



# Gatwick Airport Northern Runway Project

Environmental Statement

Appendix 5.3.2: Code of Construction Practice

Annex 8 – Outline Invasive and Non-Native Species

Management Strategy – Tracked Version

**Book 5**

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## 1 Introduction

- 1.1.1 This document prepared on behalf of Gatwick Airport Limited (GAL) for the proposal to make best use of Gatwick Airport's existing runways and infrastructure (referred to within this report as 'the Project').
- 1.1.2 The objective of this [Outline Invasive Non-Native Species Management Strategy \(INNSMS\)](#) is to set out the key controls and working methods in order to prevent the spread of Invasive Non-Native Species (INNS) through the construction phase the Project.
- 1.1.3 This Strategy forms an annex to the CoCP and therefore any construction activities must be carried out in accordance with this Strategy unless otherwise agreed in writing with CBC (DCO Requirement 7).
- [1.1.4](#) Prior to commencement of development in any area, an INNS survey will be carried out and if INNS is identified, a specific INNS [Management Plan](#) for that area that is substantially in accordance with this Strategy must be submitted to and approved by CBC in consultation with the Environment Agency [and in consultation with Mole Valley District Council and Reigate and Banstead Borough Council to the extent that they are the relevant planning authority for the area subject to the INNS Management Plan.](#)
- ~~1.1.4~~ [1.1.5](#) [The approved INNS Management Plan](#) ~~and~~ must be complied with in carrying out works in that area.

## 1.2 Relevant Legislation

- 1.2.1 Legislation covering the handling and disposal of INNS include the following:
- The Invasive Alien Species (Enforcement and Permitting) Order 2019
  - The Wildlife and Countryside Act (WCA) 1981
  - The Natural Environment and Rural Communities Act (NERC) 2006
  - The Environmental Protection Act 1990
  - The Environmental Protection (Duty of Care) Regulations 1991
  - The Water Resources Act 1991
  - The Landfill (England and Wales) Regulations 2007
  - Controlled Waste (England and Wales) Regulations 2012
  - The Control of Substances Hazardous to Health (COSHH).
- 1.2.2 Due to the many negative effects of invasive species, legislation is in place that aims to prevent the spread of invasive non-native plant material into the wild



where it then poses a threat to native biodiversity and ecosystems. The release of any non-native animal, or the planting of any non-native plant in the wild, is an offence under Section 14 of the Wildlife and Countryside Act 1981 (as amended).

- 1.2.3 A non-native animal or plant is defined as an animal or plant outside its native range, which, if not under the control of any person, would be likely to have a significant adverse impact on biodiversity or, environmental, social or economic interests.
- 1.2.4 Part 14 of the Wildlife and Countryside Act 1981 (as amended) makes it unlawful to plant or otherwise grow in the wild any plant which is listed under Part II of Schedule 9. The Wildlife and Countryside Act 1981 (as amended) also states that persons must take all reasonable steps and must exercise due diligence to avoid committing an offence. It is not an offence to have plants listed under Schedule 9 on the land, it is an offence to cause the spread of these plants to new areas.
- 1.2.5 It is worth noting that the legislation provides a defence if the accused can prove that all reasonable steps have been taken, and all due diligence has been exercised, in order to avoid committing an offence. Therefore in following and best practice and to reduce the potential for fines / prosecution, a management plan should be in place for invasive species on a property and property owners should be able to show that they are following it. This is that management plan for the Project.
- 1.2.6 The rate of spread of invasive species typically increases over time, along with control costs and the severity of impacts. It is therefore important to respond to infestations as quickly as possible or, ideally, prevent infestation in the first place as required by this Strategy.

### **Invasive Species**

- 1.2.7 INNS, such as Himalayan Balsam, are species that do not occur naturally in Great Britain but have been introduced and have subsequently become established. They are agents of change and can cause economic and / or ecological damage. Invasive species are estimated to cost the UK economy more than 2 billion pounds each year, due to control cost and impacts on the agriculture sector, amenity use, flooding severity etc.
- 1.2.8 Additionally, the presence of invasive species, in particular Japanese Knotweed, Giant Hogweed and Himalayan Balsam can have a significant impact on property value, can cause issue / delays relating to site development and can impede property sale.

