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2025

Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath Invasive Species Survey Report

**ENGINEERING A SUSTAINABLE FUTURE** 

# Residential Development, Boreen Bradach, Kinnegad, Co. Westmeath Invasive Species Survey Report

#### **Document Control Sheet**

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# **LRD Opinion response**

The below summarises opinions raised by Westmeath County Council (WMCC) after the LRD Stage 2 meeting and our response to these items

Stage 2 meeting and our response to these items				
Opinion / Recommendation	ORS Response			
7.EIA and AA				
An EIAR Screening Report and Appropriate Assessment Screening Report with Natura Impact Statement, if required, to accompany any future planning application.	Both documents have been prepared and are submitted with this planning application as:  • EIA Screening Report.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-001), and  • AA Screening Assessment.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-008.pdf).			
8.Other Matters				
Applicant to submit details in respect of the following:				
(i) All survey reports as noted in the Ecological impact Assessment such as the Bat Survey, Invasive Species, etc.	The Ecological Impact Assessment (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007) addresses the detailed surveys conducted on the site as presented in Section 4 - Results. Invasive Species Survey can be found in the Section 4.3.1, page 23 of the EcIA, and the Preliminary Bat Roost Potential survey had it results included in Appendix B of the EcIA report.			
(ii) A Construction and Environmental Management Plan (CEMP) to include a full tabled list of mitigation measures. Mitigation measures identified in the Ecological Impact Assessment, Invasive Species Report and any other reports submitted with any future application should be included in the CEMP.	<ul> <li>The Construction and Environmental Management Plan (CEMP.pdf) has been prepared by ORS, 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-002) for the construction phase of the development. Section 4 - Environmental Management Plan summarises the mitigation measures and incorporates the proposed measures contained in the following reports:</li> <li>Arboricultural Impact Assessment, by John Morris Arboricultural Consultancy Ltd, 2025 (Ref: 24-398-04)</li> <li>Invasive Species Survey Report, by ORS - 2025 (Ref: 241139-ORS-XX-XX-RP-EN-13d-005)</li> <li>Noise Impact Assessment, by Amplitude Acoustics, 2025 (Ref: D240912RP1)</li> <li>Ecological Impact Assessment, by ORS - 2025 (EcIA.pdf - Ref: 241139-ORS-XX-XX-RP-EN-13d-007)</li> <li>Archaeological Assessment Report, by IAC, 2025 (Ref: IAC Project J4402.pdf)</li> <li>Appendix B of the CEMP presents the Schedule of Mitigation Measures</li> </ul>			
(iii) A Noise Impact Assessment Report which assess the existing noise impact (mainly traffic) on the proposed residential development. Reference	Amplitude Acoustics were commissioned to undertake a Noise Impact Assessment for the proposed development, resulting in a report NIA.pdf (Ref: D240912RP1) which accompanies this planning application. The report takes into account the Westmeath Noise Action Plan 2024-2028 and the WHO Guidelines for noise impacts at construction stage.			

should be made to the	
Westmeath County Council	
Noise Action Plan 2024-2028	
and the World Health	
Organisation Guidelines.	
(iv) A Construction and	
Demolition Resource Waste	
Management Plan for the	A RWMP was carried out by ORS, 2025 (Ref: 241139-ORS-XX-XX-RP-
proposed development.	EN-13d-003) and accompanies this planning application
	An OWMP has been prepared by ORS - 2025 - for the operational
(v) An Operational Waste	phase of the proposed development - OWMP.pdf (ref: 241139-ORS-
Management Plan for the	XX-XX-RP-EN-13d-004) and accompanies this planning application. It
proposed development .	also includes details and drawings of a 3-bin
	waste/compost/recycling facility for the Creche site.
	ORS 2025 has produced a Site-Specific Flood Risk Assessment -
	SSFRA.pdf (Ref: 241139-ORS-XX-XX-RP-EN-13d-009) for the
	development and is presented within the documentation which
(vi) A Site-Specific Flood Risk	accompanies this planning application. It concludes that the Site is
Assessment.	classified as Flood Zone C, and, therefore no justification test is
	required and it is not
	expected that its construction will increase the area flood risk. The
	proposed development is not exposed to any flood risk.
(vii) An updated Ecological	An updated Ecological Impact Assessment (EcIA.pdf - Ref: 241139-
report which considers all	· · · · · · · · · · · · · · · · · · ·
boundaries, trees and	ORS-XX-XX-RP-EN-13d-007) is submitted with the planning
hedgerows located on site.	application documentation and takes into account all boundaries,
neugerows located on site.	trees and hedgerows on the site.

