WATI and Doveside Invasive Non-Native Species Management Plan

Final Report

November 2018

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Revision history

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Contract

This report describes work commissioned by The Garganey Trust. Darren Whitaker of JBA - Consulting carried out this work.

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Purpose

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Carbon footprint

JBA – Consulting is aiming to reduce its per capita carbon emissions.

Executive summary

JBA Consulting has been commissioned by The Garganey Trust to undertake an Invasive Non-Native Species (INNS) Survey at Doveside and Wombwell prior to implementation of the 'Wings Across the Ings' (WATI) Project, which involves habitat creation and enhancement.

The survey was completed by Darren Whitaker on the 9th October 2018 for the purpose of identifying any INNS present and on the sites. Doveside is located south of Darfield, South Yorkshire, and is centred on National Grid Reference (NGR) SE 41215 03901. The Wombwell Wetlands site is located immediately south of Doveside, centred on NGR SE 41594 03457.

It was noted that there are extensive stands of Himalayan Balsam *Impatiens glandulifera* across the Wombwell site. Japanese Knotweed *Fallopia japonica* was recorded in two specific areas only, between the Doveside and Wombwell sites. New Zealand Pigmyweed *Crassula helmsii* was also present in the drains on both the Wombwell and Doveside sites. On the northern boundary of Doveside, Hollyberry, Cotoneaster *Cotoneaster bullatus* and Snowberry *Symphoricarpus albus* were recorded in the hedge.

This report details measures required to prevent the spread of Himalayan Balsam, Japanese Knotweed, New Zealand Pigmyweed, Hollyberry, Cotoneaster and any other INNS or environmentally damaging pathogens that could be encountered within the works area.

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Abbreviations

CIEEM	Chartered Institute of Ecology and Environmental Management
COSHH	Control of Substances Hazardous to Health
EA	Environment Agency
HB	Himalayan Balsam
HBC	Hollyberry Cotoneaster
INNS	Invasive Non-native Species
JK	Japanese Knotweed
JBA	Jeremy Benn Accociates
NGR	National Grid Reference
NNSS	Non-native Species Secretariat
NPW	New Zealand Pigmyweed
SB	Snowberry
WATI	"Wings Across the Ings" project

1 Introduction

1.1 Project Background

JBA Consulting was commissioned by The Garganey Trust to undertake an Invasive Non-Native Species (INNS) Survey at Doveside and Wombwell prior to implementation of the 'Wings Across the Ings' (WATI) Project, which involves habitat creation and enhancement.

The location of the project, in context with the local landscape, is shown in Figure 1-1 below. Doveside is located south of Darfield, South Yorkshire, and is centred on National Grid Reference (NGR) SE 41215 03901. The Wombwell Wetlands site is located immediately south of Doveside, centred on NGR SE 41594 03457, and Bulling Dike flows along the north and north-easterly site margins.

The survey was completed by Darren Whitaker on the 9th October 2018 for the purpose of identifying any INNS present on the sites.

It was noted that that there are extensive stands of Himalayan Balsam *Impatiens glandulifera* (HB) across the Wombwell site. Japanese Knotweed *Fallopia japonica* (JKW) was recorded in two specific areas only. New Zealand Pigmyweed *Crassula helmsii* (NPW) was present in the drains at both Wombwell and Doveside. On the north boundary of Doveside, Hollyberry Cotoneaster *Cotoneaster bullatus* (HBC) and Snowberry *Symphoricarpus albus* (SB) were recorded in the boundary hedge. Appendix A contains site maps detailing the locations of the species identified on site.

