

Invasive Species Survey Oxford Flood Alleviation Scheme

2020 Update Survey

July 2020

For: **Jacobs**



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By their very nature, ecological surveys can only assess a site or particular species at a set point in time, thus providing a snapshot of the environment and not a definitive evaluation. Every effort has been taken to provide an accurate assessment of the habitats or species surveyed. However, presence and population sizes of species can change over time and therefore the accuracy of this report will be affected by time and seasonality.

This document has been prepared by Ecology Link Ltd for the sole use of the client.



1. Introduction

- 1.1 Ecology Link Ltd. was commissioned by Jacobs, on behalf of the Environment Agency, to undertake an updated assessment of invasive species within extended areas of the proposed Oxford Flood Alleviation Scheme (FAS). The purpose of the survey was to identify species listed within Schedule 9 and if found, map positions and extent within the FAS.
- 1.2 Since the original surveys, changes to the red line boundaries have occurred. The boundaries on the maps (Appendix 1) are based on these updates. However, previous invasive species data has been included for areas adjacent to or outside these boundaries. The core areas have remained the same.

2. Scope of Works

- 2.1 The site extension survey was conducted between 26th and 29th June 2020 by Jon Panter, an experienced ecologist and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).
- 2.2 The field survey included walking all land within the red line parcels on maps, provided by the client. All invasive species identified were recorded and mapped using GPS. Plant species are shown on a series of maps (Appendix 1), which provide locations of all invasive species and the extent of spread.
- 2.3 All data has been set out within a spreadsheet (Oxford FAS - invasive species data - 2020). This has been divided into the survey years (2016; 2017; and 2020), with any changes in stands, such as eradication treatment, being highlighted. Survey data collected included:
- Stand Ref. Individual code provided for each stand and species.
 - Species Common species name.
 - Stand Size Measurement of the length and width to include the maximum extent of spread. May include individual plant outliers, considered part of the same colonised section.
 - Height Estimated average height of whole stand.
 - Density **Single plant** - one or two individuals which are a significant distance from other stands. **Sparse** - open stand with individual plants being spread throughout an area. **Dense** - compact stands, dominating this specific area.

Japanese Knotweed - density recorded numerically, based on the average stem count per m². Estimated for whole stand.
 - Past Management General comments on any species control (formal or adhoc), which has restricted or has the potential to restrict it's spread. However, livestock poaching could potentially spread plant material.
 - Survey Comment Specific comment on stand and position.
 - Grid references Recorded position on site, with start and end points for linear stands.
 - GPS co-ordinates Recorded position on site, with start and end points for linear stands.

3. Results

- 3.1 A summary of species recorded has been provided below, detailing their general positions and dominance. Specific details of each stand are provided within the excel spreadsheet (Oxford FAS – invasive species data 2020). Each stand reference relates to a stand on the survey maps (Appendix 1).
- 3.2 Since the previous surveys, some eradication treatments have been undertaken on some stands of Himalayan balsam and Japanese knotweed. These have been highlighted on the maps and below.
- 3.3 Due to the restrictions of Covid-19, it was not possible to gain access to some areas. Specifically, the island via the recycling centre, Abington Road (SP51790376) and land to the north of the caravan site, Abington Road (SP51720404). An area of farmland (South Hinksey), had restricted access at the request of the landowner who was self-isolating.

