



Galileo 03 Ltd.

Mynydd Ty-talwyn Energy Park - Environmental Statement Volume III

Appendix 10.6: Invasive Non-Native Species Management Plan

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RSK

RSK GENERAL NOTES

Project No.: 663870

Title: Mynydd Ty-talwyn - Invasive Non-Native Species Management Plan -Himalayan Balsam

Client: Galileo 03 Ltd

Date: November 2025

Office: Cardiff

Status: DNS Application Submission

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Galileo 03 Ltd.

Mynydd Ty-talwyn- Environment Statement III
663870

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1.0 INTRODUCTION

1.1 Purpose of this Report

- 1.1.1 This report has been prepared by RSK Biocensus on behalf of Galileo 03 Ltd (part of Galileo Empower UK Ltd) (hereinafter referred to as 'Galileo' or the 'Applicant') who are proposing the construction and operation of six wind turbines, ground mounted solar photovoltaic (PV) modules, a project substation, and ancillary infrastructure works (the 'Proposed Development').
- 1.1.2 This Invasive Non-Native Species Management Plan has been produced to inform the Applicant of the proposed removal methodology and management activities in relation to Indian (Himalayan) Balsam (*Impatiens glandulifera*), an invasive non-native species (INNS) within the Application Site ('Site') at Grid Ref SS 86327 86041.
- 1.1.3 This Plan is a guidance document that identifies and informs best practice for the control of Himalayan balsam and sets out the specifics requirements for site and task management.

2.0 LEGISLATION AND ECOLOGY

2.1 Legislation

- 2.1.1 Himalayan Balsam is considered to be highly invasive and as such is listed in Section 14, Schedule 9: Part 2 of the Wildlife & Countryside Act 1981 (as amended)¹. It is illegal to plant or otherwise knowingly cause any plant species listed on Schedule 9: Part 2 of the Act to grow in the wild or spread to adjacent land owned by others.
- 2.1.2 The Invasive Alien Species (Enforcement and Permitting) Order 2019² is also designed to prevent, minimise or mitigate the adverse impact of the introduction and spread of invasive species.
- 2.1.3 It is not an offence to have Himalayan balsam on your land. However, it is considered best practice to responsibly manage all areas affected by invasive non-native plants to avoid their spread into the wild and to avoid detrimental impacts on biodiversity and the environment. Such management should be documented to demonstrate due diligence and show that all necessary steps have been taken to avoid allowing the invasive non-native species to spread into the wild.
- 2.1.4 Invasive non-native plant material is considered a 'controlled waste' under the Environmental Protection Act 1990³. Soil containing viable seeds can be regarded as contaminated and, if taken off a site, must be treated as controlled waste and disposed of at a suitably licensed facility.
- 2.1.5 An infringement under the Environmental Protection Act can result in enforcement action being taken by the Natural Resources Wales which can result in a fine. Individuals and companies can also be held liable for costs incurred from the spread of Himalayan balsam into adjacent properties and/ or for the disposal of contaminated soil offsite which later leads to the spread of Himalayan balsam onto another site.
- 2.1.6 RPS 178: Environment Agency Regulatory Position Statement 178 applies to those that want to dispose of invasive non-native plant material, and the substrate in which it is rooted, without a permit⁴.
- 2.1.7 As well as the legislation above, third party litigation for damages may be sought by adjacent landowners if non-native invasive weeds spread onto their land.

¹ Wildlife and Countryside Act 1981. Available at: <https://www.legislation.gov.uk/ukpga/1981/69/schedule/9A>. Accessed online 19 January 2023.

² The Invasive Alien Species (Enforcement and Permitting) Order 2019'. Queen's Printer of Acts of Parliament. Available at: <https://www.legislation.gov.uk/uksi/2019/527/contents/made>. Accessed online 19 January 2023.

³ Environmental Protection Act 1990. Available at [Environmental Protection Act 1990 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/1990/61/section/1) Accessed online 19 January 2023.

⁴ GOV.UK. 'Treatment and Disposal of Invasive Non-Native Plants: RPS 178'. Available at: <https://www.gov.uk/government/publications/treatment-and-disposal-of-invasive-non-native-plants-rps-178/treatment-and-disposal-of-invasive-non-native-plants-rps-178> Accessed online 19 January 2023.

