

INVASIVE NON-NATIVE SPECIES MANAGEMENT PLAN

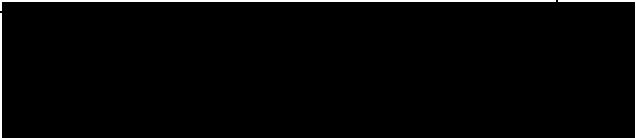
- *Land Adjacent to Lakeland Lodge, Rudyard*



Thomas Egerton

HEWITT&CARR SERVICES 17-19 Leek Rd, Cheadle, ST10 1JE

Document Control Sheet

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Author:	Tom Egerton BSc(Hons)
Contact Details:	Hewitt&Carr Services DaisyBank House 17-19 Leek Road, Cheadle, Stoke-on-Trent, ST10 1JE 01538 711777 hello@hc-services.uk
Position:	Lead Ecologist
Author's Signature:	

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1. Purpose of the Management Plan

This Invasive Non-Native Species Management Plan sets out the measures required to identify, contain, treat and monitor Himalayan balsam *Impatiens glandulifera* and rhododendron *Rhododendron ponticum* within the site.

Both species were recorded or referenced during the Preliminary Ecological Appraisal. Himalayan balsam was associated primarily with disturbed and damp habitat margins, while rhododendron occurred within woodland-edge habitat. The PEA requires affected areas to be identified and demarcated, soil and vegetation movement to be controlled, biosecurity measures to be implemented and follow-up monitoring to be completed.

The principal objectives of this plan are to:

- Prevent Himalayan balsam seed from being transported by water, machinery, footwear or vegetation movement
- Prevent rhododendron seedlings, roots, stems or contaminated material being spread into unaffected habitats
- Prevent affected soil being moved into C1, habitat-creation areas or neighbouring land
- Prevent either species reaching the Rudyard to Ladderedge canal feeder
- Remove or suppress the existing stands
- Prevent re-establishment following initial treatment
- Protect retained native woodland, scrub, grassland and wetland habitats
- Coordinate INNS control with the development works, Hydrological RAMS, Habitat Creation Works RAMS and HMMP
- Maintain records demonstrating that treatment, disposal and monitoring have been completed

The management strategy is based on containment at source, treatment before material can spread, strict biosecurity and repeated follow-up inspection.

2. Scope

This plan applies to:

- All known Himalayan balsam and rhododendron stands within the site
- Soil immediately associated with those stands
- Cut, pulled or excavated plant material
- Seeds, roots, stems, foliage and other viable material
- Tools, footwear, vehicles and machinery entering affected areas
- Water passing through or beside an affected area
- Temporary storage and removal of affected material
- Construction and habitat works occurring close to an affected stand
- Follow-up treatment and monitoring

The plan applies from the pre-construction stage until the monitoring programme confirms that the management objectives have been achieved.

It does not authorise treatment outside land controlled by the client. Where an infestation continues onto neighbouring land, the extent will be recorded and the adjoining landowner will be informed where appropriate.

3. Relationship with Other Project Documents

This plan will be read alongside the following documents.

Document	Relationship with this plan
Preliminary Ecological Appraisal	Identifies the species and ecological context
Development Area and Construction Works RAMS	Controls construction clearance, plant movement and soil disturbance
Habitat Creation and Enhancement Works RAMS	Controls planting, overseeding and habitat work within retained compartments
Hydrological RAMS	Prevents water transporting seeds, fragments and contaminated soil
Habitat Management and Monitoring Plan	Provides the long-term habitat restoration and monitoring framework
Construction Environmental Management Plan	Provides wider environmental and pollution controls
Site Compartments Plan	Identifies W1–W3, S1–S3, G1 and C1
INNS Constraints and Treatment Plan	Will show the confirmed locations and management zones

Where an activity could spread INNS material, this plan will take precedence over a general construction or landscaping method.

The treatment contractor will coordinate with the project ecologist, principal contractor and habitat contractor so that planting, soil movement or construction activity does not take place within an affected area before it has been appropriately treated or released for access.

4. Site Context

The site comprises a mosaic of previously developed ground, ruderal vegetation, neutral grassland, mixed scrub and secondary woodland edge.

Himalayan balsam occurs principally within disturbed and damp habitat margins. This creates a particular risk of seed movement through surface-water runoff and the existing hydrological pathways surrounding the site.

Rhododendron is associated with the woodland edge and may suppress the establishment of native woodland ground flora and shrub planting if it is not controlled. The woodland edge is otherwise an ecologically functional part of the wider Rudyard valley network, providing nesting, foraging, refuge and connectivity opportunities.