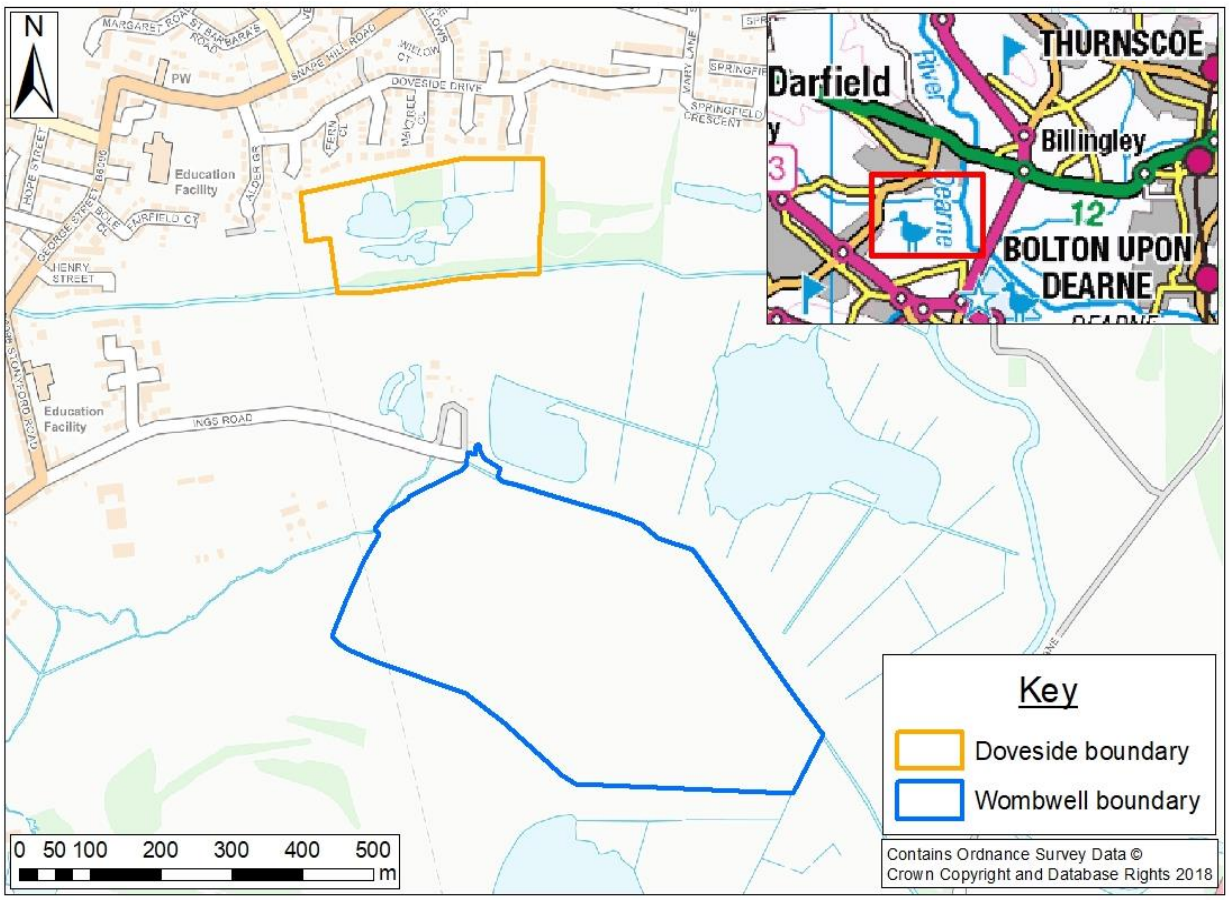


Figure 1-1 – Site boundaries

1.2 Invasive Non-native Species Legislation

1.2.1 Japanese Knotweed

JKW is a controlled plant under Section 14(2), Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is a criminal offence to release or cause the spread of this plant in the wild.

Any plant material and contaminated soils removed from a site containing JK is regarded as 'controlled waste' rather than hazardous waste, unless it has been treated with herbicides which would cause it to become hazardous.

Removal of controlled waste material from site is subject to the requirements of the Environmental Protection Act 1990, and therefore a waste management licence would be required prior to any removal of material contaminated with JKW.

1.2.2 Himalayan Balsam, New Zealand Pigmyweed, and Hollyberry Cotoneaster

HB, NPW, and HBC are listed under Schedule 9 of the Wildlife and Countryside Act 1981. As such, it is an offence to plant or otherwise allow these species to grow in the wild.

Any plant material and contaminated soils removed from a site containing HB, NPW, and/or HBC material should be treated with care, in a similar manner to controlled waste.

1.2.3 Snowberry

SB is a non-native species that may be classified as invasive in future. It is recommended that it be treated with care, so as not to spread it in the wild.

1.2.4 Other Legislation

Other legislation relevant to the control of INNS includes the following:

- Town and Country Planning Act 1990;
- Highways Act 1980;
- Water Resources Act 1991;
- The Waste Management and Licensing Regulations 1994;
- The Landfill (England and Wales) Regulations 2002;
- The Control of Pesticides Regulations 1986 (under the Food and Environment Protection Act 1985); and
- The Control of Substances Hazardous to Health Regulations 2001 (COSHH).

2 Specific Control Plan

This section of the report details measures required to prevent the spread of HB, JK, NPW, HBC, and any other INNS or environmentally damaging organisms, such as SB, that could be encountered within the works area.

2.1 Brief Description of Management Plan

Eradication of species such as HB and JK would require extensive clearance and at least three years of chemical treatment; this is beyond the scope of the project. In the case of NPW, its abundance both on site and in nearby waterways connected to the sites makes eradication practically impossible. Therefore, the aim of this Invasive Non-native Species Management Plan is to ensure that any activities relating WATI and its habitat creation and enhancement works will not cause the spread of HB, JK, NPW, HBC, or SB on these two, or any other, sites.

The management plan shall be kept on site during the works and shall be disseminated to all personnel on site. This management plan should be read in conjunction with the Environment Agency (EA) advice on the identification, control and disposal of JK. All staff and visitors accessing the works should be briefed about HB, JK, NPW, HBC and SB biosecurity and COSHH requirements during the site induction. The Non-native Species Secretariat has produced identification sheets for HB (2015a), JK (2016), and NPW (2015b); these are included in Appendix B.