- 1.2.9 Identification sheets for INNS can be found on the GB Non-Native Species-Secretariat webpage<sup>1</sup>. These are free to download and print.
- 1.2.10 The current identification sheets relating to Himalayan Balsam are provided for information in [Appendix A](#)~~Appendix A~~.

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<sup>1</sup> <https://www.nonnativespecies.org/non-native-species/id-sheets/#>

## 2 Methodology

### 2.1 INNS Baseline

2.1.1 Initial surveys of the Project site were undertaken between 2019 and 2022 to inform the Environmental Statement (ES Chapter 9 Ecology and Nature Conservation [[APP-034](#)] and associated appendices).

2.1.2 Where invasive species were identified during surveys, they have been documented in **ES Appendix 9.6.2: Ecology Survey Report** [[APP-124](#) [APP-125](#) [APP-126](#) [APP-127](#) [APP-128](#) [APP-129](#) [APP-130](#)]. The INNS identified within Order limits during surveys to date are listed in Table 1.3.

**Table 1.3: INNS locations within the Project boundary**

INNS	Details
Signal crayfish <i>Pacifastacus leniusculus</i>	Gatwick Stream (single crayfish caught during fish surveys in 2022)
Himalayan balsam <i>Impatiens glandulifera</i>	River Mole (occurs throughout Mole catchment. Most frequently occurs alongside the river where it exits the culvert under the airfield. Gatwick working with other catchment partners to control spread).
	Gatwick Stream (occurs along the Stream where it passes through Gatwick but is most abundant through Riverside Garden Park. Is currently subject to volunteer management within the Park).
<u>New Zealand Mud Snail</u> <u><i>Potamopyrgus antipodarum</i></u>	<u>River Mole (identified during aquatic surveys in both 2020 and 2022, although numbers had decreased in 2022)</u> <u>Gatwick Stream (identified during aquatic surveys in both 2020 and 2022, although numbers had decreased in 2022)</u>
<u>American Mink</u> <u><i>Neovison vison</i></u>	<u>River Mole (Mink recorded during otter surveys)</u>

## 3 Pre-construction Survey

3.1.1 Recognising that INNS are often highly mobile, INNS species surveys (i.e. for invasive or injurious plants) will be undertaken prior to commencement of

construction in any particular area to ensure the pre-construction position is established.

- 3.1.2 If any INNS are identified through the pre-construction survey, an area-specific INNS Management Plan will be prepared which will be substantially in accordance with this Strategy but include management measures specific to the INNS identified and its location. ~~Any~~ Each INNS Management Plans will include:
- a detailed location plan of the area covered by the INNS Management Plan and the location of the INNS identified within the relevant area;
  - INNS monitoring measures throughout both the construction period and post-construction;
  - details of the INNS identified; and
  - necessary management/control measures.
- 3.1.3 Prior to commencement of construction in an area where INNS has been identified the INNS Management Plan must be approved by CBC in consultation with the Environment Agency and in consultation with Mole Valley District Council and Reigate and Banstead Borough Council to the extent that they are the relevant planning authority for the area subject to the INNS Management Plan.

## 4 INNS Management and Control Measures

4.1.1 Construction of the authorised development must be carried out in accordance with the management and control measures set out in this section [and any subsequently approved INNS Management Plans](#).

### 4.2 General Commitments for Invasive and Non-native Species Management on Construction Sites

4.2.1 [Construction w](#)orks will follow good practice measures detailed in the following regulatory guidance documents and any updates which may be published ~~throughout~~ [during](#) the construction of the Project:

- Department for Environment, Food and Rural Affairs (DEFRA) Environmental Management – Guidance, ‘Japanese Knotweed, Giant Hogweed and Other Invasive Plants’ (Department for Environment, Food and Rural Affairs, 2013);
- Environment Agency, Invasive Weeds – Guidance for the control of invasive weeds in or near water (Environment Agency, 2003);
- PCA (2015). PCA Guidance Note – Management of Himalayan Balsam. Property Care Association, Huntingdon, Cambridgeshire;
- Environment Agency (2006). *Japanese Knotweed Code of Practice* (as amended 2013). Environment Agency, Bristol;
- PCA (2018). *Code of Practice for the Management of Japanese Knotweed*. Property Care Association, Huntingdon, Cambridgeshire;
- PCA (2022). *Japanese Knotweed Guidance for Professional Valuers and Surveyors*. Property Care Association, Huntingdon, Cambridgeshire; and
- RICS (2022). *Japanese Knotweed and residential property*. RICS (Royal Institute of Chartered Surveyors) information paper. Coventry.