The principal off-site receptor is the Rudyard to Ladderedge canal feeder. Seeds, plant material and contaminated soil must not be allowed to enter the feeder or any surface-water route connected to it.

5. Target Species

5.1 *Himalayan Balsam*

Himalayan balsam is an annual plant associated particularly with damp, disturbed and riparian habitats. Its seed capsules disperse seed when mature, and flowing water can transport seed beyond the original stand.

For this site, the main pathways of spread are:

- Disturbance of mature seed-bearing plants
- Flowing water passing through an affected stand
- Cut material being left beside a runoff pathway
- Soil being moved from affected damp margins
- Seed becoming attached to footwear, tyres or equipment
- Vegetation arisings being transferred into unaffected compartments

The treatment programme will therefore seek to prevent flowering and seed production and will control water, soil and worker movement through the affected areas.

5.2 *Rhododendron*

Rhododendron is an evergreen invasive shrub associated here with woodland-edge habitat.

It may spread through seed production, seedlings, layering and regrowth from untreated stumps or root systems. Cutting the visible growth without treating or removing the viable plant base may therefore result in renewed growth.

The principal site-specific pathways of spread are:

- Untreated cut stumps producing regrowth
- Seedlings establishing within woodland and scrub
- Branches layering where they remain in contact with the soil
- Soil and root material being moved during construction or planting
- Cut material being deposited in unaffected habitat
- Machinery or personnel moving between affected and unaffected areas
- Failure to identify small seedlings following removal of mature plants

Current Forestry Commission and Defra guidance identifies hand-pulling of small seedlings, herbicide treatment of freshly cut stumps or regrowth and cutting larger plants followed by appropriate stump treatment as accepted control approaches. Repeated inspection is required to identify regrowth and newly established plants.

6. Legal and Regulatory Context

The two plants are subject to different but overlapping legal controls.

Rhododendron ponticum and its listed hybrid with *R. maximum* are included within Schedule 9 of the Wildlife and Countryside Act 1981, as amended. Himalayan balsam is currently identified as a widely spread invasive alien species of special concern in England and Wales. Management must prevent either species being intentionally planted, caused to grow or spread beyond its existing location.

Government guidance states that the movement of contaminated soil or plant cuttings can cause an invasive non-native plant to grow in the wild. Treatment and disposal must therefore avoid risk to human health, water, soil, native vegetation and animals.

Where herbicide is used:

- The product must be authorised for the proposed use
- The label and statutory conditions must be followed
- The operator must hold the appropriate certificate of competence or work under the permitted direct supervision
- A COSHH assessment must be completed
- Measures must prevent contamination of water and non-target vegetation
- Environment Agency agreement must be obtained before herbicide is used in or sufficiently close to water that the aquatic environment could be affected

Any proposed handling or transport of live Himalayan balsam or viable material will be checked against the current Natural England licensing requirements for widely spread species of special concern. Off-site movement will only be undertaken for authorised destruction or disposal.

Invasive plant material or associated soil taken off site may be controlled waste. Off-site disposal will use a registered waste carrier and an authorised disposal facility that has confirmed it can receive the material. Most invasive non-native plant material will not be placed in ordinary green-waste or composting streams.

Any on-site burial, burning or other waste treatment would require prior confirmation of the applicable environmental permit, registered exemption or Environment Agency Regulatory Position Statement. RPS 178 does not remove the underlying legal requirement for a permit or exemption and can only be relied upon where all its conditions are satisfied.

On-site burial and burning are not proposed as the default methods for this site.

7. Management Objectives and Success Criteria

7.1 Management Objectives

The objectives are to:

1. Confirm the full extent of both species before works begin
2. Prevent either infestation expanding during construction
3. Prevent seed, fragments, roots or contaminated soil entering unaffected habitat
4. Prevent Himalayan balsam from producing viable seed
5. Kill or remove rhododendron plants and control all regrowth
6. Prevent water from passing through affected stands and entering the canal feeder
7. Restore treated areas with native vegetation
8. Monitor the affected areas for at least five years
9. Treat newly emerging plants before they reproduce
10. Retain a complete treatment and monitoring record

7.2 Success Criteria

Management will be considered successful where:

Target	Success criterion
Himalayan balsam	No flowering or seed-producing plants remain within the treatment area
Himalayan balsam spread	No new stands attributable to site operations occur in previously unaffected compartments
Rhododendron	No untreated mature plants remain
Rhododendron regrowth	All stump regrowth and seedlings are treated during the monitoring period
Soil movement	No affected soil is transferred outside the controlled area
Water pathways	No Himalayan balsam seed or rhododendron material enters a runoff pathway or the canal feeder
Biosecurity	No recorded transfer through tools, footwear, machinery or waste
Habitat recovery	Native ground flora, scrub or grassland establishes in the treated area
Records	Treatment, waste and monitoring records are complete

The presence of an occasional seedling or regrowth shoot during the monitoring period will not automatically represent failure, provided it is identified and treated before reproduction. Repeated or expanding regeneration will trigger a review of the management method.