2.2 Himalayan Balsam

There are two small stands of HB on the drain to the north of the Wombwell site, at approximate NGRs SE 41484 03504 and SE 41823 03145. In addition, there is an extensive patch of HB to the north-west extent of the Wombwell site along the boundary drains.

Stands of HB on site must be completely avoided when they are in flower (typically from July to October, inclusive) and must not be disturbed once then have set seed. If there are any stems of HB growing adjacent to any of the works areas, it is recommended that the HB stands are pulled out of the ground before they have set seed. Alternatively, they should be hand cut below the lowest node. Arisings should be left to dry within an existing area of HB, away from any watercourses. It is important to note that even when uprooted, flowering plants can still set seed. Should any excavation/movement or disturbance to soils be proposed within the area of HB infestation and a 7 m radius, this should be treated as controlled waste and managed in the same manner as JK (see below).

2.3 Japanese Knotweed

Two small stands of JK are located on the drain to the south of Doveside at approximate NGRs SE 41102 03806 and SE 41442 03841.

The removal of JK stands should be kept to a minimum, removing only the amount required to complete the works without damaging any further stands of JK. The stands will not be herbicide-treated as part of management plan and will continue to grow through the season, so removal should be timed to prevent regrowth before works take place.

Soil excavation work within 7m of the JK stand should be avoided. Any excavation works within 7m of JK could damage the highly invasive crown and rhizome material of this species and the risk of committing an offence under Schedule 9 of the Wildlife & Countryside Act 1981 (as amended). It takes just a fingernail-sized fragment of JK to break off the plant and spread to potentially cause regrowth elsewhere.

If JK clearance is required during works, the following steps should be followed to prevent the spread of INNS on site:

- The JK removal works should be supervised by an experienced Ecological Clerk of Works. All areas of JK should be fully demarcated prior to works beginning on site.
- JK stands requiring removal should be cut, to ground level, with secateurs. The stems should be hand cut cleanly; a strimmer or flail must not be used as this could disturb and spread the highly invasive crown material of JK. The canes of JK must not be pulled out of the ground.
- Cut JK (even dead canes) should be stockpiled in the demarcated areas of existing JK.
- Where the haul road crosses areas (of known) JK, geotextile matting should be installed to prevent the stone of the haul road being contaminated.
- Excavation to facilitate haul road installation should be avoided.
- All geotextile and soil material must be treated as controlled waste within 7m (in any direction) of the JK stand. Should it not be possible to re-use or treat any soil materials excavated from areas infested with JK, it may be necessary to dispose of infested material and geotextile matting at a suitably licenced / permitted landfill. Information on the nearest appropriate landfill to the sites can be provided by the Environment Agency on **03708 506 506**. The designated disposal facility should be given advanced notification of the intention to dispose of infested material. Advice from EA must be sought in advance of any excavation, storage and transport of JK infested material that is intended for landfill.
- Upon completion of the works it is advisable to treat any stockpiled JK.

All staff working with the JK must follow the strict biosecurity measures for cleaning down of equipment and clothing following before leaving site (see Section 3). A wash-down area must be set up on site to clean all equipment and PPE which has come into contact with JK. This wash down area should be on a suitable geotextile root-barrier membrane.

2.3.1 New Zealand Pigmyweed

There are extensive infestations of NPW in the ditches and wetlands around both sites. It is also present in nearby wetlands and waterways with connectivity to Doveside and Wombwell. Where practicable, it is advised that areas of infestation are altogether avoided. If this is not possible, it is essential that biosecurity measures are strictly followed to prevent the spread of this species to other parts of the site (see Section 3 of this report), including clean, check, dry protocols (NNSS, 2018) (See Appendix C) and operating a designated cleaning area for all tools/PPE that come into contact with areas infested with NPW.

2.3.2 Hollyberry Cotoneaster and Snowberry

A single stand of HBC was identified at approximate NGR SE 41108 03956 and a single patch of SB was identified at approximate NGR SE 41326 03982. Should the implementation of the WATI involve contact with these areas of infestation, it is advised that these plants are mechanically removed from the site to avoid the unlawful spread of these species. Berries from the plants should be carefully removed and disposed of within a bin. The entire stump and roots should then be uprooted and disposed of in order to prevent the plant from resprouting.

3 Biosecurity

Good biosecurity practices are vital for preventing the spread of HB, JK, NPW, HBC and SB. The following actions should be followed in order to prevent the spread of the INNS on site, both within the site and the wider area.

- All site operatives and visitors should be inducted in good biosecurity practices. This should include adoption of the check-clean-dry campaign (NNSS, 2018).
- All site operatives should be provided information at site induction on what HB, JK, NPW, HBC and SB look like (see Appendix B).
- A cleaning area must be instated at all works areas; this should comprise a root barrier membrane upon which equipment can be checked and cleaned of soil and vegetation after each instance of dealing with an infested area, and also before leaving site.
- Working boots/waders and clothes which have come into contact with areas of the infestation must also be cleaned over a membrane (using a wire brush or water hose) within the same area. All washed off material must be contained, collected and disposed of at the infested site as controlled waste.
- If the cleaning area is not immediately adjacent to the infested area, the route between the area of infestation and the treatment area must be protected by a membrane layer which should be inspected for contamination on a daily basis, contaminant removed and disposed of as contaminated waste.
- All membranes which have come into contact with HB, JK, and NPW must also be treated as controlled waste.