4.2.2 Good site practice and hygiene will be adopted to ensure the following:

- All areas of Himalayan balsam not within the physical working areas are to be demarcated to ensure no accidental spread or contact. Areas that have been previously infested and subsequently mitigated to also be clearly demarcated so site staff are aware of historic presence;
- All vehicles and footwear entering working area to be clean on arrival;
- Vehicles or staff required to enter areas identified as previously being infested with Himalayan balsam, will be thoroughly inspected and boots or vehicles cleaned before moving outside of the working area;



- Areas previously infested with Himalayan balsam that are likely to be disturbed by vehicles will be protected by a root barrier membrane to reduce spread and likelihood of heavy contamination of vehicles and footwear;
- Vehicles used to transport infested soils must be thoroughly inspected and appropriately cleaned in a designated area before being used for other work;
- The designated cleaning area must be within an area of hard standing or covered by a root barrier membrane that can contain and collect the material washed off. The cleaning area must be located so as not to allow material to contaminate drains, ditches or watercourses;
- The most appropriate methods of cleaning will be determined by a suitably-qualified contractor following a visual inspection. The suitably-qualified contractor will supervise the cleaning, which will pay particular attention to tyre treads, wheel arches and any other areas that might retain rhizomes or seeds;
- The material left within the designated area after vehicles have been cleaned must be contained, collected and disposed of along with other contaminated material. For Himalayan balsam this needs to be done in accordance with the licencing requirements in The Invasive Alien Species (Enforcement and Permitting) Order 2019;
- Awareness training should be undertaken in the form of toolbox talks covering invasive species to make construction personnel aware of what Himalayan balsam look like and what their responsibilities are ([Appendix A](#)); and
- The Project's Ecological Clerk of Works (ECoW) will undertake pre-construction invasive species survey and update [these INNSMS, where necessary](#). The updated INNSMS to be approved by CBC in consultation with the EA. The ECoW will oversee the implementation of the INNSMS and area specific INNS [Management Plans](#) on the Project.

### 4.3 Awareness

- 4.3.1 All construction personnel working on site must be made aware of the potential presence of invasive plants, the scope of the INNSMS and any associated methods of working or exclusion zones that must be adhered to. Ideally, this should be in the form of a toolbox talk by the Project's ECoW.
- 4.3.2 This is particularly important for any activities where clearance of vegetation or excavation / disturbance of soils are required as these pose a high risk of spreading contaminated materials to other parts of the site and beyond, which

would be an offence under the Wildlife and Countryside Act (1981) (as amended).

4.3.3 Any queries, issues or concerns arising in relation to the presence of invasive plant species or the measures outlined in this Strategy or [in](#) an area specific INNS [M](#)anagement [p](#)lan should be directed to the ECoW. If there is any doubt that a particular activity will breach the requirements of this Strategy or an area specific INNS [M](#)anagement [p](#)lan, guidance must be sought from the ECoW before commencing that activity.

#### 4.4 Isolation of Existing Contamination Outside of Working Area

4.4.1 Unless disturbed and actively transported around the site, Himalayan balsam will gradually spread via 'exploding' seedpods. To prevent accidental spread, which would be an offence under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), all soils within 7m of Himalayan balsam should be considered contaminated. These areas should be fenced off as exclusion zones during the works to highlight the locations of the plant and minimise any potential interference and in turn, spread.

4.4.2 If any new growth of Himalayan balsam is discovered outside of the any exclusion zones, the following actions must be implemented immediately:

- Cease works in the affected area;
- Equipment and machinery that may be contaminated with invasive plant material must be thoroughly jet-washed before being moved elsewhere;
- Erect a fence to highlight the appropriate exclusion zone and prevent accidental disturbance of contaminated materials; and
- Inform the ECoW where appropriate so that the location can be added to the site inventory and appropriate management options devised before works continue. If necessary, a new INNS [Management](#) Plan for the area should be developed.