8. Roles and Responsibilities

8.1 Client or Landowner

The client or landowner will ensure that:

- An experienced INNS contractor is appointed
- The contractor receives this plan and the relevant site plans
- Required permits, licences, consents and waste arrangements are confirmed
- The treatment and monitoring programme is funded
- Access to treatment areas is maintained
- Records are retained
- Follow-up treatment is completed for the full monitoring period

8.2 Principal Contractor

The principal contractor will:

- Prevent construction access into marked INNS areas
- Prevent affected soil being excavated or moved without authorisation
- Coordinate development sequencing with treatment
- Maintain fencing and warning signs
- Provide designated cleaning and waste-handling areas
- Ensure subcontractors receive the INNS toolbox talk
- Stop works where unexpected invasive plants are encountered

8.3 Site Manager

The site manager will:

- Maintain the current INNS Constraints and Treatment Plan
- Check that affected areas remain marked
- Keep treatment and waste records
- Confirm that plant and soil movements have been authorised
- Arrange cleaning following accidental entry
- Report any spread or breach
- Prevent release of an affected area until treatment requirements have been met

8.4 Project Ecologist

The project ecologist will:

- Confirm species identification
- Assist with mapping
- Advise on ecological constraints around treatment areas
- Coordinate nesting-bird and protected-species precautions
- Review the relationship between treatment and habitat restoration
- Inspect unexpected plants or changes in distribution
- Review monitoring results and recommend adaptive management

8.5 INNS Contractor

The INNS contractor will be responsible for:

- Selecting an appropriate treatment method

- Confirming operator competence
- Preparing herbicide and COSHH documentation where relevant
- Checking whether Environment Agency agreement or another consent is required
- Preventing seed and plant-fragment dispersal
- Cleaning tools, PPE and machinery
- Containing and disposing of arisings
- Recording the extent and date of treatment
- Completing follow-up inspections
- Reporting treatment failure, regrowth or newly identified stands

9. Pre-Commencement Survey and Mapping

9.1 Survey Timing

A pre-treatment survey will be completed during the growing season when Himalayan balsam and rhododendron can be identified reliably.

The survey will cover:

- C1
- W1–W3
- S1–S3
- G1
- Habitat edges
- Temporary access routes
- Proposed soil-storage areas
- Surface-water pathways
- The southeast and southwest runoff-control points
- Land between the treatment areas and the canal feeder

A further check will be undertaken immediately before any soil, vegetation or machinery disturbance in an affected or potentially affected area.

9.2 Information to Be Recorded

Each stand or individual plant group will be assigned a unique reference.

The survey record will include:

Information	Requirement
Species	Himalayan balsam or rhododendron
Stand reference	Unique identification number
Grid reference	Recorded
Compartment	C1, W1–W3, S1–S3 or G1
Extent	Mapped polygon or point
Approximate density	Scattered, locally frequent or dense
Growth stage	Vegetative, flowering, seed-bearing, seedling or regrowth

Connection to water	None, possible or direct
Adjacent habitat	Recorded
Proposed treatment	Recorded
Access restrictions	Recorded
Photographs	General view and identifying features

The survey will include a reasonable buffer around each visible stand to account for hidden seedlings, root spread and seed dispersal.

9.3 Demarcation

Affected areas will be marked using temporary fencing, stakes or clearly visible tape.

Signs will state:

- Invasive non-native species area
- No unauthorised access
- No soil or vegetation movement
- Clean footwear and equipment after entry
- Contact the site manager before work

The markings will be maintained until the area has been treated and released for the proposed activity.

10. Pre-Commencement Hold Point

No clearance, soil disturbance, habitat planting or construction access will enter an affected area until:

- The current extent has been mapped
- The treatment method has been agreed
- Protected-species constraints have been checked
- The route into and out of the stand has been agreed
- Hydrological controls are operational
- A cleaning area has been established
- Waste containment and disposal arrangements have been confirmed
- Herbicide permissions and documentation are in place where applicable
- Workers have received the INNS toolbox talk
- The site manager has authorised the activity

10.1 Hold-Point Record

Requirement	Complete	Comments
Growing-season extent confirmed		
Treatment areas mapped		
Access route agreed		
Runoff controls operational		
Protected-species checks complete		
Cleaning area established		
Waste route confirmed		
Herbicide documentation complete		
Environment Agency agreement checked		
Toolbox talk complete		
Treatment authorised		

11. General Biosecurity Measures

11.1 Clean-Entry Principle

All tools, machinery, boots and PPE will enter the site in a clean condition.