A Invasive Non-Native Species Location Maps

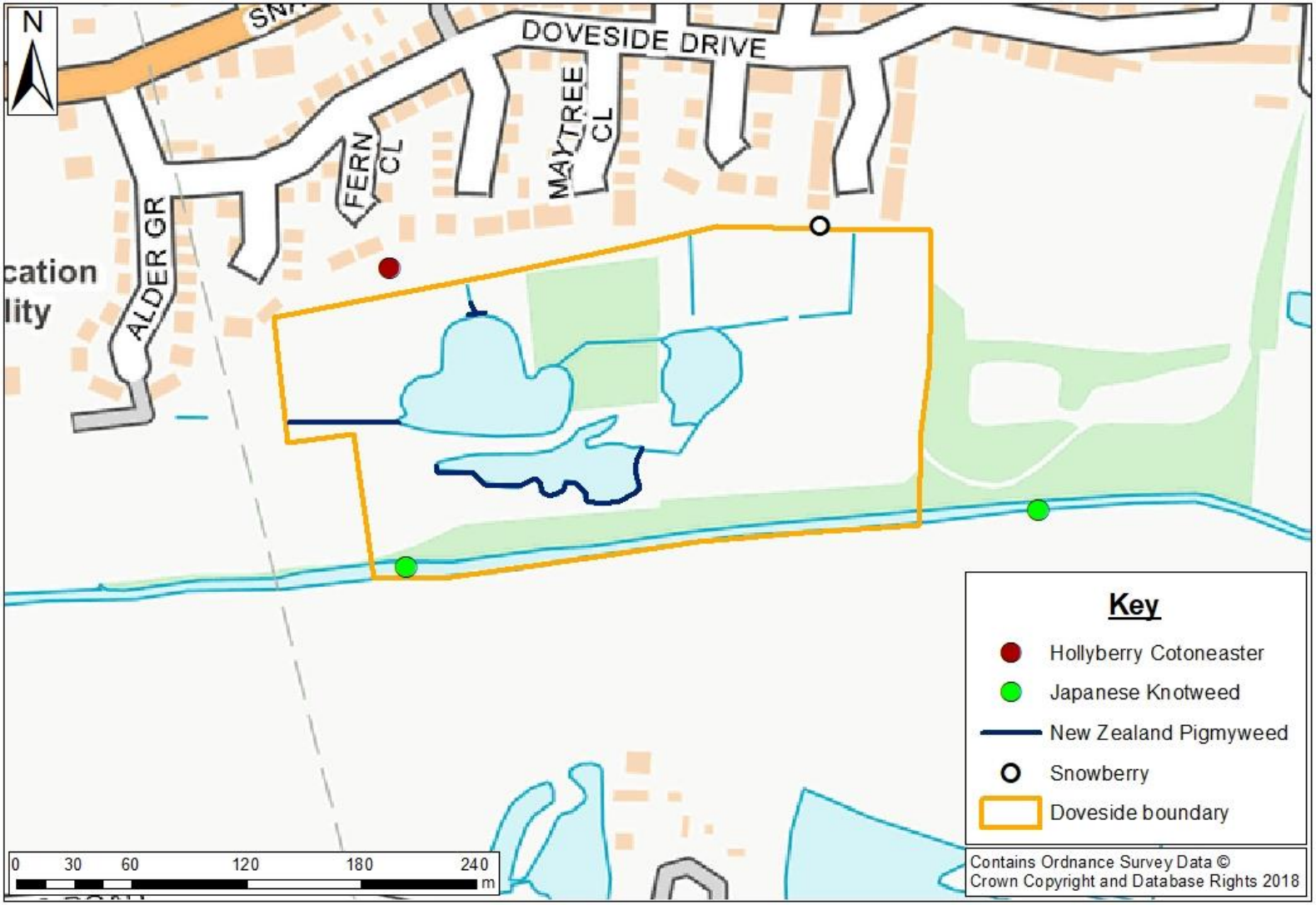


Figure 3-1 – INNS on Doveside

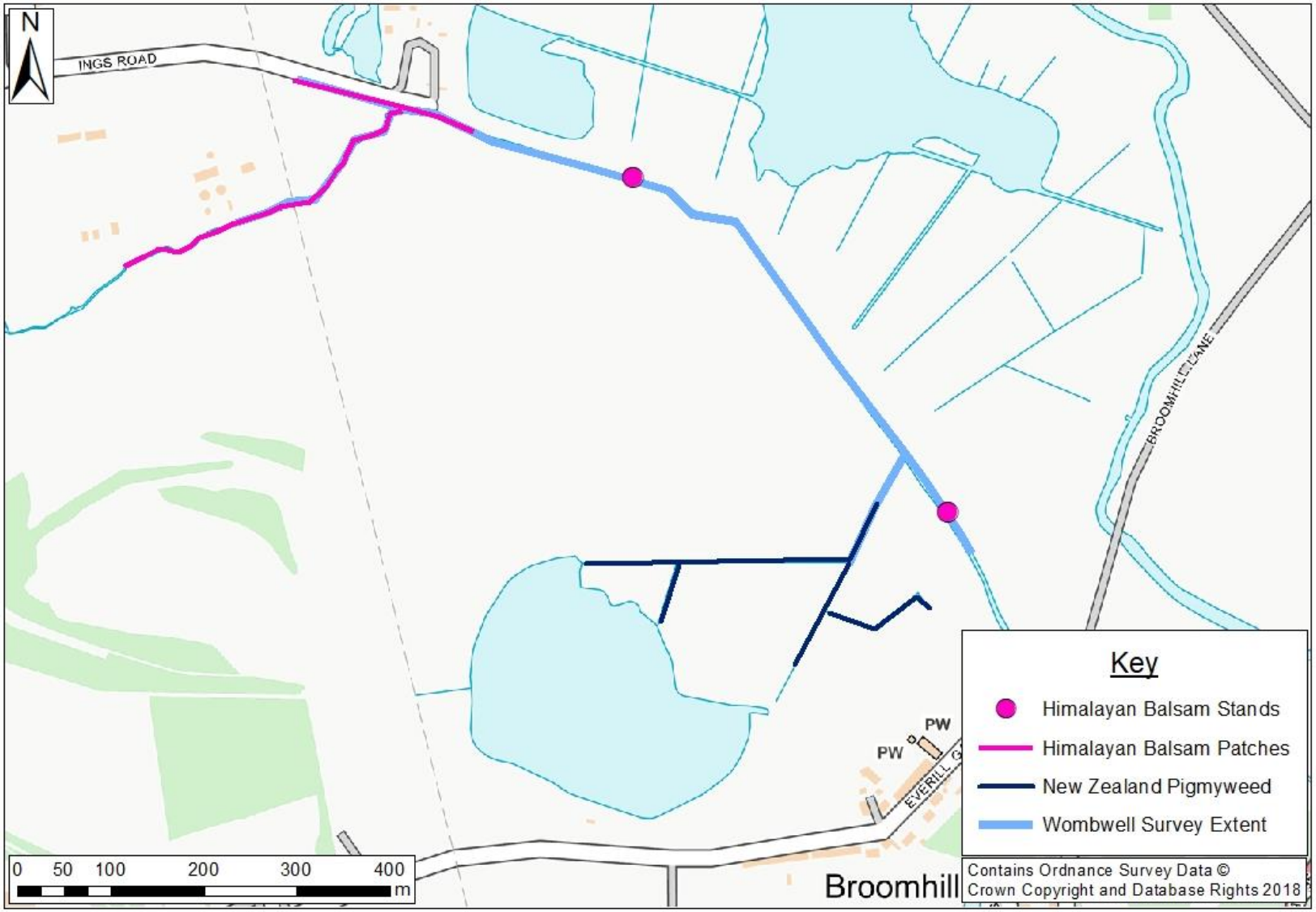


Figure 3-2 – INNS on Wombwell

B Non-native Species Secretariat ID Sheets

NNSS
GB non-native species secretariat

For more information visit **www.nonnativespecies.org**

Produced by Olaf Booy, Max Wade and Vicky White of RPS

Himalayan Balsam

Species Description

Scientific name: *Impatiens glandulifera*
AKA: Policeman's Helmet, Indian Balsam, Jac y Neidiwr (Welsh)
Native to: West and central Himalayas
Habitat: Found mostly on river banks and in damp woodland, can grow in other damp habitat

A tall, attractive, annual herb with explosive seed heads. Although easy to identify as a mature plant with its pink-purple flowers, fleshy stem and characteristic leaves, the seedlings and last year's dead stems of this annual are more difficult to spot.

Introduced as a garden plant in the early 19th century and first recorded in the wild in 1855. Often favoured by the general public for its aesthetic appeal and is still deliberately planted on occasion. Now widespread in the UK, especially along urban rivers. Spreads solely by seeds, which are small and easily carried by wind or water.

Out-competes native species in ecologically sensitive areas, particularly river banks. Where it grows in dense stands along river banks it can impede flow at times of high rainfall, increasing the likelihood of flooding. Die back of extensive stands over winter can leave river banks bare and exposed to erosion.

Himalayan balsam is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England and Wales. As such, it is an offence to plant or otherwise allow this species to grow in the wild.

For details of legislation go to www.nonnativespecies.org/legislation.