#### 4.5 Check, Clean, Dry

4.5.1 A 'check, clean, dry' approach will be implemented: the checking of clothing, equipment and footwear for plant fragments; thoroughly cleaning and washing all equipment, clothing and footwear prior to leaving the potentially contaminated areas; and drying those items before reuse at a different location (see [Appendix B](#) for an example of the educational poster that could be used within site offices).

## 4.6 Excavation of Invasive Species

4.6.1 The below sets out the biosecurity measures that will be put into practice to prevent spread around or off the site during control action if excavation of INNS is necessary (these would be set out in detail in the appropriate INNS [Management Plan](#) for a specific area where such activities were necessary):

- All works outlined below should be undertaken by a specialist invasive weed contractor (who will produce their own Method Statement and risk assessments) and be overseen by an appropriately experienced Property Care Association (PCA) [and](#) approved [by an](#) Ecological Clerk of Works (ECoW), who will be responsible for all biosecurity with respect to the invasive species on the site. This may be a different ECoW to the main Project ECoW.
- Any excavation of INNS will be to a depth and area determined by the ECoW and will continue, subject to ecological, physical, infrastructural, health and safety and other site-specific constraints, until the recommended maximum seed bank depth is reached.
- Inspection of the area for plants will take place regularly at the face of the excavation activities. Contractors must ensure that all reasonable access is provided to the ECoW.
- When contaminated material is being transported around the site, a haulage route will be set out in advance and precautions should be taken to prevent the spillage of contaminated soil and the spread of material.
- Tracked vehicles are more likely to facilitate the spread of propagules than tyred vehicles and extra precautions must be taken when they are used in the infestation area (regular inspection of tracks for plant material and cleaning).
- All excavations will take place at a safe distance from built structures and below ground utilities.
- All reasonable precautions will be taken not to facilitate the spread of invasive species during the control action.
- Following remediation works, potentially contaminated soil will be removed from all equipment / clothing / vehicles involved in control action.

## 4.7 Off-Site Disposal of Invasive Species Contaminated Materials

4.7.1 If any INNS contaminated material is to be disposed of off-site, it must be taken to an appropriately permitted waste management facility.

4.7.2 Before any invasive species contaminated waste is moved off site, soil sampling results will be required from the affected area, and the results sent to the

receiving landfill site for their approval before they will accept the waste. There is a standard turnaround time of two weeks for laboratories to assess soil samples.

- 4.7.3 A designated haul route to and from the invasive species contaminated areas; cleaning point(s); loading point; and uncontaminated / invasive free areas will be clearly marked out prior to the commencement of works.
- 4.7.4 All INNS waste material will be removed from site by a suitably registered waste carrier and managed in accordance with the duty of care requirements set out in the Construction Resources and Waste Management Plan (Doc Ref 5.3v2).
- 4.7.5 All waste removed from site should be accompanied by a Waste Transfer Note, which clearly states the presence of invasive species propagules and the waste's destination.
- 4.7.6 All INNS tickets should be checked by the ECoW before signing and copies of all Waste Transfer Notes documentation should be filed and kept for the legally required time.
- 4.7.7 At the completion of the excavation and placement works, all plant will be cleaned down adjacent to the excavation and all wash water and removed materials placed within the stockpile for removal or be disposed of appropriately. If deemed necessary by the ECoW, the haul route will be scraped and the arisings also placed within the confines of the stockpile.
- 4.7.8 All INNS works will be recorded, and material movements tracked. All aspects of the works, including photos, volume reconciliations, survey plans, Waste Transfer Notes (if any) and material movements will be retained for a period of 10 years. This information will be used to write and issue an invasive species Remediation Completion Report. This report will describe the operation and any variance from the method statement and provide accurate details of the location and dimensions of the volume using accurate GPS coordinates. The information will be provided to the local authority and EA.

#### 4.8 Methodology for the handling of Himalayan Balsam

- 4.8.1 Himalayan balsam can be controlled by hand pulling or machine cutting, provided there is access and the plant can be cut at ground level. A cut above the lowest node will cause the plant to regrow and flower later in the season. Pulling or cutting will be carried out from when the growth period starts (around March) and before the end of June i.e. before the plants have flowered or set seed. Frequent cutting will prevent the plant flowering however cutting too early will result in the regrowth and formation of the flower heads with a greater number of seeds.