Equipment carrying soil, seeds or vegetation from another site will not enter the treatment area until it has been cleaned.

Only equipment necessary for the treatment will enter an affected stand.

11.2 Working Direction

Where practicable, work will proceed in the following order:

1. Unaffected areas
2. Areas with low infestation density
3. Areas with dense infestation
4. Cleaning and inspection
5. Exit from the controlled area

Personnel will not move directly from an INNS stand into an unaffected habitat compartment without completing the required cleaning procedure.

11.3 Cleaning Procedure

Before leaving an affected area:

- Loose soil and vegetation will be removed using hand tools
- Footwear soles, treads and uppers will be checked
- Wheels, tracks, buckets and attachments will be checked
- Seeds and fragments will be collected
- Tools will be brushed or washed in the designated area
- Wash water and removed material will be contained
- Equipment will be visually inspected before release

Cleaning will occur on an impermeable surface or contained sheeting where practicable.

Wash water will not be discharged:

- Into retained habitat
- Onto unaffected soil
- Into a drain or runoff pathway
- Towards the canal feeder
- Into G1 or another habitat-creation compartment

The contaminated material collected during cleaning will be handled with the relevant plant arisings.

11.4 Footwear and PPE

Dedicated boots or disposable overshoes may be used where repeated access is required.

Disposable PPE will be bagged before leaving the controlled area.

Clothing carrying seeds, leaves or soil will be cleaned or contained before workers enter unaffected habitat or leave the site.

11.5 Machinery

Tracked and wheeled machinery will be excluded from the affected areas wherever hand methods are practicable.

Where machinery is essential:

- The route will be agreed
- Seed-bearing Himalayan balsam will not be driven through
- Rhododendron material will not be crushed and spread through the woodland
- Machinery will remain within the marked zone
- Cleaning will be completed before the machine leaves
- The cleaning record will identify the machine and date

12. Himalayan Balsam Management

12.1 Management Principle

The Himalayan balsam objective is to prevent seed production and progressively exhaust the infestation through repeated control.

Treatment will be undertaken before ripe seed capsules develop. Once mature seed capsules are present, disturbance can disperse seed and the working method must be reassessed.

The preferred method for small or localised stands is manual pulling. Cutting or targeted herbicide may be used where the stand extent, access, ground conditions or ecological constraints make pulling unsuitable.

Government guidance recognises cutting, pulling, digging and appropriately authorised herbicide treatment as available management methods. The method must prevent further growth or spread and avoid damage to the environment.

12.2 Manual Pulling

Manual pulling will be used where:

- Plants can be reached safely
- The stand is small or scattered
- The soil is sufficiently soft to allow removal
- Pulling will not cause unacceptable erosion
- No ripe seed capsules are present
- Protected fauna or active nests will not be disturbed

Each plant will be gripped low on the stem and removed carefully with the root system.

The operative will check that the root and lower stem have been removed. Loose soil will be shaken off within the affected area rather than transferred with the plant material.

Pulled plants will not be placed directly on damp soil where they could remain viable. They will be transferred immediately to the designated containment area.

12.3 Cutting

Cutting may be used for larger stands where hand pulling would cause excessive trampling or erosion.

Cutting will:

- Take place before seed capsules mature
- Be completed as low on the stem as practicable
- Prevent the remaining lower stem from continuing to flower
- Be undertaken directionally
- Avoid scattering fragments into a runoff route
- Be followed by inspection for missed or regrowing plants

Cutting alone will not be treated as complete management. Follow-up checks will identify surviving stems, secondary flowering and plants previously concealed within surrounding vegetation.

12.4 Herbicide Treatment

Targeted herbicide may be considered where:

- Access prevents effective manual treatment
- Repeated pulling would cause erosion
- The stand is extensive
- Plants occur among rubble or inaccessible vegetation
- A competent contractor considers chemical control the most proportionate option

The contractor will specify the authorised product, application method and rate within a treatment record. Blanket spraying of native woodland or grassland vegetation will be avoided.

The product will only be applied under suitable conditions and in accordance with its label.

Where the stand is in or near a watercourse, runoff route, wetland or the canal feeder, Environment Agency agreement will be obtained before treatment where required.