2.2 Characteristics and ecology

- 2.2.1 Himalayan Balsam is a herbaceous shallow rooting annual plant which can grow up to 2 m tall⁵. A native of the Western Himalaya that was introduced into the United Kingdom as an ornamental plant in the 19th Century, it grows rapidly, spreads easily, out-competes other vegetation and readily colonises new areas. It favours moist and semi-shaded damp places, predominantly by slow-moving watercourses and waste land. Following winter die back, these banks are exposed to erosion, increased flooding, siltation and increased bank instability.
- 2.2.2 Himalayan Balsam has bright pink flowers from June to October and generates seedpods and seeds between July and October. The seedpods are dehiscent and explode when touched or shaken, with each plant producing up to 800 seeds being expelled up to 7 m from the parent plant⁶. Seeds can be spread over greater distances by various means including water and through human activity (e.g. attached to vehicles, clothing and footwear). These seeds germinate in the following spring to form a dense stand.
- 2.2.3 Himalayan balsam regenerates from seed which can remain viable in the soil for up to three years⁷. This timeframe is not guaranteed and varies depending on soil conditions but as a result areas of Himalayan balsam should be considered as 'contaminated', along with any soil as it will likely contain viable seeds with the potential to spread the plant and infect new sites.

⁵ Non-native species Secretariat Himalayan Balsam ID sheet Available at [ID Impatiens glandulifera \(Himalayan Balsam\)](https://nonnativespecies.org/ID/Impatiens_glandulifera/Himalayan_Balsam) (nonnativespecies.org). Accessed online 19 January 2023.

⁶ Non-native species Secretariat Available at: [Himalayan Balsam » NNSS \(nonnativespecies.org\)](https://nonnativespecies.org/Himalayan_Balsam_NNSS) Accessed online 19 January 2023.

⁷ Property Care Association (2015) PCA Guidance Note – Management of Himalayan Balsam

3.0 HIMALAYAN BALSAM MANAGEMENT

3.1 Background and location of non-native plant species

- 3.1.1 The Proposed Development is located on approximately 578 hectares (ha) of land located 4 km to the north of Bridgend and 8 km to the east of Port Talbot ('the Site'). The Site is dominated by other neutral and modified grassland, many of these fields bordered by hedgerows or fences, with areas of wet, broadleaved, other coniferous and mixed woodland, gorse and bramble scrub and fen marsh and swamp. The Site is also dissected by watercourses in several locations. Areas of modified grassland are actively grazed by both sheep and cows, with areas also being mown for silage.
- 3.1.2 Himalayan Balsam was found throughout the Site, there was an especially high concentration around access tracks and within wetter habitats. Japanese Knotweed and Montbretia (*Crocasmia sp.*) was also identified along the edge of the access road to the north of the Site.
- 3.1.3 The Proposed Development will result in the removal of vegetation on-site including areas of scrub where Himalayan Balsam is present. The Japanese Knotweed and Montbretia will not be impacted by the Proposed Development, hence they are not considered within this document.
- 3.1.4 There are also areas of scrub and woodland that are being retained as part of the development, these also contain Himalayan Balsam and will need to be managed in order to eradicate and control the INNS.

3.2 Control Options

- 3.2.1 It is key to undertake management works prior to Himalayan Balsam setting seed, and to reduce the viability of the seed bank in the soil gradually through an extended period of management.
- 3.2.2 Options for the control of Himalayan balsam are dependent on a range of factors, but timing of operations is key. It may take a couple of seasons to obtain good control of Himalayan Balsam, as additional weed seedlings germinate after the parent plants are killed off. Control options for this site are summarised below in **Table 1**.
- 3.2.3 Due to previous flowering and seed dispersal, eradication may take a number of years. Initial control should be implemented prior to flowering, seedlings may generate in the space left by control/removal of the main plant, therefore follow up visits are likely to be required.

