommended the Himalayan balsam in this area is treated in tandem with the wooded area to prevent re-infestation. If the land owner is unwilling to treat the infestation it would be beneficial to offer to carry out the treatment to safeguard against re-infestation and higher overall costs. Legislation (community protection order) is available to councils to serve notice on landowners who do not take 'reasonable action' but an offer to treat the infestation on the landowner's behalf would be far more realistic option.

9.2 Himalayan balsam was also recorded in adjoining woodland off Rydings Road to the south of the proposed allotment site. The plants were present in a lighter opening adjacent to the track, no plants were present in the denser wooded area which is possibly to shady for the plants to successfully spread into the wider woodland at this time. However, monitoring should be undertaken to ensure this remains the case and that action is taken if Himalayan balsam starts to move closer to the allotment site.

10 Prevention of other invasive species entering the allotment site

10.1 Keeping all plants species listed under schedule 9 from the allotments will be challenging. A number of species sold in the UK for the ornamental market are listed under schedule 9 and can become invasive in the wider environment. Common culprits include species of Cotoneaster, Crocosmia and three cornered leek/garlic (*Allium triquetrum*). Other plants which are not listed as

schedule 9 have also been observed by organisations such as the Property Care Association as having similar or greater potential to damage property and ecology include bamboo and budliea.

10.2 It is recommended that a policy is developed to advise potential plot holders to check against the list of schedule 9 plants before planting them on site. Whilst it is not illegal to grow them, allowing schedule 9 plants to spread in to the wild is an offence under the Wildlife and Countryside Act 1981 (as amended) section 14

11 Target Notes



Figure 3 above, location of target note areas

B1, wooded area

Understory dominated by Himalayan balsam other species include regenerating hawthorn, holly, creeping buttercup creeping soft grass, tufted hair grass. Canopy consists of a mixture of native and introduced tree species silver birch, common alder, common ash (exhibiting dieback) field maple, grey alder, white willow, osier willow, hawthorn, Swedish whitebeam, rowan, sycamore including the variety Atropurpureum. Ground is mainly level with some undulations particularly where the where the woodlands meets the grassland possibly indicating material has been deposited here in the past. A number of white poplar trees were also present.



Figure 4 above Himalayan balsam dominating the understory



Figure 5 above, area used to store horse manure outside of wooded area B1 with evidence of Himalayan balsam growing within the manure

B2 west boundary

Groups of trees almost forming woodland, species assemblage suggest the majority of trees have been planted, white poplar, silver maple, common ash, small leaved lime, osier willow, common ash (dieback present).

B3 South boundary

Lower woods grey alder showing signs of disease (bleeding cankers associated with phytophera – some dead specimens present), self-seeded goat willow frequent with occasional common elder and

common ash. Some planted field maple, white poplar and wild cherry. Ground flora sparse includes creeping buttercup, field horsetail, ragwort, creeping soft grass and common nettle.



Figure 6 above Himalayan balsam located beyond lower woodland B3 adjacent to Rydings Road

E1 Grassland

Grassland soft rush dominant, marsh thistle frequent, Yorkshire fog abundant, crested dogs tail, rough meadow grass, meadow fox tail, perennial rye grass adjacent to trodden areas, field horsetail, broad willow herb, tufted hair grass, creeping buttercup, broad dock.

Horsetail was observed to be most abundant in this location and control actions if to be taken should be concentrated in this area.



Figure 7 above, rough grassland dominated by moisture loving soft rush and Yorkshire fog.

12 Appendices



Figure 8 above, plan of public ownership in shaded section



Figure 9 above: Proposed layout of allotment site

Summary of legislation relating to invasive spices and their handling/control below

Legislation and regulation	Section	Impact
The Wildlife and Countryside Act 1981 (as amended) Section 14,	Schedule 9 part II	If any person plants or otherwise causes to grow in the wild any plant which is included in Part II Schedule 9, he shall be guilty of an offence.
Control of Pesticides Regulations 1986		All reasonable precautions shall be taken to protect the health of human beings, creatures and plants, safeguard the environment and in particular avoid the pollution of water The appropriate pesticides certificate of competence must be possessed for the safe use of herbicide and hand-held herbicide applicators, e.g. NPTC Level 2 award in the safe use of pesticides PA1 and PA6a/aw For application of pesticides in or near water, approval from the Environment Agency or Natural Resources Wales should be sought before use
The Environmental Protection Act 1990 (as amended); (Environmental Permitting (England and Wales) Regulations 2016; Waste (England and Wales) Regulations 2011	Part 2 Waste definition, duty of care, waste management	The management, storage, treatment and disposal of waste is controlled by these regulations. Excavated/removed INNS, and associated soil, have subsequently been classed as controlled waste and are covered by these regulations
Hazardous Waste Regulations 2005		Untreated invasive plant material is not classed as hazardous waste, but material containing such material which has been treated with certain herbicides, may be classified as hazardous waste.

		When handling and moving hazardous waste a consignment notes must be completed when any hazardous waste is transferred, which include details about the hazardous properties and any special handling requirements If a consignment note is completed, a waste transfer note is not necessary
Anti-social Behaviour, Crime and Policing Act 2014 and Community Protection Notices		Local councils and the police have the power to issue Community Protection Notices against individuals who are acting unreasonably and who persistently or continually act in a way that has a detrimental effect on the quality of life of those in the locality including for invasive non-native species
EU Regulation on invasive alien species 2014		Entered into force on 1 January 2015 to address the problem of invasive alien species in a comprehensive manner to protect native biodiversity and ecosystem services, as well as to minimize and mitigate the human health or economic impacts that these species can have The regulation foresees three types of interventions: • prevention • early warning and rapid response • management A list of invasive alien species of Union concern came into effect (3rd August 2016); drawn up by Member States using risk assessments and scientific evidence

National Infrastructure Act 2015		Introduces powers to control invasive non-native species in England and Wales. The measures provide government agencies in England and Wales with powers to enter into control agreements and, if necessary, control orders with landowners to ensure action can be taken against harmful species on their land

13 References

file:///V:/Countryside%20New/Invasive%20Weeds/guidance/PCA-Guidance-Note-on-Himalayan-Balsam-Control.pdf

PCA guidance note on Himalayan Balsam

http://www.ukwildlife.com/index.php/wildlife-countryside-act-1981/schedule-9/schedule-9-part-2/

UK Wildlife, list of invasive plant species schedule 9 part 2

Invasive Weeds Agency

http://japaneseknotweed.com/fieldhorsetail-

faqs/