Where there are fewer plants, each one will produce more than the average number of seeds. Partial control could be less effective than no control at all due to the density dependent method of weed production.

- 4.8.2 The plant is shallow rooted, so hand pulling is suitable for limited areas. Where possible the pulled / cut plant will be removed for composting or burning. If erosion is not a problem, it may be beneficial to leave the site fallow and allows seeds already in the ground to germinate, and then repeat the pull or cut the following year. This should remove most of the viable seed source.
- 4.8.3 On erodible slopes it may be better to get a grass sward established immediately after the first cut of balsam and then keep the grass mown or grazed for a few years until all remaining balsam seeds have germinated. On large areas to be cut it is recommended to leave the plant in situ.
- 4.8.4 Himalayan balsam can be effectively controlled with glyphosate applied in late spring when the plant is nearing maximum height but before flowering. [The Environment Agency ~~must~~ will be consulted prior to the use of glyphosate to approve the use of herbicide near watercourse or other wetland habitats through the approval process of the INNS Management Plans.](#) Herbicide control will be repeated monthly until September as germination from the seed bank will continue throughout the summer. The spray must be applied to ensure the germinating seedlings have grown up sufficiently to be adequately covered by the spray. Small infestations and individual plants can be controlled by using a glyphosate in a weed wiper. This has the advantage of preserving native plants and grasses which would otherwise be killed by the glyphosate. Glyphosate is a systemic herbicide which acts by blocking a plant's enzyme system. The herbicide will work by translocating down to the root system where it can inflict the most damage. Treated stems can be left to decay after chemical treatment, or burnt or composted, if left on site.
- 4.8.5 Himalayan balsam seeds generally only remain viable for 2 to 3 years so control can be achieved relatively quickly where there is no upstream source for reintroduction.
- 4.8.6 Excavation and removal of the seedbank can be achieved by removing soils to a depth of 300 mm, this material can then be banded on-site for herbicide treatment or transported by a licenced waste carrier to a suitably licenced receiving landfill as detailed in Sections [4.63.1](#) and [4.73.2](#) above.



#### 4.9 Methodology for working within areas where Signal Crayfish may be present

4.9.1 Surveys for aquatic invertebrates identified the presence of Signal crayfish in the Gatwick Stream. No works are proposed within the Stream, however due to the sensitivity of the River Mole, relevant biosecurity mitigations will be implemented.

4.9.2 Crayfish plague is a disease caused by a fungal-type organism called *Aphanomyces astaci*, which attacks the soft tissue of crayfish. Signal crayfish are carriers of the plague but are usually immune themselves. However, native white-clawed crayfish are susceptible and, once introduced, a population can be decimated in only a few weeks.

4.9.3 In optimal conditions the spores of the crayfish plague are able to survive up to 16 days on vectors such as boots or vehicles that have come into contact with contaminated water. Therefore, it is imperative that no cross-contamination occurs between the watercourses where the signal crayfish are present, and other water courses that could support white-clawed crayfish. Although all of the watercourses across the Gatwick site converge with the River Mole to the south of Longbridge Roundabout, avoiding cross contamination of the water courses upstream of that confluence will be important.

4.9.4 No water will be transferred between the Gatwick Stream and the River Mole catchment areas, to prevent the accidental transfer of either signal crayfish or crayfish plague.

4.9.5 Contractors will be instructed that, where possible, machinery is not being brought onto site immediately from works on external waterbodies. Machinery should be dry and free of mud or debris from all previous sites.

4.9.6 Vehicles and plant used on schemes with known signal crayfish populations will not be subsequently moved and used on any other schemes, without first being subject to full disinfection.

4.9.7 Assurance must be sought from suppliers that any aquatic plants purchased for planting of aquatic habitats (e.g. SUDS ponds, drainage ditches) have not come from sources that risk contamination by signal crayfish or crayfish plague.

#### 4.10 Methodology for the control of New Zealand Mud Snail

4.10.1 Surveys for aquatic invertebrates identified the presence of New Zealand Mud Snail in the Gatwick Stream and River Mole. No works are proposed within the Stream, however due to the sensitivity of the River Mole, relevant biosecurity mitigations will be implemented.

