INVASIVE ALIEN PLANT SPECIES MANAGEMENT PLAN 2026-2028

***Prepared for**: Sneem Tidy Towns*

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***Sites:** 'The Wild Garden' and 'The Garden of the Senses', Sneem, Co. Kerry*

Executive Summary

This Invasive Alien Plant Species (IAPS) Management Plan has been prepared for two community gardens (The Wild Garden and The Garden of the Senses) located in a small village in South Kerry, Ireland, and managed by the Local Tidy Towns Committee. The gardens have been found to support five established or encroaching invasive alien plant species: Japanese Knotweed (*Fallopia japonica*), *Rhododendron ponticum*, Winter Heliotrope (*Petasites pyrenaicus*, formerly *P. fragrans*), Spanish Bluebell (*Hyacinthoides hispanica*) and Montbretia (*Crocosmia* × *crocosmiiflora*). All five species are recognised as ecologically damaging invasive aliens in the Irish context, capable of displacing native flora, reducing biodiversity, and in some cases causing physical damage to infrastructure.

The plan sets out the ecological basis for concern, the relevant legislative framework, and practical, evidence-based management strategies for each species. In accordance with the wishes of the Tidy Town's committee and the wider community, the plan prioritises non-chemical management methods wherever these are practicable and proportionate to the scale of infestation. However, it also acknowledges - in line with authoritative national and European guidance - that targeted herbicide use may be necessary for certain species, most notably for *Rhododendron ponticum* and, depending on the severity of individual infestations, for Japanese Knotweed. Where chemical treatment is proposed, this plan recommends it should be conducted by, or under the direct supervision of, suitably trained and qualified individuals.

A working group with specific training in *Rhododendron ponticum* management using glyphosate is already operational within the garden. This existing capacity represents a significant asset, and the plan incorporates this resource explicitly. A biennial review of this plan is recommended to ensure it remains effective as conditions change.

1. Introduction

1.1 Purpose and Scope

This document constitutes a site-specific Invasive Alien Plant Species (IAPS) Management Plan. Its purpose is threefold: (i) to describe and contextualise the five invasive species recorded at or adjacent to the site; (ii) to outline a structured, phased programme of management and monitoring; and (iii) to provide guidance on legal obligations, waste handling, and biosecurity procedures relevant to all persons engaged in management activities on site.

The plan has been developed to be consistent with national guidance, including the National Biodiversity Action Plan 2023–2030 (Department of Housing, Local Government and Heritage, 2023) and the management guidelines produced by Invasive Species Ireland, a joint initiative of the National Parks and Wildlife Service (NPWS) and the Northern Ireland Environment Agency (NIEA). It also draws on peer-reviewed scientific literature addressing the control of each target species.

1.2 Site Context

The gardens are situated in South Kerry, a region renowned for its exceptional natural heritage. Kerry supports a range of internationally important habitats including Atlantic oakwoods, blanket bog, and freshwater systems. The county has a notably mild, wet, oceanic climate - one that

strongly favours the establishment and spread of thermophilous invasive plants. This climatic context is especially relevant: *Rhododendron ponticum*, for example, has been particularly problematic in the Atlantic woodland zones of Kerry, most famously in Killarney National Park, where decades of management effort have been required to restore native woodland (Higgins, 2008; Barron, 1998). The presence of these species in a community garden setting - even at a relatively small scale - carries a risk of further dispersal into the surrounding landscape.

South Kerry also lies within the range of the rare Kerry Slug (*Geomalacus maculosus*), a species whose habitat is strongly associated with native Atlantic woodlands and which is negatively impacted by *Rhododendron ponticum* invasion (Barron, 1998). This underlines the importance of responsible and effective invasive species management even at the community and garden scale.

1.3 Management Philosophy

Members of the Tidy Towns Committee has expressed a preference for non-chemical management approaches. This preference is well-founded: chemical herbicides can cause non-target effects on soil biota, pollinators, and water quality, and their use raises legitimate concerns in a community garden context where food production may occur in proximity. This plan therefore follows an Integrated Pest Management (IPM) philosophy, which seeks to achieve management objectives through the optimal combination of physical, mechanical, and - where necessary - chemical techniques (Stokes et al., 2004).

However, it must be stated plainly that for certain species - particularly *Rhododendron ponticum* and, in some circumstances, Japanese Knotweed - the scientific evidence consistently demonstrates that non-chemical methods alone are insufficient to achieve long-term control (Maguire et al., 2008; Willoughby et al., 2017). Cutting without stump treatment, for example, reliably results in vigorous resprouting of Rhododendron. This plan therefore recommends chemical treatment where the evidence base unequivocally supports its necessity, while always insisting on targeted, minimal-impact application methods and the use of trained operators.

2. Legislative and Policy Framework

2.1 European Union Legislation

The primary legislative instrument governing invasive alien species at the European level is Regulation (EU) No. 1143/2014 of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species ("the IAS Regulation"). This Regulation prohibits the keeping, breeding, transport, sale, use, exchange, and environmental release of species listed on the "Union List of Species of Union Concern." It also requires Member States to establish surveillance systems, put in place rapid response mechanisms, and develop management measures for widely spread species.

The Union List has been expanded through successive Commission Implementing Regulations in 2017, 2019, 2022 and 2025, and now contains 114 Species of Union Concern. The European Commission has taken infringement proceedings against Ireland for delays in establishing and communicating its national action plans under this framework (European Commission, 2022).

2.2 Irish National Legislation

In the Republic of Ireland, invasive alien plant species are primarily regulated under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), which transposes the EU Habitats and Birds Directives into Irish law and provides the primary domestic framework for species protection. Third Schedule species under Regulations 49 and 50 of these Regulations are subject to specific restrictions.

The Wildlife Acts 1976–2012 provide additional protection for native species and habitats, and are administered by the National Parks and Wildlife Service (NPWS). Land managers are encouraged to consult the NPWS and Invasive Species Ireland (www.invasives.ie) for current species listings and guidance.

Japanese Knotweed (*Fallopia japonica*) was listed as a Species of Union Concern by the EU in August 2025, creating a legal obligation on landowners to prevent the species spreading from their land into the environment (Invasive Species Ireland, 2025). This strengthens the already existing moral and best-practice imperative to manage it effectively.

2.3 Implications for Garden Management

The following key obligations arise from the legislative framework:

- It is an offence to cause or permit a listed invasive alien species to spread into the wild from land under one's management.
- Plant material and contaminated soil from invasive species may constitute "controlled waste" and must be disposed of by appropriately licensed contractors and facilities.
- Invasive plant material should not be composted, fly-tipped, or placed in domestic waste streams.
- The unlicensed use of certain herbicides (e.g., products not approved for the operator's certification level) is an offence under pesticide regulations. All herbicide use must comply with the relevant provisions of the Pesticides Registration and Control Act 1994 and subsequent amendments.