Himalayan Balsam

- 3.4 The majority of balsam stands were associated with water bodies or ditch channels. The main infestation was still recorded in Hinksey Meadows (Appendix 1.1), east of North Hinksey Village. However, stands had increased across much of the survey area. This species had colonised much of the stream banks, specifically where the bank was fenced, which had restricted grazing and cutting. These stands extended outside of the red line areas, being observed throughout all water bodies within the meadows.
- 3.5 This species had also colonised ruderal communities along the banks, spreading up to 12m from the water's edge. This was particularly noticed in ungrazed fields with ruderal scrub habitats not being included within any cutting regimes.
- 3.6 Many of the dry (or seasonally dry) ditches linked to streams, had also been infested with balsam, probably colonising from the water bodies when wet. This had extended into associated woodland areas such as the Willow Walk and other wooded footpaths across the meadows.
- 3.7 Smaller isolated clumps were recorded throughout the survey areas. Many of these have again expanded which have not been restricted by woodland and scrub which dominated those sections. Additional areas added to the 2020 survey all recorded some incidences of this species (Photo 1 & 2), particularly the water channels.
- 3.8 A number of sites have had eradication treatments applied, with varying levels of success. A small ditch section in Hinksey Meadows (Appendix 1.1 – HB2), seem to be eradicated. However, other sections of river, which have been identified as being treated (Appendix 1.2 – HB15), has not been affected (Photo 3).

Japanese Knotweed

- 3.9 All knotweed stands were recorded within the southern extent of the proposed works. Additional stands have been identified with the 2020 expansion of the survey area, Abingdon Road and the Southern By-Pass (Appendix 1.5). The proximity of all stands, clustered between these two main roads would suggest a common point of colonisation.
- 3.10 The areas of knotweed which were accessible within Kendall Copse on both sides of Kennington Road, showed signs of systematic treatment (Photo 4). It is unclear if this is an on-going programme of eradication, although all stands seem to have been treated.
- 3.11 With no access via the Recycling Centre it is not known if this has been included within the treatment programme. It should be assumed that this species is still present in the area.

- 3.12 The stands of this species identified in the 2017 survey, were still present and associated with the rail line north of New Hinksey (Photo 5). No treatments seem to have been applied.

Other Species

- 3.13 A number of further plant and animal species, which can be classified as invasive, have been documented. Plant species were limited in stand density and extent but were considered to have the potential to spread further, impacting on the adjacent environment.

Gunnera sp.

- 3.14 A small stand of this species was found on the main River Thames (Photo 6), north of New Hinksey (Appendix 1.3). Although this was not technically within the red line boundary, the section of tow path was walked as part of the site surveys.

Stag's Horn Sumach

- 3.15 The small stand of this species to the north of the A420, has been removed as part of the sites' redevelopment.

Snowberry

- 3.16 Stands of this plant were still present in the area, either side of the Southern By-Pass slipway (Appendix 1.5). These were both large stands dominating their position, outcompeting the surrounding plant communities. SB2 was found within a wooded section of the embankment.

Signal Crayfish

- 3.17 No further evidence of this species was recorded during the 2020 survey. However, it must be assumed this species is still present in Hinksey Stream.