12.5 Seed-Bearing Plants

Where plants have mature or near-mature seed capsules:

- Routine pulling or strimming will stop
- The stand will be isolated
- Workers will avoid brushing against the plants
- Water will be prevented from passing through the stand
- The INNS contractor will determine a contained treatment method
- Seed-bearing material will be enclosed before movement
- The surrounding area will be inspected following treatment

Seed-bearing material will not be dragged through woodland, scrub or grassland.

12.6 Water Pathways

Himalayan balsam treatment will prioritise plants closest to upstream and downslope water pathways.

The Hydrological RAMS will ensure that:

- Construction runoff is intercepted before reaching the stand
- Water does not pass through cut or seed-bearing plants
- Seed is not transported to the southeast or southwest corners
- Pulled material is not stored beside a runoff route
- Cleaning water is contained
- The canal feeder receives no seed or plant material

13. Himalayan Balsam Arisings

13.1 Non-Seed-Bearing Material

Non-seed-bearing material may be retained temporarily within a controlled drying area where this can be undertaken without risk of rerooting, runoff or transfer.

The drying area will:

- Be located within or immediately adjoining the affected zone
- Be away from a surface-water route
- Use impermeable sheeting or another suitable contained surface
- Be clearly marked
- Prevent contact between lower stems and damp soil
- Be protected from wind and unauthorised disturbance
- Be inspected until the material is fully desiccated

Drying does not remove the need to manage the resulting material appropriately.

13.2 Seed-Bearing Material

Seed-bearing Himalayan balsam will be contained immediately in secure bags or enclosed containers.

Bags will not be overfilled or dragged across the ground.

The material will be taken through an approved waste route to an authorised destruction or disposal facility unless another lawful site-specific method has been confirmed.

13.3 Prohibited Disposal

Himalayan balsam material will not be:

- Placed in ordinary compost
- Added to green-waste collections without prior facility acceptance
- Deposited in habitat piles

- Left beside a watercourse
- Spread across woodland or grassland
- Buried without the required legal checks and authorisation
- Burned without the relevant exemption and management arrangements
- Removed by an unregistered waste carrier

14. Himalayan Balsam Follow-Up

The treated area will be checked repeatedly during the growing season.

The first follow-up will identify:

- Plants missed during the initial treatment
- Stems that have survived cutting
- Later-germinating seedlings
- Plants concealed beneath surrounding vegetation
- Flowering or seed-producing individuals
- Spread into adjoining compartments or flow routes

All subsequent plants will be treated before seed production.

The site will be monitored annually for five years. More than one treatment visit may be required during each growing season, particularly during the first years.

Where Himalayan balsam continues beyond the site boundary or upstream within a connected water pathway, this will be recorded because reinvasion may occur independently of the development works.

15. Rhododendron Management

15.1 Management Principle

Rhododendron control will remove or kill the existing plants while preventing regrowth from stumps, roots, layering branches and seedlings.

The method will reflect plant size, accessibility and the sensitivity of the surrounding woodland.

The preferred hierarchy is:

1. Hand removal of small seedlings
2. Cutting of established stems followed immediately by appropriate stump treatment
3. Targeted treatment of regrowth
4. Follow-up removal or treatment of seedlings

Flailing or cutting without follow-up stump or regrowth treatment will not be used as the sole control method.

15.2 Seedlings and Small Plants

Small seedlings will be hand-pulled where the root system can be removed without excessive disturbance.

The work will be completed when soils are suitable for root removal but not saturated.

Pulled seedlings will be checked to confirm that the root collar and principal root have been removed.

The planting hole will be firmed and reinstated.

Where pulling would damage the roots of a retained tree or native shrub, targeted herbicide treatment or repeated cutting may be considered instead.

15.3 Established Shrubs

Established plants will be cut progressively by a competent contractor.

Before cutting:

- Active bird-nest constraints will be checked
- The base and surrounding vegetation will be checked for fauna
- Access and material-handling routes will be agreed
- Native shrubs and young trees to be retained will be marked
- Runoff pathways will be protected
- The stump-treatment method will be prepared

Upper branches will be reduced carefully before the principal stems are cut.

Freshly cut stumps will be treated promptly with an authorised herbicide suitable for the location and method. The contractor will follow the product label and record the product, concentration, application method and treated stump references.

The treatment will be confined to the cut surface and will avoid surrounding soil and native vegetation.

Official woodland guidance identifies treatment of freshly cut stumps or stump regrowth as an appropriate method for rhododendron and recommends regular inspection for regrowth and new plants.