3. Species Accounts

The following sections describe each of the five target invasive species, their ecology, distribution, ecological impacts, and legal status in Ireland. This information forms the evidence base for the management recommendations.

3.1 Japanese Knotweed (Fallopia japonica)

Key Identification Features
Hollow bamboo-like stems with distinct nodes; can reach 2–3m in height
Large, heart-shaped/shovel-shaped leaves arranged in a zig-zag pattern along the stem

Small, cream-white flowers borne in clusters in late summer (August–September)
Orange-centred rhizome, extending up to 7m laterally from the parent plant
Dead brown stems persist through winter; vigorous new growth emerges in spring



Figures 1, 2 & 3: Japanese Knotweed identified and signposted in The Wild Garden, 11/05/2026

3.1.1 Ecology and Distribution

Japanese Knotweed (*Fallopia japonica; syn. Reynoutria japonica*) is a perennial herbaceous plant native to East Asia, introduced to Europe in the early nineteenth century as an ornamental and fodder plant. It is now widely established across Ireland, with particularly dense infestations along roadsides, riverbanks, and disturbed ground (Stokes et al., 2004). The plant spreads entirely by vegetative means: rhizome fragments as small as 1cm can generate new plants, making contaminated soil a primary vector for spread (TII, 2010). No viable seed is produced in Ireland.

The plant dies back to ground level in winter but regrows vigorously from its extensive underground rhizome system each spring. Rhizomes may extend to 7m laterally and 3m in depth. This characteristic makes it extremely difficult to eradicate through simple cutting or shallow excavation.

3.1.2 Ecological Impacts

Japanese Knotweed forms dense monocultures that shade out native vegetation, reducing plant species diversity significantly. The loss of vegetative cover during winter dieback exposes soil to erosion, particularly on river banks, leading to increased siltation that can damage spawning gravels used by salmonids and threaten the internationally rare Freshwater Pearl Mussel (*Margaritifera margaritifera*) (TII, 2010). The plant can also exploit weaknesses in built structures, potentially causing damage to walls, paths, and drainage infrastructure.

3.1.3 Legal Status

Japanese Knotweed is listed as a Species of Union Concern under EU Regulation 1143/2014 (as of August 2025). It is a Third Schedule species under the European Communities (Birds and Natural Habitats) Regulations 2011. Landowners have a legal obligation to prevent its spread from their land.

3.2 Rhododendron ponticum (Common Rhododendron)

Key Identification Features
Large, dense, evergreen shrub; can grow to 5–8m in height
Dark, leathery, lance-shaped leaves, 8–20cm long; glossy dark green above, paler below
Large, showy, purple-pink flowers with orange/yellow spots, borne in clusters (May–June)
Forms dense, impenetrable thickets that shade out all other vegetation
Seed dispersal: produces large quantities of tiny wind-dispersed seeds annually

Figures 4 & 5, Rhododendron Ponticum in The Garden of the Senses, 11/05/2026

3.2.1 Ecology and Distribution

Rhododendron ponticum is an evergreen shrub native to southern Europe and southwestern Asia. Introduced to Britain and Ireland in the mid-eighteenth century, it was widely planted as a garden ornamental, game cover, and hedging plant. It has since escaped cultivation and become severely invasive, particularly in Atlantic woodland and heathland habitats in the west of Ireland (Higgins,

2008). Kerry - with its mild, wet, acidic soils - provides near-optimal conditions for Rhododendron establishment and spread. The species can reproduce both by seed (producing enormous quantities of tiny, wind-dispersed seeds) and vegetatively by layering.

Rhododendron ponticum is also known to act as a reservoir host for the water mould pathogen *Phytophthora* ramorum (Sudden Oak Death), which can spread from Rhododendron to larch, oak, and other important tree species (Forest Research, 2013). This plant-pathogen relationship significantly elevates the ecological priority of managing Rhododendron in wooded landscapes.

3.2.2 Ecological Impacts

Rhododendron ponticum is widely regarded as one of the most ecologically damaging invasive plants in Europe (Sustainable Cratloe, 2024). Its dense, evergreen canopy creates deep shade that effectively prevents the regeneration of native woodland species. In addition, leaf litter from Rhododendron acidifies the soil and appears to suppress mycorrhizal networks that are important for native tree establishment. The loss of native woodland ground flora eliminates habitat for a wide range of invertebrates, lichens, and bryophytes that characterise the internationally important Atlantic oakwood communities of Kerry and the wider Irish Atlantic zone.

3.2.3 Legal Status

Rhododendron ponticum is listed as a Species of Union Concern under EU Regulation 1143/2014. Only R. ponticum is invasive in Ireland; other ornamental Rhododendron species and hybrids are not currently considered to pose the same ecological risk, although vigilance is required (NPWS/NIEA, 2022). The NPWS does not routinely monitor trade in garden centres, but undertakes awareness-raising around invasive alien species.

3.2.4 Existing Working Group Capacity

The garden benefits from an established working group with specific training in the management of *Rhododendron ponticum* using glyphosate. This is a significant organisational resource. The NPWS Irish Wildlife Manual No. 33 (Higgins, 2008) and guidance from Woodlands of Ireland (Barron & Edwards, various) provide the authoritative Irish framework for Rhododendron control within which this working group should operate.

3.3 Winter Heliotrope (Petasites pyrenaicus)

Key Identification Features
Low-growing herbaceous perennial; leaves up to 20–30cm in diameter, heart-shaped with serrated margins
Fragrant, pale pink-purple flowers on stems to 25cm; flowers in mid-winter to early spring (November–February)
Forms dense, ground-covering carpets in shaded or semi-shaded locations

Only male plants are recorded in Ireland: reproduction is entirely vegetative (by rhizome)
Easily confused with native Butterbur (Petasites hybridus), which is larger and has white flowers

Figure 6. Winter Heliotrope in The Wild Garden, 11/05/2025

3.3.1 Ecology and Distribution

Winter Heliotrope (*Petasites pyrenaicus*, formerly *P. fragrans*) is a low-growing, rhizomatous, perennial herb native to the Mediterranean region and North Africa. It was introduced to Ireland as a garden ground-cover plant in the nineteenth century and has since spread extensively, particularly in the south and west of the country, where conditions favour its growth (Limerick City and County Council, n.d.; JKI Environmental, 2022). It is widely established along roadsides, woodland margins, hedgerows, and riverbanks throughout South Kerry, and is considered by the Irish National Biodiversity Data Centre to be of "low" ecological impact relative to species such as Japanese Knotweed - though it is nonetheless capable of forming dense monocultures that exclude native vegetation.