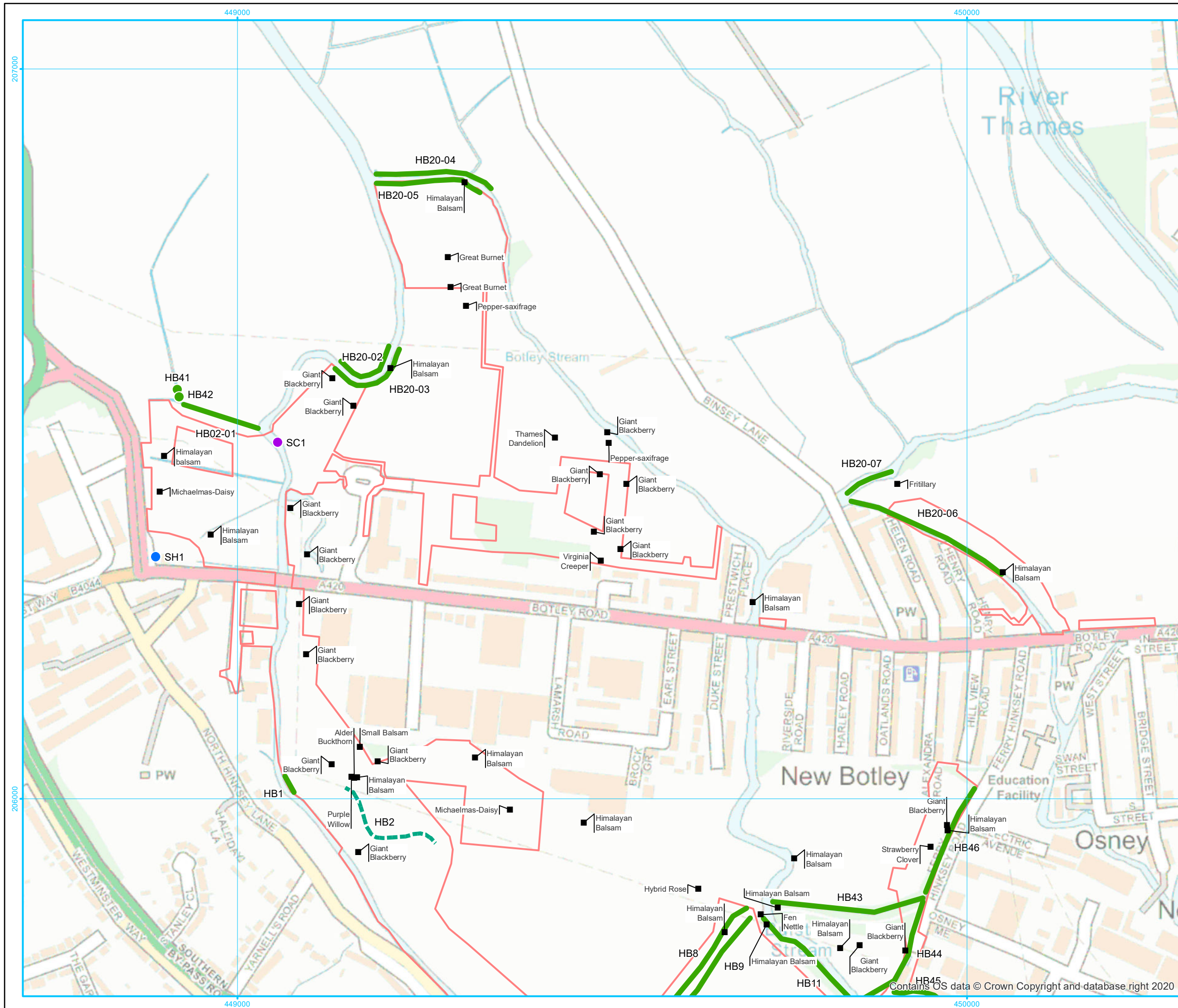
4. Conclusion

- 4.1 The dominant species recorded was still Himalayan balsam, being found throughout much of the survey area. The plant was also associated with river banks outside of the red line boundary and is now a significant part of the marginal plant communities across the flood plain.
- 4.2 Japanese knotweed was only recorded within specific parts of the survey area, with much of the stands having been treated.
- 4.3 These observations were made at the time of the site visit (June 2020). Invasive species in particular, are dynamic organisms that can rapidly colonise and spread (as highlighted throughout the surveys), influencing their surrounding environment. The information in this report should be considered as a 'snap shot' in time and not as a definitive record of their position and stand size.

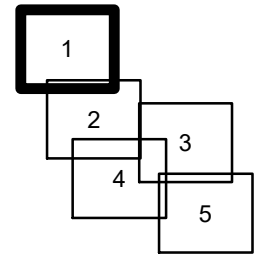
5. Appendices

Appendix 1 – Oxford FAS Invasive Species Maps

Appendix 2 – Photographic Record (2020 additional areas)



- Legend**
- Red line boundary
 - Invasive species**
 - Himalayan Balsam
 - Signal Crayfish
 - Stag's Horn Sumach
 - Himalayan Balsam (Removed)
 - Notable Invasive Species Records (identified during wider species surveys)