Table 1: Himalayan Balsam Treatment Options

Treatment Method	Methodology	Advantages	Disadvantages
Hand pulling	Treatment of the affected areas in-situ	Most ecologically sensitive approach. Focussed application minimising impact on other vegetation. If undertaken prior to seeding prevents dispersal.	May be a drawn out process taking at least 3-5 years. Arising require disposal on site or offsite as controlled waste.
Herbicide via foliar spray	Treatment of the affected areas in-situ with a variety of herbicides via spraying.	No requirement for removal of waste from site.	Restricted use of chemicals near existing vegetation and waterways. Lack of selection of underlying species. May be a drawn out process as it does not kill the existing seedbank. Plants may still seed if seed pod development has begun.
Cutting	Cut Himalayan Balsam low to the ground to remove to designated burial location on site, prior to excavation.	Avoids herbicide use	High level of disturbance. Risk of spreading during transport Arising require disposal on site or offsite as controlled waste if seed pods have begun to form.
Excavation and onsite burial	Excavate Himalayan Balsam and soil surrounding up to 7m and remove to designated location on site (to be determined).	No restrictions left on site. Work can continue after removal.	Requires supervision by suitably qualified invasive weeds manager/contractor. Risk of spreading during transport. High level of disturbance. Arising require disposal on site or offsite as controlled waste if seed pods have begun to form.

4.0 METHOD STATEMENT

4.1 Overview

- 4.1.1 This section outlines the methods that are likely to be most appropriate and effective to eradicate Himalayan Balsam during the works.
- 4.1.2 The works involve either:
- Complete removal of vegetation (including Himalayan Balsam) to ensure all contaminated material has been removed that may present a constraint to development.
 - Sensitive control/eradication of Himalayan Balsam within retained habitat areas (woodland and scrub) which are subject to habitat enhancement.
- 4.1.3 Excavation and burial on-site was selected as an option as a large volume of vegetation clearance is required to enable the Proposed Development.
- 4.1.4 Hand-pulling within retained areas of scrub and woodland was considered the most ecologically sensitive approach which would have the least amount of impact.
- 4.1.5 A detailed survey to map the extent of Himalayan Balsam within the Proposed Development footprint should be undertaken prior to works commencing.
- 4.1.6 Responsibilities and liabilities for the precautionary methods of works are to be agreed upon by the client and any other contractors prior to work commencing. All parties are to be made aware of the risks and control procedures for dealing with invasive non-native species as part of inductions and toolbox talks; evidence of this should be documented and retained on site for future reference. Factsheets to be used in a toolbox talk are provided as a link in the reference section this method statement.

4.2 Vegetation Clearance

- 4.2.1 Himalayan Balsam will be subject to cutting in areas where full vegetation clearance is required, prior to excavation of contaminated soil.
- 4.2.2 Cutting will take place using hedge cutters and arisings loaded onto a dump truck by an excavator for transportation to the designated burial location/taken offsite.
- 4.2.3 Cutting should cut below the first node to ensure no further growth takes place. Cutting should also take place before seedpods begin to form (before July).

4.3 Biosecurity management

- 4.3.1 The following measures should be employed to minimise the risk of spreading plant seeds or contaminated soil while operating near areas containing Himalayan Balsam:
- Demarcation buffer of 7 m from each area of retained scrub containing Himalayan Balsam. This would be robust fencing, i.e., Heras fencing aimed at

preventing unauthorised access in contaminated areas during development operations.

- Signage erected, identifying Himalayan Balsam present to inform those working in the area that there is a biosecurity risk within the isolation zone and the need to strictly adhere to the method statement and biosecurity plan.
- Signage and demarcation buffer must be checked on a regular basis to ensure it remains in a suitable condition and any defects addressed immediately.
- A Site-specific toolbox talk to be carried out with the Site delivery team before the commencement of works.
- Non-essential vehicles are not to enter the area where they are likely come in to contact with plant propagules or mud from the local Site of operation.
- Where this is unavoidable, stick to established tracks and park on hard standing where possible. All vehicles will be subject to wheel/wheel arch inspection and brush every time the vehicle leaves a contaminated area.
- Decontamination/clean down area to be designated for plant machinery, vehicles and equipment for duration of remediation works. Clean down should be undertaken over polythene sheeting or geotextile membrane to enable all material to be collected and placed back in to final contaminated areas or removed from Site as controlled waste.
- Personal Protective Equipment (PPE) must be checked for seeds and boots checked for mud that may contain seeds and disposed of within the final contaminated areas.
- Spot checks to ensure biosecurity measures are being undertaken on-site should be completed and documented by the Site Manager.