Critically, only male plants have been recorded in Ireland, meaning the species reproduces entirely by rhizome fragmentation and not by seed (Dowdall, 2022; JKI Environmental, 2022). This makes spread contingent on physical disturbance of the rhizome. The species is shade-tolerant and particularly prevalent in the mild, wet conditions characteristic of South Kerry. A 2022 peer-reviewed study published in NeoBiota (comparing field-based management approaches for *P. pyrenaicus*) represents the first formal assessment of treatment efficacy and provides important guidance for management planning (NeoBiota, 2022).

3.3.2 Ecological Impacts

Despite its relatively low official ecological impact rating, Winter Heliotrope can form dense, persistent monocultures that exclude native flora by shading out light for much of the growing season. This reduces local plant diversity and the associated invertebrate communities. The dense leaf canopy also suppresses the regeneration of native ground flora along verges and woodland margins. It is worth noting that the species does provide valuable early-season nectar for pollinators - a genuine ecological benefit in the Irish context, where early-season forage for bees is scarce (Environment Controls, 2025). Any management plan should acknowledge this nuance.

3.3.3 Legal Status

Winter Heliotrope is notably not listed on the EU Union List of Species of Union Concern, partly because its severe invasiveness appears to be a phenomenon specific to Ireland and the western fringes of Britain, rather than a pan-European problem (Limerick City and County Council, n.d.). It is not listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011. Management is therefore not legally mandated in the same manner as for *Rhododendron ponticum* or Japanese Knotweed, but remains a conservation priority at the landscape scale.

3.4 Montbretia (*Crocosmia × crocosmiiflora*)

Key Identification Features
Upright, sword-shaped, bright green leaves; 30–60cm in height
Bright orange-red, funnel-shaped flowers borne in arching clusters (June–September)
Grows from chains of small, bulb-like corms linked by underground stolons
Corm chains fragment easily, facilitating vegetative spread
Especially prevalent in hedgerows, coastal areas, road verges in western Ireland

Figure 7. Montbretia in The Garden of the Senses, 11/05/2026

3.4.1 Ecology and Distribution

Montbretia *(Crocosmia × crocosmiiflora)* is a horticultural hybrid created in France in 1880 by crossing Crocosmia pottsii and Crocosmia aurea, both native to southern Africa. Widely planted as a garden ornamental, it has escaped into the wild extensively, particularly in the mild, wet conditions of western Ireland (Stokes et al., 2004; Environment Controls, 2026). It is especially prolific in South Kerry and along the western seaboard generally, where it can form almost continuous roadside stands for considerable distances. Although seed production occurs, it is not considered viable in Ireland; spread is almost entirely by the fragmentation and dispersal of corm chains, often accelerated by garden waste disposal (Japanese Knotweed Killers, n.d.).

3.4.2 Ecological Impacts

Montbretia can form dense stands that exclude native vegetation through competition for light, water, and nutrients. It is particularly prevalent in hedgerows, which are critical wildlife corridors in the Irish landscape. However, its ecological impact is generally considered less severe than Japanese Knotweed or *Rhododendron ponticum*. Unlike the latter species, Montbretia does not produce toxins or significantly alter soil chemistry. It is shallow-rooted relative to Japanese Knotweed, making manual removal more practicable.

3.4.3 Legal Status

Montbretia is not listed on the current EU Union List of Species of Union Concern, nor on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011. However,

it is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (applicable in Great Britain and Northern Ireland), which makes it an offence to cause the plant to grow in the wild. Garden managers in the Republic of Ireland are advised to follow equivalent best practice to prevent spread from the site, and to avoid disposing of corms or plant material in a manner that could lead to establishment in the wider environment.

3. 5 Spanish Bluebell (Hyacinthoides hispanica) & Hybrid Bluebell (Hyacinthoides × massartiana)

Key Identification Features
Bulbous perennial; leaves strap-shaped and broad (15–35 mm wide), bright green
Flowers pale blue (also pink or white forms); bell-shaped; borne on all sides of a stiff, erect raceme
Blue (not creamy-white) anthers - the single most reliable field identifier
Little or no scent (native bluebell is strongly fragrant)
Grows 20–40 cm tall; spreads by seed and by bulb offsets
Hybridises readily with native Common Bluebell (*H. non-scripta*) to produce *H. × massartiana*

Figure 8. Spanish Bluebell in The Wild Garden, 14/05/2026

3.5.1 Identification & Distinction from Native Species

Accurate identification is critical, both for effective management and for legal compliance. The native Common Bluebell (*Hyacinthoides non-scripta*) is a protected species in Ireland; care must be taken to distinguish it from the invasive Spanish bluebell and the hybrid. The following table summarises the key diagnostic features. Identification is most reliable during the flowering period (April–May).

Feature	*Native Common Bluebell (H. non-scripta)*	*Spanish Bluebell (H. hispanica)*	*Hybrid (H. × massartiana)*
Flower colour	Deep violet-blue	Pale blue, pink, or white	Intermediate; variable
Flower arrangement	All on one side of arching stem (nodding)	All around erect, upright stem	Intermediate; partly nodding
Scent	Strong, sweet fragrance	Little or none	Faint or variable

Anther colour	Creamy white	Blue	Variable - key diagnostic
Leaf width	Narrow (7–15 mm)	Broad (15–35 mm)	Intermediate
Stem posture	Arching, drooping at tip	Stiff and upright	Slightly arching
Seed fertility	Fertile	Highly fertile	Highly fertile
Legal status (RoI)	Protected native species	Offence to cause to grow in the wild	Treat as *H. hispanica*

3.5.2 Ecology and Distribution

Spanish Bluebell is a hardy, robust plant adapted to a wide range of soil conditions. It performs well in partial shade and moist, well-drained soils, conditions that are abundant in the mild, humid climate of South Kerry. It is commonly found in gardens, along woodland margins, hedgerows, and roadsides, and at the edges of broadleaved woodland - precisely the habitat of the native Common Bluebell.

The species spreads by two mechanisms: production of abundant, highly fertile seed dispersed by wind and water; and vegetative spread through the production of bulb offsets (daughter bulbs that develop laterally from the parent). Bulb offsets are the primary mechanism by which established stands expand locally, while seed dispersal allows colonisation of new sites. The casual disposal of garden bulbs and soil containing bulb fragments is a significant pathway for long-distance spread in the Irish context.