Key ID Features



















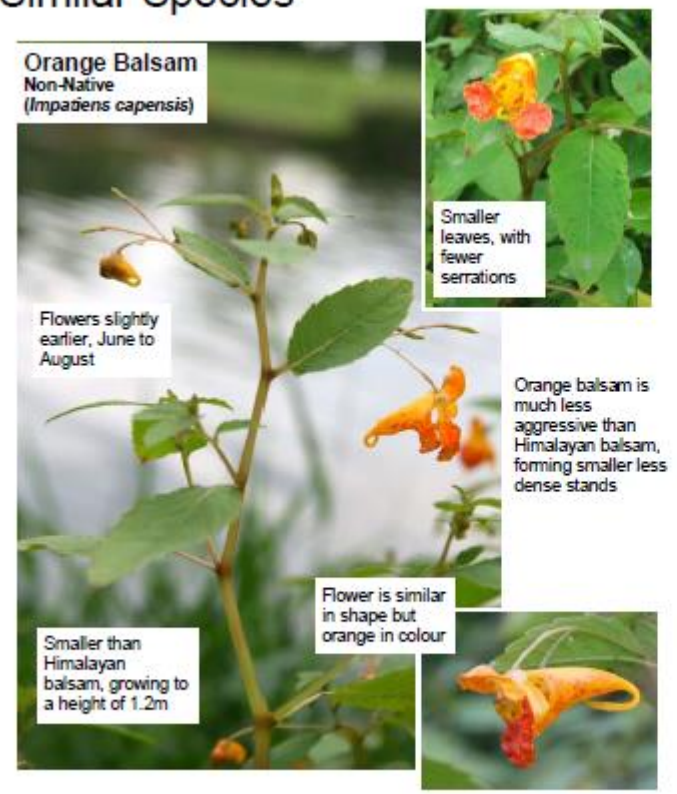
Identification throughout the year

Can be identified at most times of the year: March-June by its seedlings, stem and leaf shape, from July to September by its stem, leaf shape and flowers. More difficult to identify over winter (October to February), look for hay like remains and distinctive root structure.





Similar Species



Distribution

Widespread and common across the whole of the UK. Primarily on riverbanks and in other damp areas.



Source: NBN Gateway. Check website for current distribution

References and further reading:

Blamey, M, Fitter, R and Fitter, A (2003) *"The Wild Flowers of Britain and Ireland. The Complete Guide to the British and Irish Flora"*. A & C Black

Preston, C D, Pearman, D A and Dines, T A (editors) (2002) *"New Atlas of the British and Irish Flora"*. Oxford University Press

Stace, C (1999) *"Field Flora of the British Isles"*. Cambridge University Press

Photos from: Olaf Booy, Mike Harris, Max Wade

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Produced by Olaf Booy, Max Wade and Vicky White of RPS

Japanese Knotweed



Species Description

Scientific name: *Fallopia japonica*
AKA: Japanese Bamboo, Pysen saethwr (Welsh), *Polygonum cuspidatum*, *Reynoutria japonica*
Native to: Japan, Taiwan, northern China
Habitat: Common in urban areas, particularly on waste land, railways, road sides and river banks

Tall herbaceous perennial with bamboo like stems. Often grows into dense thickets. Characteristic leaves and stems, persistence of last year's dead canes and distinctive rhizome (underground root-like stems) enables year round identification.

Introduced in the early 19th century as an ornamental plant. Now common and widespread across the UK. Spreads rapidly in the wild by natural means and as a result of spread by humans. Spread is solely by vegetative means, either fragments of rhizome or stem. Does not produce seed in the UK. Negative impacts include outcompeting native flora, contributing to river bank erosion and increasing the likelihood of flooding. Can also cause significant delays and cost to development as well as structural damage (it can grow through asphalt and some other surfaces).

Japanese Knotweed is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England, Wales and Scotland. As such it is an offence to plant of otherwise cause Japanese knotweed to grow in the wild. Under the Environmental Protection Act 1990, Japanese Knotweed is classified as controlled waste.

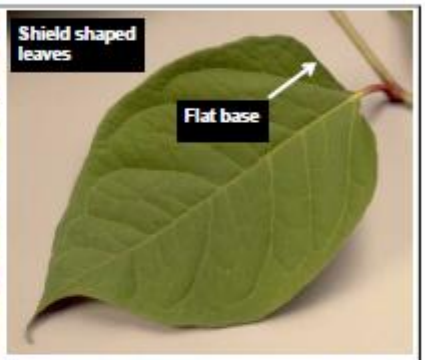
For details of legislation go to www.nonnativespecies.org/legislation.