Scale: 1:5,000

Title: **Appendix 1a: Invasive Species**

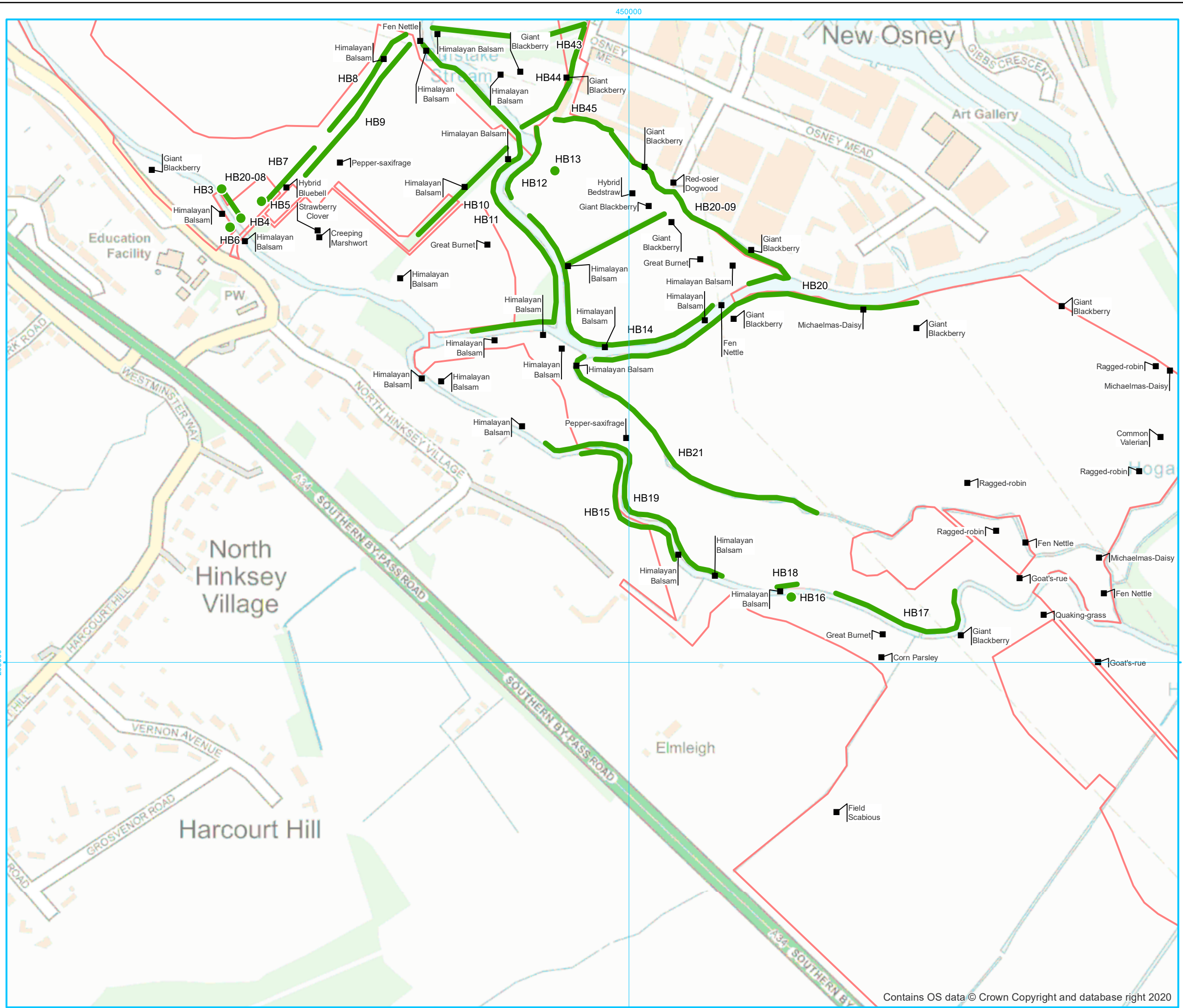
Client: CH2M

Project: Oxford FAS: Invasive Species Survey

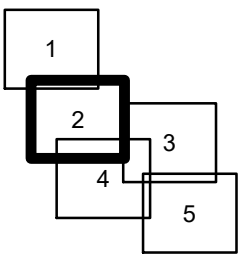
Date: October 2016 updated 2017 and June & December 2020