- 4.10.2 The main pathways of transmission for the New Zealand Mud Snail include unintentional human transportation via contaminated equipment and clothing of recreational water users, vector transmission on or in wildlife (fish, wildfowl etc), and water flow.
- 4.10.3 -The most effective method working within areas where New Zealand mud snails may be present is through prevention of their spread to new water bodies. Therefore, it is imperative that no cross-contamination occurs between the watercourses where the mud snails are known to be present.
- 4.10.4 No water will be transferred between the Gatwick Stream and the River Mole catchment areas, to prevent the accidental transfer of mud snails.
- 4.10.5 Contractors will be instructed that, where possible, machinery is not being brought onto site immediately from works on external waterbodies. Machinery should be dry and free of mud or debris from all previous sites.
- ~~4.9.74.10.6~~ 4.10.6 It is crucial that vehicles and plant used on schemes with known mud snails will not be subsequently moved to and used on a new scheme, without first being subject to full disinfection.
- 4.11 Methodology for the control of American Mink
- 4.11.1 Otter surveys identified the presence of American mink in the River Mole. Due to the sensitivity of the River Mole, and the favourable habitat that will be created with the River Mole realignment, relevant biosecurity mitigations will be implemented.
- 4.11.2 Control will be implemented through trapping based on the use of mink rafts. Rafts/traps will be set at around 0.5km intervals along the Mole where it passes past Gatwick.
- 4.11.3 Trapping will be conducted between January and mid-April (i.e. pre-breeding) to minimise the size of the breeding population and from August to December to catch dispersing and wintering animals. Traps will not be set in extreme weather (e.g. torrential rain or storms) as this can cause undue distress or death of captured animals (which may not always be mink). Once trapping has been initiated it should be continued as mink will continually re-colonise unoccupied areas if not controlled.
- 4.11.4 Any mink caught will be humanely dispatched. Dead animals must be disposed of in accordance with current legislation.

4.11.5 Any non-target species which are protected (e.g. otter, water vole) must be released when traps are inspected.

## 5 Ongoing Monitoring and Auditing

- 5.1.1 This Strategy will be reviewed every three months by GAL, as advised by a suitably qualified/experienced contractor (i.e. one with appropriate accreditation or trade body membership such as the Invasive Non-Native Specialists Association), and the ECoW throughout construction. Any updates considered necessary will be provided to CBC for approval in consultation with the EA.
- 5.1.2 The monitoring of exclusion areas around INNS within the site will be undertaken by the ECoW to ensure buffer zones are adhered to and onsite biosecurity is applicable to the site. Adherence to measures of working on site with INNS and the biosecurity measures undertaken will be monitored by the ECoW and reported internally within the Project.
- 5.1.3 Site workers and the ECoW will remain vigilant for the new growth of invasive species within and in close proximity to the works, and this Construction Management and Monitoring complied with.

## 6 References

Department for Environment, Food and Rural Affairs (2013) *Department for Environment, Food and Rural Affairs (DEFRA) Environmental Management – Guidance, 'Japanese Knotweed, Giant Hogweed and Other Invasive Plants'*

Environment Agency (2003) *Environment Agency, Invasive Weeds – Guidance for the control of invasive weeds in or near water*

Gatwick Airport Limited (2023) *Environmental Statement: Appendix 9.6.2: Ecology Survey Report*

PCA (2015). *PCA Guidance Note – Management of Himalayan Balsam*. Property Care Association, Huntingdon, Cambridgeshire

Environment Agency (2006). *Japanese Knotweed Code of Practice* (as amended 2013). Environment Agency, Bristol.

PCA (2018). *Code of Practice for the Management of Japanese Knotweed*. Property Care Association, Huntingdon, Cambridgeshire.

PCA (2022). *Japanese Knotweed Guidance for Professional Valuers and Surveyors*. Property Care Association, Huntingdon, Cambridgeshire.

RICS (2022). *Japanese Knotweed and residential property*. RICS (Royal Institute of Chartered Surveyors) information paper. Coventry.