Key ID Features





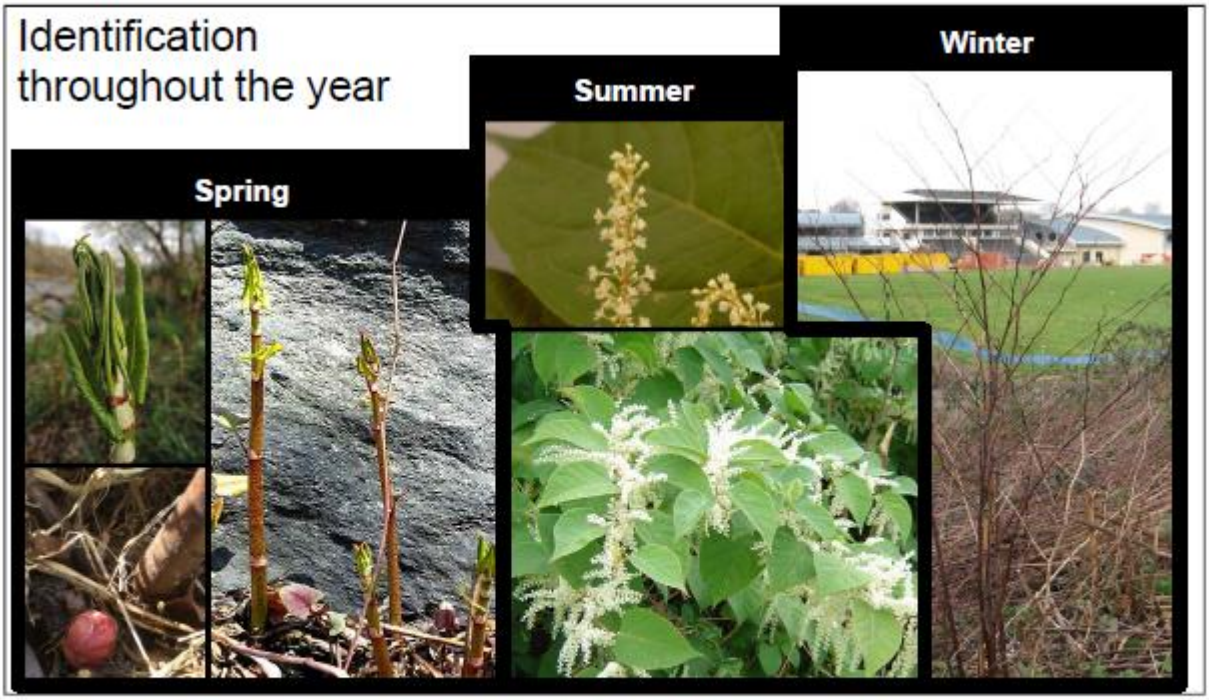






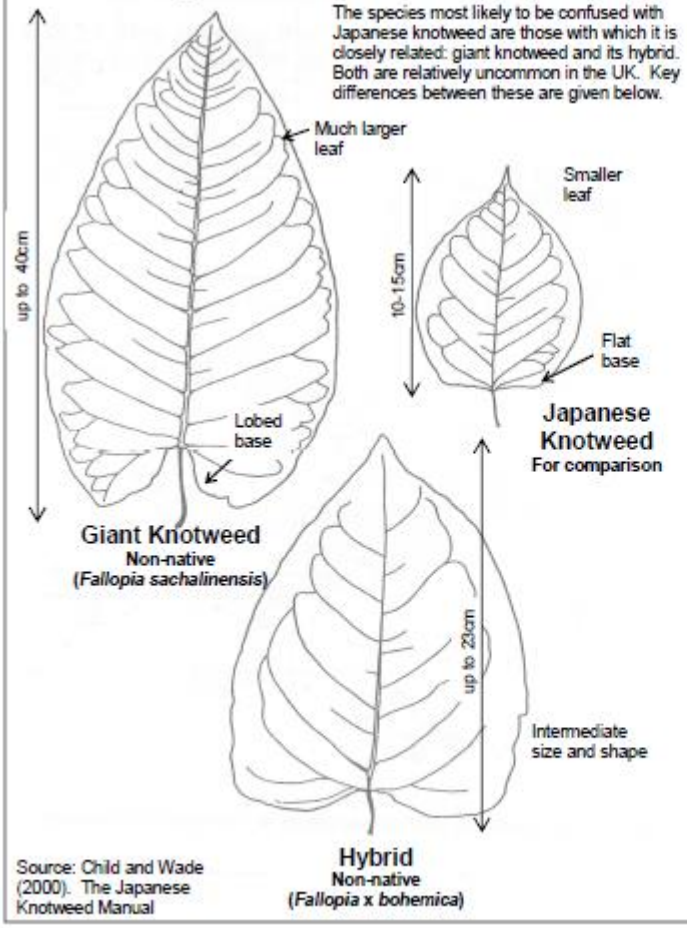


Identification throughout the year



Similar Species

The species most likely to be confused with Japanese knotweed are those with which it is closely related: giant knotweed and its hybrid. Both are relatively uncommon in the UK. Key differences between these are given below.



Source: Child and Wade (2000). The Japanese Knotweed Manual

Distribution

Widespread and common across the UK. Notably extensive infestations are found in the south-west of England, south Wales and Greater London, however similarly extensive populations can also be found elsewhere.