This plan is provided for reference only and its accuracy is not guaranteed



- Legend**
- Red line boundary
 - Invasive species**
 - Himalayan Balsam
 - Notable Invasive Species
 - Records (identified during wider species surveys)



Scale: 1:5,000

Title: **Appendix 1b: Invasive Species**

Client: CH2M

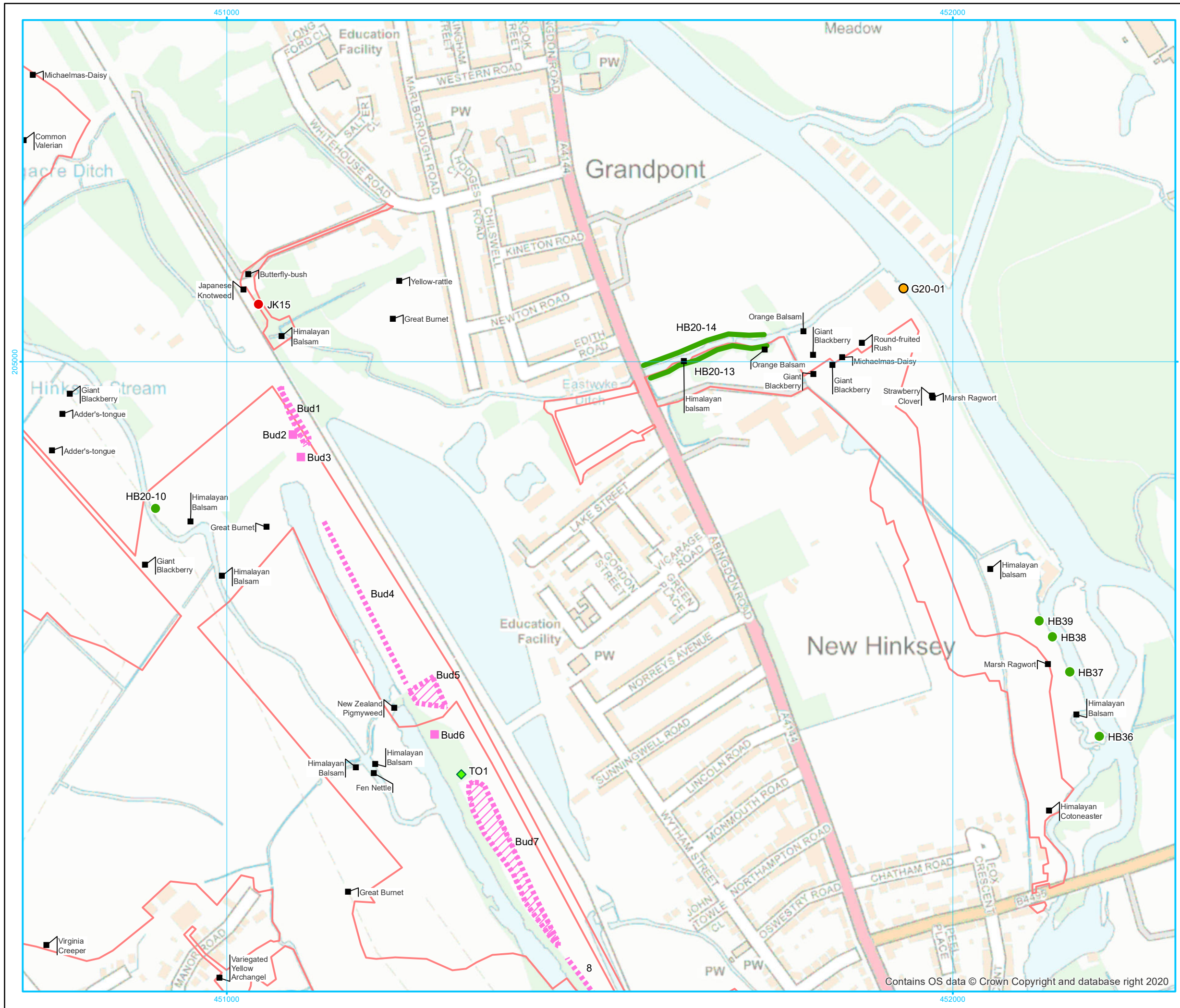
Project: Oxford FAS: Invasive Species Survey