4.4 Excavation

- 4.4.1 Excavation of Himalayan Balsam will take place in areas where cutting had previously been undertaken.
- 4.4.2 Excavation will be undertaken by a 20 tonne (t) excavator, and contaminated soil will be transported to its burial location by dump trucks.
- 4.4.3 To disrupt the seedbank, soil should be stripped to a depth of 200 - 500 mm⁷ to remove the plants and any viable seeds that are likely to be in the target area.
- 4.4.4 Natural Resources Wales (NRW) does not require a permit to bury over 1000 t of Himalayan Balsam if the material is to remain on-site and be buried. Prior to commencement of on-site burial, notification should be given to NRW, Bridgend County Borough Council and Neath Port Talbot Council.
- 4.4.5 The burial location should be excavated prior to excavation of contaminated soil. This will prevent 'double handling' of contaminated soil. Any 'clean soil' from the excavation of the burial location should be stored on site for use in filling the burial location when works are completed.

- 4.4.6 Contaminated soil from excavation is to be buried on-site. Burial location will be recorded specifying the exact location i.e. grid reference and What3Words.
- 4.4.7 Any soil containing seeds should be buried at a depth of at least two metres. This depth is sufficient enough to prevent regrowth of the plant⁷. It is envisaged that the majority of contaminated soil will be buried immediately beneath hard standing (poured concrete)⁷.
- 4.4.8 If at any stage the burial disposal method becomes unfeasible then offsite disposal methods will be arranged together with the appropriate approvals.

4.5 Hand-pulling

- 4.5.1 Hand-pulling of Himalayan Balsam will take place in retained areas of scrub and woodland.
- 4.5.2 The plant is easily identifiable between April and June and hand-pulling should be attempted when the plant reaches at least 300 mm in height but ideally before flowers or seedpods have formed to prevent further spread of the plant.
- 4.5.3 Himalayan Balsam has shallow roots at a depth of around 100 – 150 mm and can easily be pulled by hand holding the base of the stem⁸.
- 4.5.4 Care needs to be taken to avoid snapping the stem above the first node as plants can regrow. See photograph in **Annex A** for location of first node.
- 4.5.5 Plants are pulled in the spring or early summer (April/May) before flowering (June/July). The Site should be revisited monthly to pull any smaller plants that were missed or any late germinators, until Himalayan balsam flowering ends, usually around October.
- 4.5.6 Pulled plants can be left on-site to decompose in an open area or put in a compost bin. It is best to avoid taking the plants off-site for disposal or putting them in the recycling bin in case there is contamination by seeds.
- 4.5.7 If seed pods have begun to establish, this should not be composted on-site. Arisings should then be incinerated on-site or disposed of as contaminated waste to an authorised facility.
- 4.5.8 While hand pulling is time consuming, as other species can be easily avoided, the re-establishment of native vegetation should be facilitated by using this approach.
- 4.5.9 When there is limited growth, it is easy to miss a small shoot that is overgrown by surrounding vegetation.
- 4.5.10 The use of herbicides, or indiscriminate cutting, should be avoided.

⁸ Welsh Government Public information on invasive species in Wales - Himalayan balsam. Available online [Himalayan balsam: Public information on invasive species in Wales \(gov.wales\)](https://gov.wales/himalayan-balsam-public-information) Accessed online 19 January 2023.

5.0 MANAGEMENT

5.1 Roles and Responsibilities

- 5.1.1 All personnel on-site shall receive details regarding the identification of Himalayan Balsam and on the prevention of further spread as detailed in **Section 4.3**. This is to ensure staff are able to recognize the plant and know how to report it accordingly.
- 5.1.2 Roles and responsibilities for the management of Himalayan Balsam are detailed below in Table 2.