National distribution records held by the NBDC show *H. hispanica* and its hybrid to be widespread across Ireland. Distribution is concentrated in and around settled areas and gardens, reflecting the horticultural origin of most populations. Verified hybrid records (*H.* × *massartiana*) are substantially more numerous than pure Spanish bluebell records, consistent with the BSBI's recent findings (Ruhsam et al., 2023). In South Kerry, the species is likely present in many long-established gardens, often not recognised as non-native.

3.5.3 Ecological Impacts

Spanish Bluebell is more vigorous than the native Common Bluebell in most conditions. In direct competition, it can outcompete H. non-scripta for light, soil moisture, and nutrients, displacing native stands over time (Wildlife Trusts, n.d.; Ideal Home, 2026). This competitive advantage is amplified in disturbed or nutrient-enriched soils typical of garden margins, roadsides, and managed woodland edges.

The most significant ecological threat posed by Spanish Bluebell in the Irish context is hybridisation with the native Common Bluebell, resulting in the production of the fertile hybrid *H.* × *massartiana.* This hybrid is, in many locations, more ecologically successful than either parent: it benefits from hybrid vigour, produces large quantities of fertile seed, and can backcross with both parent species. Over successive generations, this process of introgressive hybridisation can alter the genetic makeup of native *H. non-scripta* populations, progressively diluting and eventually eliminating the characteristic traits of the native species - a process sometimes described as "genetic swamping" (Wildlife Trusts, n.d.; Ruhsam et al., 2023).

Ireland and Britain together hold approximately 50% of the world's population of the native Common Bluebell (Gardeners' World, 2024; Wildlife Trusts, n.d.). This global significance elevates the conservation priority of managing Spanish Bluebell and its hybrid, particularly in woodland-adjacent locations such as those found throughout South Kerry.

Native plants and their associated animal communities co-evolve over long periods, developing ecological relationships - between pollinators and flower structure, between herbivores and leaf chemistry, between fungi and root systems - that non-native species cannot replicate. Where Spanish Bluebell displaces native Common Bluebell, or alters the genetic composition of native populations, the ecological services provided by the native species (including as a forage resource for early-season bumblebees and butterflies) may be partially degraded (Eco Advocacy, n.d.). The fragrant flowers of *H. non-scripta* are a particularly important early spring food source, and the hybrid has variable scent, potentially reducing its attractiveness to pollinators.

3.5.4 Legal Status

Spanish Bluebell holds a distinct legal status in Ireland relative to the other species addressed in this management plan. It is not currently listed on the EU Union List of Species of Union Concern under Regulation (EU) No. 1143/2014, nor has it been added to subsequent updates of the Union List through 2025.

However, in the Republic of Ireland, H. hispanica is specifically regulated under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). It is an offence under these Regulations to plant or otherwise cause H. hispanica to grow in the wild. The RHS confirms this position explicitly: "it is an offence to plant or cause these to grow in the wild in NORTHERN IRELAND and the REPUBLIC OF IRELAND" (RHS, 2023). In Northern Ireland, it is listed in Schedule 9 of the Wildlife (Northern Ireland) Order 1985, under which Article 15 makes it an offence to plant or otherwise cause the species to grow in the wild (Invasive Species NI, n.d.).

The hybrid *H.* × *massartiana* should be treated with the same legal caution as *H. hispanica*, given that it shares the non-native parent and carries the same genetic and competitive risks to native populations. Garden managers are strongly advised to treat any non-native bluebell as subject to the same restrictions.

Separately, the native Common Bluebell (*H. non-scripta*) is afforded protection under the Wildlife Acts 1976–2012, making it an offence to uproot or destroy the plant without authorisation. This has direct practical implications for management, as care must be taken not to destroy native bluebell populations during removal of the invasive species.

4. Species-Specific Management Strategies

Management strategies are detailed below for each target species. For all species, the following overarching principles apply:

- Prevention of further spread takes priority over eradication of existing stands.
- All physical plant material and soil removed from the site must be treated as controlled waste and disposed of appropriately.
- Records of all management activities (date, area treated, method used, personnel involved) must be maintained.

- An integrated approach - combining physical, mechanical, and, where necessary, chemical methods - will generally yield superior outcomes to single-method approaches.
- Where chemical treatment is employed, it must be carried out by, or under the direct supervision of, a person holding the relevant pesticide operator certificate of competence (QQI Level 6 or equivalent as required under Irish pesticide regulations).

4.1 Japanese Knotweed (Fallopia japonica)

4.1.1 General Approach

Japanese Knotweed management requires a long-term commitment. The Environment Agency (UK) recommends allowing three to five years for effective eradication (Thompson Ecology, 2021), and this timescale is equally applicable in the Irish context. The rhizome system retains viability in soil for at least two to three years after above-ground clearance, meaning apparent eradication at the surface does not confirm successful treatment.

Given the preference for non-chemical methods, the primary approach for this site will be a sustained physical management programme supported by herbicide treatment if after two growing seasons of physical treatment the infestation shows no appreciable reduction. Where infestation is adjacent to drainage features, watercourses, or food-growing areas, targeted physical methods should be the default.

4.1.2 Physical Management

Cutting: Stems should be cut as close to the ground as possible. Cutting should begin in spring as new growth emerges and be repeated throughout the growing season (April–October), ideally on a four-to-six week cycle. Regular cutting depletes carbohydrate reserves in the rhizome, progressively weakening the plant over multiple seasons.

Excavation: Where feasible and resources permit, the rhizome system may be excavated mechanically to a depth of approximately 2–3m, with a 7m buffer around the visible stand extent (Greenlink ISMP, 2020). This is labour-intensive and generates large volumes of controlled waste. All excavated material must be removed by a licensed contractor to a licensed landfill facility. Soil should not be spread, stockpiled near watercourses, or reused elsewhere on site.

Root barriers: Physical root barriers (vertical membrane, typically 2m deep) may be installed to prevent lateral rhizome spread where knotweed is adjacent to infrastructure or high-value planting areas. This is a containment rather than eradication measure.

Covering: Smothering with geotextile membrane or thick mulch can suppress growth, but is rarely sufficient alone as knotweed rhizomes are capable of penetrating most standard materials over time.

4.1.3 Chemical Management

If sustained physical management fails to achieve meaningful suppression after two full growing seasons, targeted herbicide application should be considered. The most evidence-based and widely used approach in Ireland is foliar application of a glyphosate-based herbicide to actively growing plants in late summer (August–September), when the plant is translocating carbohydrates down into the rhizome system. This maximises systemic uptake and root kill. This should be carried out by a certified operator only, using appropriate protective equipment.

Stem injection (direct injection of glyphosate into hollow internodes) is an alternative method that minimises off-target chemical release and is particularly appropriate where the knotweed is growing amongst other desirable plants or near water. A licensed contractor should be engaged for this technique.