Date: October 2016 updated 2017 and June & December 2020

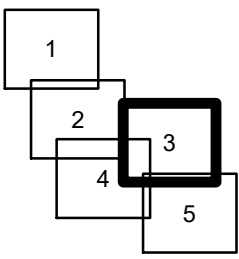


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- Legend**
- Red line boundary
 - Invasive species**
 - Buddleia
 - Gunnera sp.
 - Himalayan Balsam
 - Japanese Knotweed
 - Turkey Oak
 - Buddleia (spurge)
 - Notable Invasive Species Records (identified during wider species surveys)



Scale: 1:5,000

0 100 200m

Title: **Appendix 1c: Invasive Species**

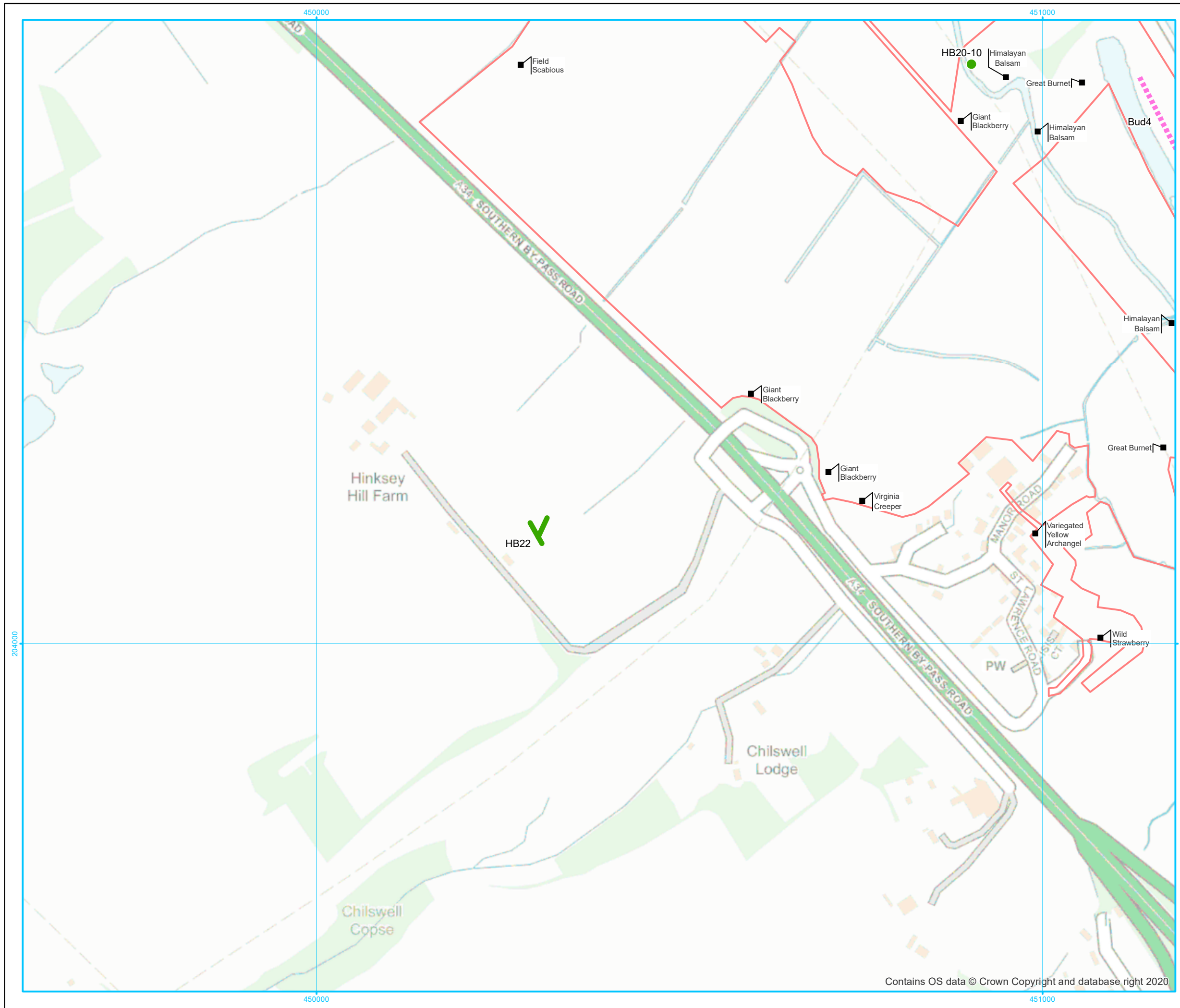
Client: CH2M

Project: Oxford FAS: Invasive Species Survey

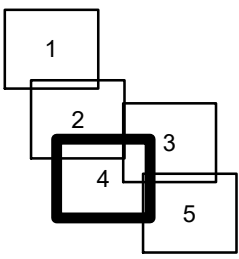
Date: October 2016 updated 2017 and June & December 2020



This plan is provided for reference only and its accuracy is not guaranteed



- Legend**
- Red line boundary
 - Invasive species**
 - Himalayan Balsam
 - - - Buddleia (sparce)
 - Notable Invasive Species**
 - Records (identified during wider species surveys)