15.4 Regrowth

Previously cut stumps will be inspected for:

- New basal shoots
- Growth from roots or layered branches
- Untreated stems
- Seedlings beneath or around the former canopy

Regrowth will be treated using an authorised targeted method.

A stump will not be considered successfully controlled solely because its original top growth has been removed.

15.5 Foliar Treatment

Foliar treatment may be used for low regrowth or dense seedling areas where hand removal and cut-stump treatment are not proportionate.

Application will be targeted to avoid native ground flora, young trees and adjoining wetland vegetation.

Spraying will not proceed during:

- Rainfall
- Conditions where rainfall is likely before the required drying period
- Strong wind
- Waterlogged conditions
- Conditions causing drift towards the canal feeder or retained habitat
- Periods when the product label prohibits treatment

15.6 Protection of Native Woodland

Rhododendron removal will retain native trees, shrubs, deadwood and woodland structure wherever practicable.

The work will not involve wholesale clearance of the woodland understory.

Particular care will be taken around:

- Tree roots
- Native regeneration
- Standing and fallen deadwood
- Active bird nests
- Amphibian and reptile refuges
- Bat-roost features
- Areas already supporting native ground flora

Where the removal creates a large open area, native restoration planting will follow in accordance with the HMMP.

16. Rhododendron Arisings

Cut rhododendron material will not be incorporated into ecological log or brash piles.

The material will be:

- Lowered rather than thrown
- Kept within the controlled treatment area
- Prevented from entering a runoff pathway
- Prevented from being dragged through unaffected woodland
- Stacked securely pending disposal
- Kept away from native planting areas
- Inspected for potential disease symptoms where appropriate

The default disposal method will be removal by a registered waste carrier to a facility that has confirmed it is authorised and willing to receive the material.

Chipping, on-site burning or burial will not be undertaken unless separately assessed and shown to comply with the applicable permissions, waste controls and environmental safeguards.

Government guidance requires off-site invasive plant waste to be sent through a registered carrier to an authorised facility and advises that most invasive plant material is unsuitable for ordinary composting.

17. Phytophthora Precautions

Rhododendron can act as a host for Phytophthora pathogens. Where foliage shows unusual widespread dieback, blackened shoots, leaf lesions or another symptom potentially consistent with infection, material will not be transferred through the site until advice has been obtained.

Suspected infection will be reported to the Forestry Commission or appropriate plant-health authority with suitable photographs.

Where infection is suspected:

- Work will stop locally
- Machinery and footwear will remain within the controlled area pending cleaning
- Cut material will be isolated
- Tools will be disinfected using an appropriately assessed product
- Further treatment and disposal will follow plant-health advice

Current Defra guidance advises contacting the Forestry Commission where Phytophthora infection of rhododendron is suspected and applying appropriate cleaning and disinfection procedures.

18. Soil Management

18.1 General Principle

Soil from beneath or immediately adjoining an INNS stand will be treated as potentially affected until assessed.

Affected soil will not be used for:

- Clean-water bunds
- Habitat planting elsewhere
- Garden topsoil
- Grassland creation
- Backfilling in an unaffected compartment
- Formation of access tracks
- Off-site landscaping
- Material beside the canal feeder

18.2 Soil Disturbance

Unnecessary excavation within INNS areas will be avoided.

Where excavation is essential:

- The affected extent will be marked
- Soil will be excavated separately
- The excavator and vehicle route will be controlled
- Soil will not be mixed with clean material
- A contained temporary storage area will be prepared
- Loads will be covered
- Equipment will be cleaned after use
- The final treatment or disposal route will be recorded

The upper soil associated with Himalayan balsam may contain seed. Soil around rhododendron may contain roots or seedlings. Absence of visible plants at the time of excavation will not be treated as proof that the soil is unaffected.

18.3 Temporary Soil Storage

Temporary storage will use:

- An impermeable membrane or suitably contained hardstanding
- Edge containment
- Clear signs
- Protection from surface-water runoff
- Separation from clean soil
- A recorded volume and source location

The stockpile will not be placed within retained woodland, G1, a runoff pathway or a future garden.

18.4 Off-Site Disposal

Affected soil taken off site will:

- Be characterised appropriately
- Be accepted in advance by the receiving facility
- Be carried by a registered waste carrier
- Be covered during transport
- Be accompanied by the required waste documentation
- Be recorded within the INNS register

No soil will leave the site merely because it has been visually screened.

19. Water and Runoff Controls

No water will be intentionally directed through an INNS stand.