It is important to note that Japanese Knotweed plant material (stems, leaves, rhizomes) and contaminated soil constitute controlled waste in Ireland, and all movement off site requires a licensed contractor and appropriate waste transfer documentation.

Phase	***Activity***	***Timing***
Phase 1 (Year 1–2)	Systematic cutting every 4–6 weeks throughout growing season; mapping and marking all stand boundaries	April–October annually
Phase 2 (Year 2–3)	Continued cutting; consider stem injection if suppression insufficient; monitor margins for rhizome spread	April–October annually
Phase 3 (Year 3+)	Foliar glyphosate treatment if necessary; continued monitoring; replant cleared areas with native species	Aug–Sept for herbicide; ongoing monitoring
Ongoing	Annual site survey; record-keeping; immediate response to any new emergent growth	March–April annually

4.2 Rhododendron ponticum

4.2.1 General Approach

The existing trained working group is the core organisational resource for Rhododendron management on this site. Management should follow the phased approach recommended by the NPWS Irish Wildlife Manual No. 33 (Higgins, 2008) and the Woodlands of Ireland guidance on Rhododendron control in native woodlands (Barron, C. & Woodlands of Ireland). The scientific evidence is unambiguous: cutting alone, without stump treatment, leads to vigorous resprouting from the root system and is therefore ineffective as a stand-alone strategy for eradication (Maguire et al., 2008; Trees for Life, 2019). Chemical treatment of cut stumps is therefore a necessary component of any effective management programme.

4.2.2 Phase 1: Initial Clearance

Initial clearance (Phase 1) involves the cutting of all large plants and the removal of all visible smaller plants. All cut stumps must be treated immediately after cutting (within minutes, before the cut surface begins to dry) with an appropriate herbicide. The standard and most widely used treatment is glyphosate applied directly and exclusively to the freshly cut stump surface, not to surrounding vegetation. This should be applied at the concentration specified for stump treatment on the product label by the trained working group.

An alternative to stump painting is the use of stem injection or the Ecoplug system (plugs containing glyphosate inserted into drilled holes in the stump), which further reduces the risk of herbicide reaching non-target soil or plant communities (Willoughby, Stokes & Edwards, 2017). The choice of method should be based on the size of the stand, terrain, and the working group's assessment.

For large, established specimens where access permits, winching or mechanical extraction of the root system should be considered as a complement to cutting and stump treatment, as physical root removal substantially reduces the potential for regrowth.

4.2.3 Phase 2: Advanced and Final Clearance (Year 1–3)

Phase 2 clearance involves a return visit to the phase 1 clearance area to identify and treat any plants missed in the initial clearance, to treat any resprouting stumps, and to begin foliar treatment of any younger plants (< 5 years old) that were too small for cutting. This phase is best carried out in late spring (May–June) when plants are in active growth and flower colour makes them conspicuous. According to the NPWS guidance, final clearance has been achieved when all mature plants present at the time of initial clearance are confirmed dead, and systematic site coverage has removed all plants approximately five years of age or older (Higgins, 2008).

4.2.4 Phase 3: Ongoing Maintenance (Year 3 and Beyond)

Rhododendron produces abundant small seeds that are wind-dispersed and germinate readily in disturbed ground and on moss or peat surfaces. Even after successful initial and advanced clearance, seedling recruitment will continue for many years from the soil seed bank and from seed blown in from adjacent properties or landscapes. Annual monitoring and prompt removal of seedlings and juvenile plants is therefore an essential, long-term commitment. Vigilance in the period following clearance is, in the words of the NPWS guidance, "as important as phases 1 and 2 if the control programme is to succeed in the medium to long term" (Higgins, 2008).

Cleared areas should be replanted with native species to suppress Rhododendron seedling establishment and restore ecological function. Species suited to the South Kerry climate and soils include native oak (*Quercus petraea*), holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), and a range of native ferns and woodland ground flora. The All-Ireland Pollinator Plan guidance on native planting (www.pollinators.ie) should be consulted when selecting replacement species (MacGillycuddy Reeks Partnership, 2022).

4.2.5 Note on Phytophthora ramorum

Where *Rhododendron ponticum* is being cleared in proximity to oak or other susceptible tree species, garden managers should be alert to the possible presence of *Phytophthora ramorum*. Symptoms include wilting, leaf necrosis, and lesions on shoots and stems. If disease is suspected, the NPWS or Teagasc should be contacted before proceeding with cutting work, as cutting diseased material and moving it around a site may inadvertently spread the pathogen (Forest Research, 2013).

4.3 Winter Heliotrope (Petasites pyrenaicus)

4.3.1 General Approach

Winter Heliotrope management is complicated by its mode of reproduction (entirely vegetative, by rhizome) and the fact that any disturbance of the rhizome risks generating new plants from fragments. The 2022 NeoBiota study, the first formal field assessment of management approaches for this species, tested 12 physical and/or chemical treatments over four years, and its findings should inform practice (NeoBiota, 2022). The study found that the most effective outcomes combined physical disruption of the rhizome (to exploit source-sink relationships and deplete energy reserves) with subsequent targeted treatment.

Given the garden's preference for non-chemical approaches, the primary strategy for Winter Heliotrope will be persistent mechanical management supplemented by smothering techniques. However, for established stands, it should be acknowledged that purely physical methods are unlikely to achieve eradication within a short timeframe, and patience and persistence are required.

4.3.2 Physical Management Methods

Repeated cutting: Cutting and strimming of leaves and stems throughout the growing season depletes rhizome energy reserves over time. Cutting should begin as soon as growth emerges in spring and be repeated at approximately monthly intervals throughout the season. This method is appropriate for the community garden context and is unlikely to create a significant risk of spread if cuttings are carefully collected and disposed of as controlled waste (not composted on site).

Smothering: For smaller, more accessible stands, covering with light-excluding material (heavy-duty geotextile, black polythene, or wet cardboard overlaid with thick (≥15cm) bark mulch) for extended periods (minimum one full growing season, ideally two) can significantly weaken or kill stands. This method is labour-intensive to install and maintain but avoids chemical use entirely and is suitable around food-growing areas.

Forking out: For small, peripheral stands or newly established colonies, deep forking (inserting a border fork to its full depth and lifting the rhizome system) combined with careful hand-removal of all rhizome fragments can be effective. The RHS guidance notes that this method works particularly well for Winter Heliotrope as the species "resents disturbance" (RHS, 2023). Repeated follow-up treatment of any regrowth is essential.

Competitive planting: Following physical management, replanting with vigorous native ground-cover species (e.g., wild garlic (*Allium ursinum*), wood sorrel (*Oxalis acetosella*), native ferns) can help prevent re-establishment by reducing available light and competing for resources.