Scale: 1:5,000

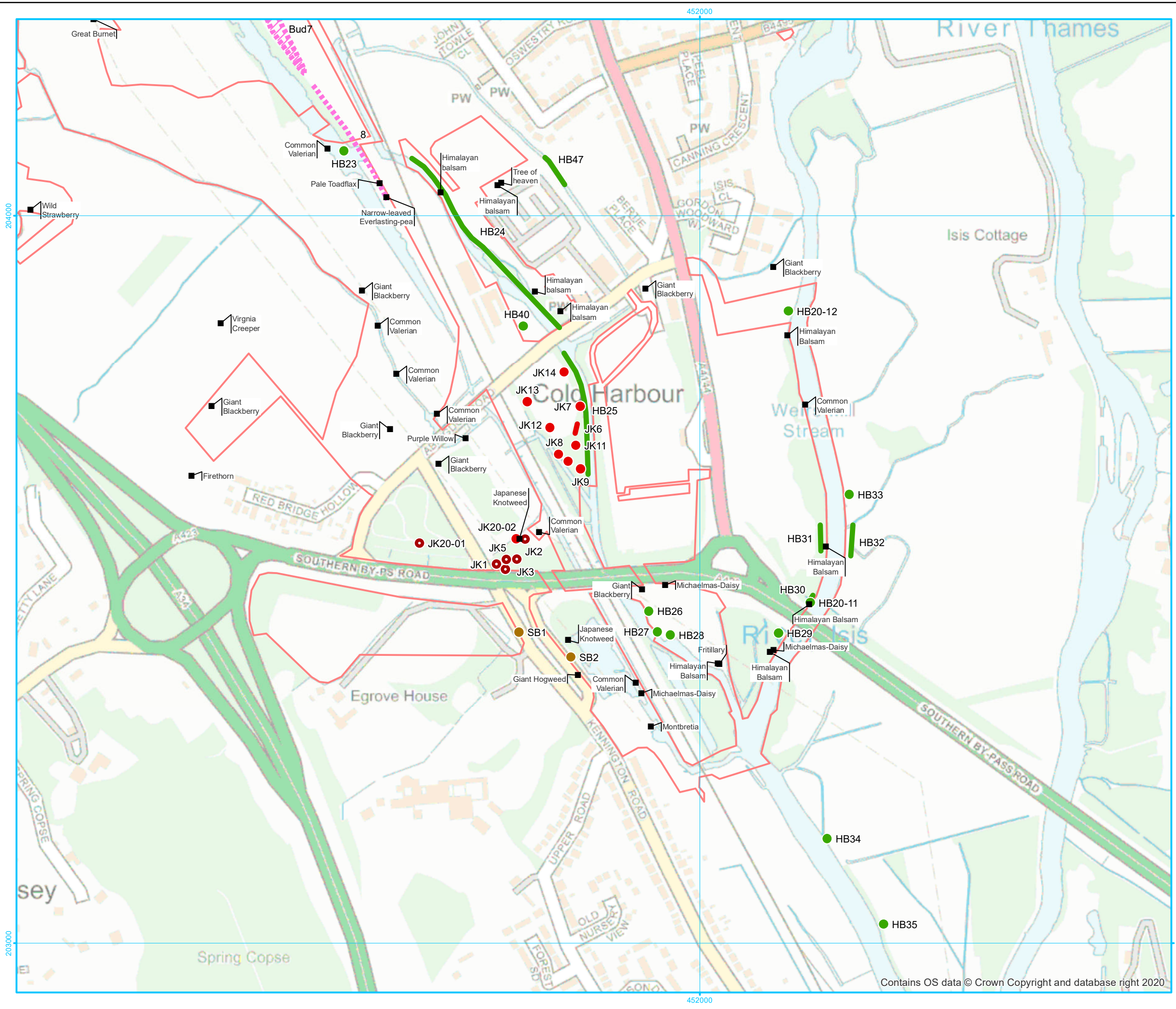
Title: **Appendix 1d:
Invasive Species**

Client: CH2M

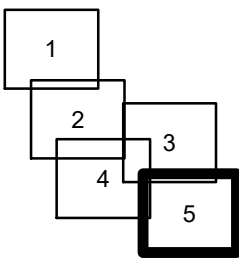
Project: Oxford FAS: Invasive Species Survey

Date: October 2016 updated 2017 and June & December 2020





- Legend**
- Red line boundary
 - Invasive species**
 - Himalayan Balsam
 - Japanese Knotweed
 - Japanese Knotweed (treated)
 - Snowberry
 - Buddleia (sparce)
 - Notable Invasive Species Records (identified during wider species surveys)**
 -



Scale: 1:5,000

0 100 200m

Title: **Appendix 1c: Invasive Species**

Client: CH2M

Project: Oxford FAS: Invasive Species Survey

Date: October 2016 updated 2017 and June & December 2020



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Appendix 2: Photographic Record – 2020



Photo 1: New area of Himalayan balsam to the north of Botley Road (Appendix 1.1). Species spread along both banks.



Photo 2: Himalayan balsam along channel adjacent to Botley Park (Appendix 1.1).



Photo 3: Signage adjacent to Himalayan balsam stands close to North Hinksey village, where treatments has not impacted the stand.



Photo 4: Japanese knotweed within Kendall copse (west of Kennington Road), show eradication treatments.



Photo 5: Japanese knotweed within rail foot bridge.



Photo 6: Gunnera species on tow path River Thames, adjacent to survey area.

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