The Hydrological RAMS will be implemented so that:

- Clean water is diverted around affected areas where practicable
- Construction runoff is intercepted before it reaches Himalayan balsam or rhododendron
- Seed and fragments cannot pass beneath runoff barriers
- Water used for cleaning is contained
- Sediment removed from controls is inspected
- Pumped water is not released through an affected area
- The southeast and southwest controls prevent onward transfer
- No material reaches the Rudyard to Ladderedge canal feeder

Where seed, leaves, fragments or affected soil enter a runoff-control feature:

1. The relevant water movement will be stopped
2. The material will be contained
3. The downstream route will be protected
4. The site manager will be informed
5. The contaminated sediment or water will be removed appropriately
6. The control will be cleaned and reinstated
7. The incident will be recorded

20. Protected-Species Safeguards

INNS treatment will comply with the protected-species precautions in the Development and Habitat Creation RAMS.

Before cutting rhododendron or dense vegetation:

- Nesting-bird constraints will be checked
- Ground refuges will be inspected
- The area will be checked for hedgehog nests
- Mature trees and potential bat features will be protected

Vegetation cutting will be undertaken outside March to August inclusive where practicable. Where cutting is required during that period, a nesting-bird check will be completed no more than 48 hours before the work.

Rhododendron branches, damp balsam stands and accumulated plant material may provide refuge for reptiles, amphibians and small mammals. Material will therefore be lifted and moved progressively rather than crushed or dragged without inspection.

21. Treatment Sequencing

The preferred sequence is:

1. Complete the growing-season INNS survey
2. Map and demarcate every stand
3. Establish biosecurity and cleaning arrangements
4. Install hydrological controls
5. Treat Himalayan balsam before seed production
6. Complete the first rhododendron control phase
7. Remove or contain arisings
8. Inspect and release construction areas where appropriate
9. Complete development works under the Development RAMS
10. Undertake habitat restoration under the Habitat Creation RAMS
11. Complete growing-season follow-up inspections
12. Treat all regrowth and seedlings
13. Continue annual monitoring for five years

The precise order may vary between compartments. No construction or habitat work will be permitted to compromise the treatment or containment of an INNS stand.

22. Release of Treated Areas

Treatment does not automatically release an area for unrestricted access or soil movement.

An area may be released for the proposed work when:

- The initial treatment has been completed
- Seed-bearing material has been contained
- Arisings have been removed or secured
- Remaining stumps and regrowth have been recorded
- The proposed activity will not spread affected soil
- Biosecurity controls remain available
- The project ecologist and site manager have agreed the access conditions

Release may be conditional. For example, a treated rhododendron area may be suitable for hand planting but remain unsuitable for soil export.

23. Habitat Restoration

Following control, treated areas will be restored in accordance with the HMMP and Habitat Creation Works RAMS.

Restoration may include:

- Native woodland ground-flora planting
- Native shrub planting
- Retention of existing native regeneration
- Localised grassland overseeding

- Retention of leaf litter and clean native deadwood
- Stabilisation of disturbed soil
- Management of competing vegetation
-

Government guidance recommends re-establishing native plants following invasive-species treatment to reduce erosion, increase competition and reduce the opportunity for reinvasion.

Planting will not proceed until:

- Herbicide label restrictions have been satisfied
- INNS arisings have been removed
- The area is no longer required for access
- The ground is stable
- Follow-up treatment can still be undertaken without damaging the new habitat

24. Monitoring Programme

24.1 Monitoring Period

Monitoring will continue for five years following the initial treatment.

The programme will comprise:

Monitoring year	Minimum requirement
Year 1	Repeated growing-season inspections and follow-up treatment
Year 2	Repeated growing-season inspections and follow-up treatment
Year 3	Growing-season inspection, treatment and distribution review
Year 4	Growing-season inspection and treatment of any recurrence
Year 5	Final scheduled inspection and management review

Additional visits will be undertaken where flowering Himalayan balsam, rhododendron regrowth or a new stand is reported.

24.2 Monitoring Areas

Monitoring will cover:

- Original treatment polygons
- A surrounding buffer
- Access routes
- Cleaning areas
- Soil-storage areas
- Habitat-restoration areas
- Southeast and southwest runoff controls
- Surface-water routes
- Boundaries with adjoining land
- The route towards the canal feeder

24.3 Monitoring Information

Each visit will record:

- Date
- Surveyor
- Weather
- Species
- Stand reference
- Number or approximate cover
- Growth stage
- Regrowth or new seedling status
- Evidence of spread
- Condition of restored habitat
- Treatment completed
- Further action required
- Photographs

25. Adaptive Management

The management method will be reviewed where:

- Himalayan balsam produces seed despite treatment
- New stands occur beyond the marked area
- Rhododendron repeatedly regrows from treated stumps
- Native habitat restoration fails
- Soil movement exposes further affected material
- Water disperses seed or plant fragments
- Treatment damages non-target habitat
- Herbicide cannot be used safely
- Protected-species constraints prevent the planned method
- Neighbouring infestations repeatedly reinvade the site

Adaptive measures may include:

- Increasing treatment frequency
- Extending the management polygon
- Changing from cutting to pulling
- Introducing targeted herbicide treatment
- Retreatment of rhododendron stumps
- Additional biosecurity controls
- Increased ecological supervision
- Modified habitat restoration
- Liaison with an adjoining landowner

26. Incident Procedure

An INNS incident includes:

- Unauthorised entry into a treatment area
- A vehicle driving through seed-bearing balsam
- Affected soil being mixed with clean soil
- Seed or cut material entering a runoff route
- Rhododendron arisings being deposited in retained habitat
- Uncontained off-site movement
- Equipment leaving before cleaning
- Damage to containment
- Unexpected discovery of a new stand
- A waste facility refusing a load
- Herbicide spill or drift

The response will be:

1. Stop the relevant activity
2. Prevent further movement
3. Isolate the affected personnel, equipment or material
4. Protect downstream habitats and water pathways
5. Inform the site manager
6. Inform the INNS contractor and project ecologist
7. Clean or contain the affected area
8. Recover displaced plant material or soil
9. Review the extent of possible spread
10. Record the incident and corrective action
11. Do not resume until the controls are effective

Where a release threatens the canal feeder or another water receptor, the Hydrological RAMS pollution procedure will also be implemented.

27. Records

The following records will be retained:

- Baseline INNS Constraints and Treatment Plan
- Stand-reference schedule
- Pre-treatment photographs
- Toolbox-talk attendance
- Contractor competence information
- COSHH assessments
- Herbicide product and application records
- Environment Agency agreement where required
- Waste-carrier details
- Waste transfer documentation
- Receiving-facility confirmation
- Machinery and footwear cleaning records
- Soil-movement records
- Treatment dates

- Follow-up treatment records
- Monitoring reports
- Photographs
- Incident records
- Habitat-restoration records
- Final management review

Where RPS 178 or another regulatory provision is relied upon, records will be retained for at least the period required by that provision. RPS 178 currently requires relevant compliance records to be retained for two years from the last use of the position statement.

Project monitoring records will be retained for the full five-year management period and thereafter with the site ecological documentation.

Appendix 1 – INNS Stand Register

Stand reference	Species	Compartment	Grid reference	Extent	Density	Growth stage	Water connection	Treatment

Appendix 2 – Treatment Record

Treatment detail	Record
Date	
Contractor	
Stand reference	
Species	
Growth stage	
Area or number treated	
Treatment method	
Herbicide product where applicable	
Application rate	
Weather	
Environment Agency agreement reference	
Protected-species check	
Arisings method	
Soil disturbance	
Photographs	
Follow-up date	
Signature	

Appendix 3 – Biosecurity Record

Biosecurity detail	Record
Date	
Personnel or equipment	
Area entered	
Condition on entry	
Cleaning required	
Cleaning location	
Soil and vegetation removed	
Wash water contained	
Condition on release	
Inspector	
Signature	

Appendix 4 – Waste Movement Record

Waste detail	Record
Date	
Species or material	
Stand of origin	
Quantity	
Container or vehicle	
Waste classification	
Registered carrier	
Carrier registration	
Receiving facility	
Facility authorisation confirmed	
Waste-transfer reference	
Confirmation of receipt	

Appendix 5 – Monitoring Record

Monitoring detail	Record
Date	
Surveyor	
Stand reference	
Himalayan balsam present	
Flowering or seed production	
Rhododendron regrowth	
Rhododendron seedlings	
New stand identified	
Evidence of water dispersal	
Evidence of vehicle or foot transfer	
Native vegetation establishment	
Treatment completed	
Further action	
Photographs	

Appendix 6 – Completion and Review

Requirement	Complete	Comments
All original stands mapped		
Initial balsam treatment complete		
Initial rhododendron treatment complete		
Arisings removed or lawfully contained		
Affected soil accounted for		
Biosecurity records complete		
No material entered the canal feeder		
Habitat restoration completed		
Five-year monitoring completed		
No untreated reproductive balsam remains		
No untreated rhododendron regrowth remains		
Final review completed		

Sign-off	Name	Signature	Date
INNS contractor			
Site manager			
Project ecologist			
Client representative			