4.3.3 Chemical Management

If physical methods fail to achieve meaningful suppression after two growing seasons, or where the scale of infestation makes physical management impractical, targeted herbicide application using a glyphosate-based product should be considered. Foliar application is most effective during periods of active growth; weed-wiping (using a glyphosate-impregnated roller or wiper) is preferred in mixed-species areas to minimise off-target effects (JKI Environmental, 2022). As with all herbicides use on site, application must be carried out by a certified operator.

It should also be noted that, given the pollinator value of Winter Heliotrope's winter flowers, management should ideally avoid removing or treating stands at the time of flowering (November–February) where alternative means of control are available. Management of the majority of a stand can occur from spring onwards without significantly compromising this ecological service.

4.4 Montbretia (*Crocosmia × crocosmiiflora*)

4.4.1 General Approach

Of the target species addressed in this plan, Montbretia is one of the most amenable to non-chemical management in a community garden context. It is relatively shallow-rooted and the chains of corms, while fragile and prone to fragmentation, are accessible by digging in a way that the deep rhizomes of Japanese Knotweed or the woody root systems of Rhododendron are not. Nonetheless, its management requires care: corm fragments must be thoroughly removed, as even small pieces can regenerate (Environment Controls, 2026).

4.4.2 Physical Management Methods

Hand pulling: Appropriate for small, newly established colonies or isolated plants. Most effective when soil is damp. All corms and rhizome fragments must be carefully removed from the soil and placed into sealed bags for disposal as controlled waste. Do not shake corms loose on site.

Digging and excavation: For established stands, deep digging with a spade or border fork, to a minimum depth of approximately 30–40cm, is required to remove the corm chains. Mechanical excavation (mini-digger) should be considered for large stands, to a depth of at least 75cm. Excavated material must be removed to a licensed landfill; it must not be reused as fill or spread elsewhere on site.

Repeated cutting: Cutting of all above-ground growth throughout the growing season will progressively weaken established plants by depleting corm energy reserves. This is best employed as a holding measure or in conjunction with digging, rather than as a primary eradication strategy for large stands.

Smothering: Light-excluding membrane or deep mulch can suppress Montbretia, though the vigour of established plants may allow eventual breakthrough. Best used as a complement to physical removal.

4.4.3 Chemical Management

Herbicide treatment (glyphosate-based foliar application during active growth in spring and summer) may be used for large stands where physical removal is impractical. Multiple applications are typically required as the network of corms means that not all parts of the plant will receive an adequate dose in any single treatment (Environet, 2024; PBA Solutions, 2024). As with all herbicide use on this site, a certified operator must conduct the treatment.

4.4.4 Prevention of Spread

The primary vector of Montbretia spread in Ireland is the casual disposal of garden corms. Garden members should be advised never to dispose of Montbretia corms in garden waste, compost bins, or fly-tip them in the countryside. All material removed from site must be bagged securely and taken to a licensed facility. Members who grow Montbretia cultivars in their own plots should be aware that *Crocosmia × crocosmiiflora* (the common montbretia) is invasive, while most named cultivars sold in garden centres (e.g., 'Lucifer', 'Emily McKenzie') are less aggressive; however, all should be prevented from spreading beyond their intended planting area.

4. 5 Spanish Bluebell (Hyacinthoides hispanica) & Hybrid Bluebell (Hyacinthoides × massartiana)

4.5.1 General Approach

Spanish Bluebell and its hybrid are amenable to non-chemical management through careful and systematic bulb excavation, provided this is conducted thoroughly and followed up consistently over multiple seasons. This is reassuring in the context of this garden's preference for minimal chemical intervention: chemical herbicide is not generally considered the primary management tool for H. hispanica, and manual removal is the approach recommended by authoritative horticultural and conservation bodies (Gardeners' World, 2024; Biology Insights, 2026).

However, the long-term commitment required should not be underestimated. Spanish Bluebell can regenerate from even small bulb fragments left in the soil, and seeds may remain viable in the soil seed bank for several years. Annual monitoring and follow-up treatment for a minimum of three to five years following initial clearance is therefore essential to prevent reinvasion from retained seed or missed bulbs.

4.5.2 Pre-management: Survey & identification

Before undertaking any management, a full survey of the site should be carried out during the flowering period (April–May), when identification is most reliable. The survey should:

- Map all stands of non-native bluebells on a site plan, including approximate extent and density;
- Confirm identification using the diagnostic features in 3.5.1 (particularly anther colour) and, where uncertain, submit photographs to the NBDC;
- Record the location of any native H. non-scripta populations on or adjacent to the site, to ensure these are not disturbed during management;
- Note any stands in proximity to boundaries with gardens, hedgerows, or public land where escape pathways exist.

4.5.3 Physical Management: Bulb Excavation

Manual excavation of bulbs is the primary recommended management method. The following procedure should be followed:

- **Timing:** Excavation is most effective after flowering but while foliage is still present (May–June), as the above-ground leaves guide the location of bulbs. Alternatively, excavation can be undertaken in autumn when dormant bulbs can be located by their previous-season foliage debris. Do not attempt excavation in mid-winter when bulbs are difficult to locate.
- **Method:** Insert a garden fork vertically, as close to the centre of the clump as possible, to the full depth of the tines (typically 25–30 cm). Lever the fork back to lift the bulbs. Inspect all soil removed carefully and collect every bulb and bulb fragment. Do not shake soil loose on site, as this may scatter small bulbs or fragments.
- **Disposal:** All bulbs and foliage must be placed immediately into sealed, labelled bags. Excavated bulbs should be allowed to dry out thoroughly before disposal, to prevent any possibility of re-establishment. Dried material may be placed in residual household waste (not green waste or garden compost collections). Do not leave bags of bulbs in open areas; secure promptly.

- **Avoidance of spread:** Tools and footwear used in infested areas should be cleaned before use elsewhere, to avoid transferring small bulb fragments or seeds.

4.5.4 Smothering

For well-established stands, light exclusion using heavy-duty black polythene or geotextile membrane, combined with a thick bark mulch overlay, can be effective in suppressing growth and weakening bulbs over time. This method is best employed in the season following initial excavation, to suppress any regeneration from missed fragments. At least one full growing season of smothering is recommended; two seasons provides greater confidence of suppression.

4.5.5 Chemical Management

Herbicide treatment is not generally the primary recommended approach for H. hispanica management, as the bulbs are not easily killed by foliar herbicide alone. However, where stands are very large, inaccessible, or growing through other desirable vegetation that would be damaged by excavation, foliar application of a glyphosate-based herbicide to actively growing plants in spring may help suppress the stand and reduce its vigour prior to manual removal. Any herbicide use must be carried out by a certified operator and with particular care given proximity to native H. non-scripta populations, which would be equally susceptible to herbicide damage.