Table 2: Party Roles and Responsibilities

Name and/ or Job Title	Roles and Responsibilities
Client	Ensure that Himalayan Balsam control is implemented to prevent further spread into adjacent land and achieve eventual eradication.
Main contractor	Overall responsibility for construction of the Proposed Development, managing and reporting presence of Himalayan Balsam. Ensure all works in adherence with best practice to ensure biosecurity measures are adopted. Ensure all site personnel are aware of Himalayan Balsam and adequately briefed.
Environmental Consultant	Development of the Himalayan Balsam Management Plan

5.2 Communication

- 5.2.1 Prior to commencement of any works, all staff are to receive a toolbox talk highlighting the environmental risks associated with working in close proximity to invasive weeds.
- 5.2.2 All staff working on-site during construction and during ongoing maintenance should familiarise themselves with the identification of Himalayan Balsam. They should remain vigilant and notify the Site Manager if they suspect new stands of any invasive weeds are present.
- 5.2.3 Photographs showing the main characteristics of the plant must be displayed in communal areas during the duration of works as a reminder to all personnel on-site.

- 5.2.4 If any new areas of infestation of any invasive species are found in the surrounding areas, access should cease until an isolation zone is created. Amendments to this Himalayan Balsam Management Plan should be made following discovery of any further stands of all invasive weed species.
- 5.2.5 The presence of Himalayan Balsam species on adjacent land should be highlighted to landowners, reminding them of their responsibilities to control spread in line with the legislation reference in **Section 2.1**. This will aid to minimise the adverse impact on the environment by reducing colonisation but also prevent spread back into the Site.

5.3 Monitoring

- 5.3.1 Monitoring for at least two growth seasons or until eradication is achieved is considered best practice to ensure that any new growth can be brought under control quickly. Monitoring should be recorded for auditing purposes.
- 5.3.2 Where re-introduction is identified a management programme should be implemented, see below.

5.4 Ongoing Management

- 5.4.1 Where Himalayan Balsam has previously been recorded, ongoing monitoring of presence should be undertaken and a hand pulling regime in line with protocols detailed in **Section 4.5** for hand pulling methodology and managed in conjunction with the retained woodland and scrub areas. As described in **Section 4.5**, individual specimens should be pulled in June prior to flowering.
- 5.4.2 Follow-up visits in July-October are recommended once flowering commences as this is significantly easier to identify. The spaces created leave exposed ground for smaller seedlings to generate in, therefore the area should be revisited monthly during the growing season to remove these. Himalayan Balsam can continue to grow and spread viable seed into October.
- 5.4.3 Arisings may be left on-site to compost providing that seed pods are not developing (as described in **Section 4.5**) and the plant has been damaged below the first node, see **Annex A**. If the seed pods are developing, all arisings must be burnt on site. To burn plant material the contractor will need to register a paragraph D7 exemption⁹.
- 5.4.4 During each subsequent growing season, an initial visit should be undertaken in June, with a follow up in July prior to seeding. Additional visits should be carried out at regular intervals for the remainder of each growing season as viable seed can be produced until October, as such any evident growth hand pulled prior to seeding until eradication is achieved.
- 5.4.5 Biosecurity management as described in **Section 4.3** should be followed for all monitoring and management activities.

⁹ GOV.UK Treatment and disposal of invasive non-native plants: RPS 178. Available at [Treatment and disposal of invasive non-native plants: RPS 178 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/678122/rps178-treatment-and-disposal-of-invasive-non-native-plants.pdf) Accessed online 24 January 2023.

6.0 SUMMARY

- 6.1.1 This Invasive Non-Native Species Management Plan has been prepared by RSK Biocensus to inform the Applicant of the proposed removal methodology and management activities in relation to Indian (Himalayan) Balsam, an invasive non-native species located within the Application Site.
- 6.1.2 As a large volume of vegetation clearance is required to enable the Proposed Development, this Plan recommends excavation, on-site burial and on-going monitoring and maintenance of the excavated area. On-site burial will be subject to approval by Natural Resources Wales, Bridgend County Borough Council and Neath Port Talbot Council. Disposal offsite will be considered if burial of Indian (Himalayan) Balsam is not permitted on-site.
- 6.1.3 Hand-pulling within retained areas of scrub and woodland is recommended as it is considered to be the most ecologically sensitive approach which would have the least amount of impact.
- 6.1.4 In line with best practice, on-going monitoring should be undertaken and recorded for at least two growth seasons or until eradication is achieved.

ANNEX A

Additional photograph

Himalayan Ba	First node (shown by arrow) – break below this (circled area)
	



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IN PEOPLE**

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