Source: NBN Gateway. Check website for current distribution

References and further reading:

Blamey, M, Fitter, R and Fitter, A (2003) *"The Wild Flowers of Britain and Ireland. The Complete Guide to the British and Irish Flora."* A & C Black

Child, L E and Wade, P M (2000) "The Japanese Knotweed Manual". Packard

Environment Agency (2006) "*The Japanese Knotweed Code of Practice*". Environment Agency

Preston, C D, Pearman, D A and Dines, T A (editors) (2002) *"New Atlas of the British and Irish Flora"*. Oxford University Press

Stace, C (1999) *"Field Flora of the British Isles"*. Cambridge University Press

Photos from: Olaf Booy, Helen Parish, Max Wade, Vicky White

NNSS
GB non-native species secretariat

www.nonnativespecies.org

Produced by Olaf Booy, Max Wade and Vicky White of RPS

New Zealand Pigmyweed

Species Description

Scientific name: *Crassula helmsii*
AKA: *Tillaea aquatica*, Australian Swamp-stonecrop, Briweg Seland Newydd (Welsh), *Tillaea recurva*
Native to: Australia and New Zealand
Habitat: Aquatic up to 3m deep in still or slow flowing water bodies or terrestrial around pond or lake margins



Can be submerged, emergent and terrestrial. Readily recognisable when growing at the edges of water bodies by its fleshy leaves. Submerged leaves are less easy to see and recognise. Reproduces from very small stem fragments but does not produce viable seed in the UK.

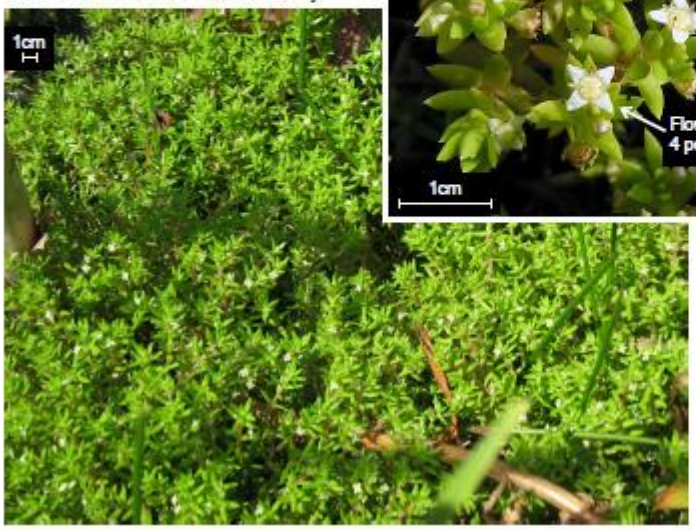
Introduced in 1911 as an oxygenating plant for ponds and, since the 1970s, has spread rapidly. Forms dense mats and can impede drainage, causing flooding. Displaces other aquatic plant species and reduces amenity use of the waterbody.

New Zealand Pigmyweed is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England, Wales and Scotland. As such, it is an offence to plant or otherwise cause this species to grow in the wild.

For details of legislation go to www.nonnativespecies.org/legislation.

Key ID Features

Forms dense mats within the water body







Identification of terrestrial, emergent and submerged forms

Terrestrial: Growing away from the water's edge or left stranded as water level falls, creeping stems and aerial, fleshy leaves.



Emergent: Densely packed leaves in water, intermediate between terrestrial and submerged form (occurs in water <0.6m deep).



Submerged: Elongated stems with leaves sparse and flat, able to form extensive mats on bed of the water body.



Similar Species

A group of species known as water-starworts are most likely to be confused with New Zealand pigmyweed. Water-starworts are distinguished from New Zealand pigmyweed by their non-fleshy leaves, which are usually notched at the tip (hold up to light or use hand lens), and lack of collar at leaf base.





Distribution

Widespread in England and Wales. Spreading northwards, though much less common in Scotland. Very common in the south-east of England.



Source: NBN Gateway. Check website for current distribution.





References and further reading:

Blamey, M, Fitter, R and Fitter, A (2003) *"The Wild Flowers of Britain and Ireland. The Complete Guide to the British and Irish Flora."* A & C Black

Preston, C D and Croft, J M (1997) *"Aquatic plants in Britain and Ireland"*. Harley Books

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Stace, C (1999) *"Field Flora of the British Isles"*. Cambridge University Press

Photos from: Olaf Booy, Richard Lansdown (RL), Peter Llewellyn, Max Wade

C Check, Clean, Dry Protocol



Department for Environment Food & Rural Affairs
natural scotland SCOTTISH GOVERNMENT
Llywodraeth Cymru Welsh Government
NNSS
RYA
BRITISH ROWING
BRITISH CANOE UNION
ANGLING TRUST THE VOICE OF ANGLING
SFCA Scottish Federation for Coarse Angling
angling cymru

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GB Non-native Species Secretariat (2015a) Himalayan Balsam, Impatiens glandulifera [online] Available at: http://www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=1810 [Accessed 30/10/2018].

GB Non-native Species Secretariat (2015b) New Zealand Pigmyweed, Crassula helmsii [online] Available at: www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=1017 [Accessed 30/10/2018].

GB Non-native Species Secretariat (2016) Japanese Knotweed, Fallopia japonica [online] Available at: http://www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=1495 [Accessed 30/10/2018].

GB Non-native Species Secretariat (2018) Check-Clean-Dry [online] Available at: http://www.nonnativespecies.org/checkcleandry/ [Accessed 30/10/2018].

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