4.5.6 Prevention of Re-introduction

Given that the principal pathway for Spanish Bluebell introduction is the horticultural trade, effective prevention requires community awareness. The Garden Committee/Tidy Towns Committee should advise all members:

- Not to purchase or plant *Hyacinthoides hispanica* in any part of the community garden or in their adjacent private gardens if these are close to areas of native bluebell habitat. Although it is not illegal to grow H. hispanica in a private garden in the Republic of Ireland, it is an offence to allow it to spread into the wild, and garden-origin plants are a primary vector of landscape-scale spread.
- When purchasing bluebells from nurseries or garden centres, to ensure they are buying the native *H. non-scripta*, grown from Irish-origin stock, and not wild-collected bulbs (which may carry pests and pathogens).
- To be aware that many bulb catalogues and garden centres continue to sell *H. hispanica*, sometimes mislabelled simply as "bluebell."

Phase	Activity	Timing	Notes
Phase 1 (Year 1)	Survey and map all non-native bluebell stands; photograph each stand; check for presence of native *H. non-scripta* on or adjacent to site	February–May (during flowering)	Identification is easiest when plants are in flower
Phase 2 (Year 1–2)	Manual bulb excavation of all identified and hybrid stands; bag all material securely	April–June (after flowering, while	Do not leave bulbs exposed on soil

		foliage guides location)	surface; bag immediately
Phase 3 (Year 2–3)	Follow-up excavation of any regrowth; seedling monitoring and removal; replanting of cleared areas with native species	March–May annually	Annual monitoring for minimum 3 years post-clearance
Ongoing	Annual spring survey; prevention of new introductions via garden waste and bulb purchases	February–May	Advise all members against purchasing *H. hispanica*

4.5.7 Replanting after clearance

Where *H. hispanica* stands have been cleared, replanting with native Common Bluebell (*Hyacinthoides non-scripta*) is strongly encouraged to restore the native species to the site, aid in suppressing reinvasion, and provide ecological value for pollinators. Native bluebell bulbs should be sourced from reputable suppliers who can confirm Irish or UK provenance and in-cultivation (not wild-collected) origin. The All-Ireland Pollinator Plan provides guidance on sourcing native plants (www.pollinators.ie).

Cleared areas may also be planted with other native woodland ground flora appropriate to the South Kerry climate, including wood anemone (*Anemone nemorosa*), wild garlic (*Allium ursinum*), wood sorrel (*Oxalis acetosella*), and primrose (*Primula vulgaris*). These species will compete with any re-emerging non-native bluebell seedlings and restore the ecological diversity of the site.

5. Implementation Schedule and Prioritisation

Management activities should be prioritised based on species risk, severity of infestation, legal obligations, and available resources. The following prioritisation framework has been updated to incorporate Spanish Bluebell (*Hyacinthoides hispanica*) and its hybrid (*H. × massartiana*) as a fifth target species for the site.

Priority	*Species*	*Rationale*
1 - High	*Rhododendron ponticum*	Listed Species of Union Concern; severe ecological impact; existing trained working group operational; adjacent Kerry landscape (including Killarney National Park) highly vulnerable; acts as Phytophthora ramorum reservoir.
1 - High	Japanese Knotweed (*Fallopia japonica*)	Listed Species of Union Concern (from August 2025); legal obligation on landowners to prevent spread; significant infrastructure, soil, and watercourse risk; controlled waste obligations apply to all removed material.

2 - Medium	Spanish Bluebell and Hybrid (*Hyacinthoides hispanica / H. × massartiana*)	Legal offence in the Republic of Ireland to cause to grow in the wild; primary threat is genetic erosion of native Common Bluebell (*H. non-scripta*) through hybridisation; amenable to physical management if tackled early; risk elevated in any garden near native bluebell habitat.
2 - Medium	Winter Heliotrope (*Petasites pyrenaicus*)	Locally invasive; forms persistent monocultures; purely vegetative reproduction makes physical management viable but patience-demanding; early intervention substantially limits the long-term management burden; no legal obligation but management strongly recommended.
3 - Lower	Montbretia (*Crocosmia × crocosmiiflora*)	Widespread but lower ecological impact than priority 1 and 2 species; amenable to physical management; significant risk of garden-origin spread via careless bulb disposal; no current legal obligation in the Republic of Ireland.

Note on Spanish Bluebell prioritisation: Although Spanish Bluebell is not listed as a Species of Union Concern under EU Regulation 1143/2014, it is nonetheless a Priority 2 species in this plan on the basis of its legal status in Ireland (it is an offence to cause it to grow in the wild under the European Communities (Birds and Natural Habitats) Regulations 2011), and more particularly because of the genetic threat it poses to native Common Bluebell (H. non-scripta) through hybridisation. It is amenable to non-chemical management through bulb excavation and is therefore a tractable priority for this garden's management programme. Its position above Montbretia reflects the irreversible genetic harm that hybridisation can cause to native bluebell populations in the surrounding Kerry landscape.

An indicative five-year implementation timeline is set out below. This should be refined following the initial site survey and mapping exercise. A biennial review of this plan is recommended to ensure it remains effective as conditions change.

Year	***Key Activities***
Year 1	Full site survey and mapping of all IAPS including Spanish Bluebell/hybrid stands (survey during April–May flowering period for reliable identification); establish baseline photographic record; initial clearance of Rhododendron (Phase 1) by trained working group; commencement of Japanese Knotweed cutting programme; manual bulb excavation of all identified Spanish Bluebell/hybrid stands; smothering or cutting of Winter Heliotrope and Montbretia stands.
Year 2	Continued cutting of Japanese Knotweed; Phase 2 Rhododendron clearance; follow-up excavation of any Spanish Bluebell or hybrid regrowth; monitoring for new seedling establishment from Spanish Bluebell soil seed bank; assessment of Heliotrope and Montbretia response to Year 1 treatment; excavation of manageable Montbretia stands; assessment of need for herbicide treatment across all species.

Year 3	Herbicide treatment of Knotweed if physical management has proven insufficient; Phase 2/3 Rhododendron follow-up; third-year Spanish Bluebell monitoring and removal of any persistent or newly-germinated plants; replanting of cleared Rhododendron and Spanish Bluebell areas with native species (including native H. non-scripta if appropriate); continued physical management of Heliotrope and Montbretia.
Year 4	Annual monitoring survey across all five species; treatment of regrowth; herbicide treatment of Winter Heliotrope if physical management remains insufficient; continued Spanish Bluebell seedling monitoring (seed bank may remain viable for several years post-clearance).
Year 5	Full review of plan effectiveness against baseline records; update management strategies and prioritisation based on outcomes; continued vigilance across all species; replanting of all cleared areas with appropriate native species; consideration of whether any species warrants escalation or de-escalation of priority.