[NNSS \(2011\). GB Non-Native Organism Risk Assessment Scheme for Jenkins' Spire Snail, New Zealand Mudsnail \*Potamopyrgus antipodarum\*. GB Non-Native Species Secretariat. York.](#)

[RAPID \(2021\). Good Practice Management Guide, American mink \(\*Neovison vison\*\). RAPID LIFE \(Reducing and Preventing Invasive Alien Species Dispersal\). London](#)



## 7 Glossary

**Table 7-1: Glossary of Terms**

<b>Term</b>	<b>Description</b>
<b>CMMS</b>	Construction Management and Monitoring Strategy
<b>COSHH</b>	Control of Substances Hazardous to Health
<b>DEFRA</b>	Department for Environment, Food and Rural Affairs
<b>ECoW</b>	Ecological Clerk of Works
<b>eDNA</b>	Environmental DNA
<b>GAL</b>	Gatwick Airport Limited
<b>INNS</b>	Invasive Non-native Species
<b>JNCC</b>	Joint Nature Conservation Committee
<b>PCA</b>	Property Care Association
<b>WCA</b>	Wildlife and Countryside Act 1981

## 8 Appendices

Appendix A. Himalayan Balsam ID

# 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 19<sup>th</sup> 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.

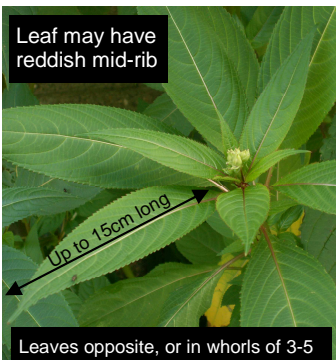
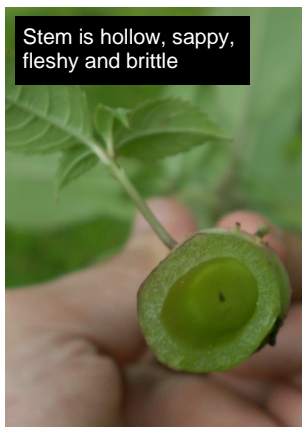
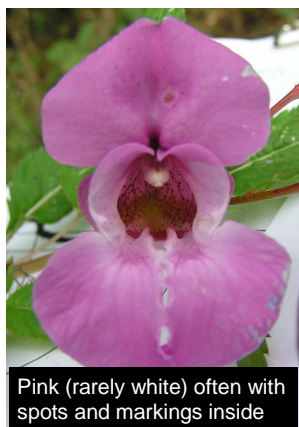
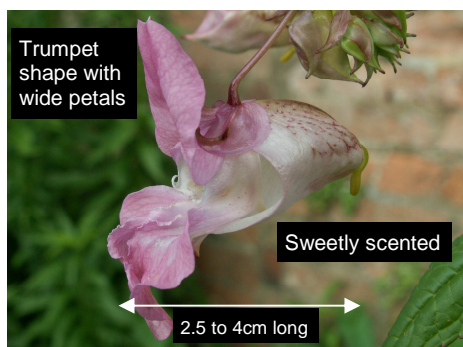
Out-competes native species in ecologically sensitive areas, particularly river banks. Where it grows in dense stands along river banks it can impede flow at times of high rainfall, increasing the likelihood of flooding. Die back of extensive stands over winter can leave river banks bare and exposed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



Hay like remains in winter



Root structure in winter

## Similar Species

**Orange Balsam**  
Non-Native  
(*Impatiens capensis*)



Smaller leaves, with fewer serrations

Flowers slightly earlier, June to August

Orange balsam is much less aggressive than Himalayan balsam, forming smaller less dense stands

Flower is similar in shape but orange in colour

Smaller than Himalayan balsam, growing to a height of 1.2m



## 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



Appendix B. Clean, Check, Dry

# STOP THE SPREAD



Are you unknowingly spreading invasive species on your water sports equipment and clothing?

Invasive species can affect fish and other wildlife, restrict navigation, clog up propellers and be costly to manage. You can help protect the water sports you love by following three simple steps when you leave the water.



**Check** your equipment and clothing for live organisms - particularly in areas that are damp or hard to inspect.

**Clean** and wash all equipment, footwear and clothing thoroughly.

If you do come across any organisms, leave them at the water body where you found them.

**Dry** all equipment and clothing - some species can live for many days in moist conditions.

Make sure you don't transfer water elsewhere.

For more information go to [www.direct.gov.uk](http://www.direct.gov.uk) and search for **Check Clean Dry**