6. Monitoring, Waste Management, and Biosecurity

6.1 Monitoring and Recording

Effective long-term management depends on systematic monitoring. The following records should be maintained by the Garden/Tidy Towns Committee throughout the lifetime of this plan:

- Annual photographic and mapped record of all invasive species stands (marked on a site plan); records should note date, stand extent (approximate area), and apparent density. For Spanish Bluebell and its hybrid, the survey should be carried out in April–May when plants are in flower and identification is most reliable.
- Treatment log for all management activities: date, species treated, area treated, method used (cutting, digging, bulb excavation, herbicide type and rate if applicable), and personnel involved.
- Where herbicide is used: product name, active ingredient, batch number, volume applied, weather conditions, and name and certificate number of the operator must be recorded in accordance with pesticide regulations.
- Annual effectiveness assessment: comparison of stand extent and density year-on-year to evaluate management success and inform adaptive management decisions.
- For Spanish Bluebell and hybrid specifically: a note each spring of whether any native Common Bluebell (*H. non-scripta*) is present on or adjacent to the site, and whether hybrid forms with intermediate characteristics appear to be increasing - this provides an early indicator of hybridisation pressure and should inform the urgency of management.

The National Biodiversity Data Centre (NBDC) encourages recording of invasive species occurrences through its online citizen science portal (www.biodiversityireland.ie).

6.2 Waste Management

The disposal of invasive plant material is subject to waste management legislation. The following rules must be observed for all five target species:

- All invasive plant material removed from the site must be treated and disposed of appropriately. The specific requirements vary by species and are set out below.

- Japanese Knotweed: All plant material (stems, leaves, rhizomes) and soil contaminated with knotweed rhizome must be treated as controlled waste and transported only by licensed waste carriers to a licensed landfill facility. Waste transfer documentation must be retained. Knotweed material must never be composted on site, placed in public green waste collections, or reused as fill elsewhere on the site or in the surrounding area.
- *Rhododendron ponticum*: Cut material can typically be chipped on site and used as a mulch (the chipped material does not carry the same regeneration risk as rhizomatous or bulbous species), or may be burnt in situ where local authority bye-laws and fire safety considerations permit. Where *Phytophthora ramorum* is suspected, consult the NPWS before moving or processing cut material.
- Spanish Bluebell and Hybrid: Excavated bulbs and all associated foliage must be placed immediately into sealed, labelled bags. It is recommended to allow excavated bulbs to dry out thoroughly before disposal. Dried material may be disposed of in residual household waste (not green waste or composting collections). Do not leave bags of bulbs in open areas or transport unsecured. Even dried bulb fragments can be viable, so thorough bagging is essential.
- Winter Heliotrope: Rhizome material and foliage should be bagged securely before removal from site. Small quantities may be disposed of in residual (non-green) household waste if all material is double-bagged. Do not compost on site.
- Montbretia: Corms and foliage should be bagged securely and removed to a licensed facility or placed in residual household waste (double-bagged). The primary vector of Montbretia spread in Ireland is the careless disposal of garden corms; all members should be reminded never to place corm material in green waste streams, hedge cuttings, or general garden dumps.

6.3 Biosecurity

The following biosecurity measures should be adopted during all management activities to minimise the risk of inadvertent spread of invasive plant propagules:

- Clothing and footwear should be inspected and, where possible, cleaned before leaving any area of active infestation. Soil trapped in boot treads can carry viable Japanese Knotweed rhizome fragments; it may also carry Spanish Bluebell bulbils or Montbretia corm fragments.
- Tools (spades, forks, strimmers, trowels) used in infested areas should be cleaned before use elsewhere on site. A brush and water point near the management area facilitates this. This is especially important when working in areas containing more than one invasive species, to avoid cross-contamination of stands.
- No soil from infested areas should be moved elsewhere on the site without authorisation from the working group lead. This applies particularly to Japanese Knotweed areas (rhizome risk) and Spanish Bluebell areas (bulb fragment risk).
- Garden visitors and contractors should be briefed on the locations of invasive species stands and advised not to enter these areas without guidance. Any equipment brought onto site by contractors should be inspected for soil or plant material before use.
- Garden members should be advised not to introduce new Hyacinthoides hispanica bulbs to the garden, and to exercise care when purchasing bluebell bulbs from garden centres or online suppliers, ensuring that only native H. non-scripta of known provenance is planted on site.

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Appendix A: Management Activity Log Template

This log should be maintained by the Garden Committee and updated after every management activity. A copy should be retained permanently as part of the garden's records.

Field	***Detail / Notes***
Date of Activity	
Species Treated	
Location on Site (description or map ref)	
Approximate Area Treated (m²)	
Management Method (cutting / digging / herbicide / smothering)	
If Herbicide: Product Name and Active Ingredient	
If Herbicide: Rate of Application	
If Herbicide: Operator Name and Certificate Number	
If Herbicide: Weather Conditions	
Volume of Waste Generated and Disposal Method	
Personnel Involved (names)	
Observed Effectiveness / Notes	
Next Treatment Scheduled	

Appendix B: Quick Reference - Management Methods by Species

Species	Non-Chemical Methods	Chemical Methods	Legal Obligation?
Japanese Knotweed (Fallopia japonica)	*Repeated cutting; root barriers; excavation (licensed disposal required)*	*Foliar glyphosate (late summer); stem injection - certified operator required*	*Yes - Species of Union Concern (Aug 2025)*
Rhododendron ponticum	*Cutting (always with stump treatment); winching; mechanical extraction*	*Glyphosate stump treatment (applied by trained working group); Ecoplug method; foliar spray of regrowth - certified operator required*	*Yes - Species of Union Concern*
Winter Heliotrope (Petasites pyrenaicus)	*Repeated cutting/strimming; deep forking; smothering with mulch; competitive planting*	*Foliar glyphosate or weed-wiping if physical methods insufficient - certified operator required*	*No - but management is strongly recommended to prevent spread*
Montbretia (Crocosmia × crocosmiiflora)	*Hand pulling (damp conditions); digging and corm removal; repeated cutting; smothering*	*Foliar glyphosate if physical methods insufficient - certified operator required*	*No- but prevent spread to wild.*
Spanish Bluebell and Hybrid (Hyacinthoides hispanica / H. × massartiana)	*Manual excavation of bulbs; smothering*	*Not generally recommended or necessary*	*Yes - an offence to plant, cause them to spread, or release them into the wild.*