#### 1 Introduction

*ORS* were commissioned by *Corcom Development Partners* to carry out an Invasive Species Survey on the proposed development site at Boreen Bradach, Kinnegad, Co. Westmeath. The information gathered herein is based upon a thorough site investigation carried out on the 14<sup>th</sup> August 2024.

#### 1.1 Objective of Invasive Species Report

This Invasive Species Survey Report provides an assessment of the site conditions with regards to the presence of invasive species and outlines measures for the management of any INNS encountered on site. Below is an outline of the objectives of this report:

- Provide a baseline assessment of site conditions and identify any Invasive Non-Native Species (INNS) listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).
- Map the locations and descriptions of any areas on site where INNS occur.
- Provide management and mitigation measures for the prevention of spread of INNS to and from the proposed site.

#### 1.2 Legislative Context

#### 1.2.1 EU

#### Regulation (EU) 1143/2014 on invasive alien species (the IAS Regulation)

On September 29th, 2014, the European Council adopted a Regulation on the prevention and management of the introduction and spread of invasive alien species (1143/20140). The Regulation, that is a binding legal tool for all Member States, entered into force January 1st, 2015. The Regulation lays down rules to prevent, minimise and mitigate the adverse impacts of the introduction and spread, both intentional and unintentional, of invasive alien species on biodiversity and the related ecosystem services, as well as other adverse impact on human health or the economy.

#### 1.2.2 Ireland

#### Invasive Alien Species (IAS) Regulation

The IAS Regulation which entered into force on 1st January 2015 has the greatest potential to drive the management of invasive alien plant and animal species within the European Union (EU). Central to the regime is the establishment, and regular updating, of a list of INNS considered to be of Union concern ('the Union list'). The placing of a species on the Union list activates a number of obligations on Member States (MS) vis-à-vis those species.

#### Wildlife Acts, 1976-2018

The Wildlife Act, 1976, as amended, provides that 'Any person who [...] plants or otherwise causes to grow in a wild state in any place in the State any ['exotic'] species of flora, or the flowers, roots, seeds or spores of ['exotic'13] flora, [...] otherwise than under and in accordance with a licence [...] shall be guilty of an offence'.

#### European Communities (Birds and Natural Habitats) Regulations, 2011–2015

Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011, concerns the 'Prohibition on introduction and dispersal of certain species.' Regulation 49(2) provides 'Save in accordance with a licence [...], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow' scheduled plant species shall be guilty of an offence.

Regulation 50 provides 'Save in accordance with a licence granted under paragraph (7), a person shall be guilty of an offence if he or she imports or transports –

- (a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule
- (b) anything from which an animal or plant referred to in Part 2 of the Third Schedule can be reproduced or propagated, or
- (c) a vector material listed in Part 3 of the Third Schedule,

into or in or to any place in the State specified in relation to such an animal or plant or vector material in relation to that animal or plant or vector material in the third column of the Third Schedule.'

In addition to plant species, soils and other material which may contain INNS are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down can result in either civil or criminal prosecution.

#### 1.3 Guidance Documentation

To assist in the preparation of this report, reference to the following documents was given:

- 'The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads', NRA (2010).
- 'Invasive Species Action Plan', Invasive Species Ireland.
- 'Best Practice Management Guidelines', Invasive Species Ireland, (Maguire et al, 2008).
- 'Practical Management of Invasive Non-Native Weeds in Britain and Ireland', PCA (2018).
- 'Managing Invasive Non-Native Plants in or near Freshwater', Environment Agency (2013).
- 'Field Guide to Invasive Species in Ireland' 2<sup>nd</sup> Edition, Invasive Species Ireland

#### 1.4 Background

#### 1.4.1 Invasive Non-Native Species (INNS)

An Invasive Non-Native Species (INNS) can be defined as one whose intentional or unintentional introduction and/or spread outside their natural past or present distribution threatens biological diversity. A wider definition includes the characteristic of causing economic or environmental detriment or harm to human health.

INNS typically display one of the following characteristics or features:

- Prolific reproduction through seed dispersal and/or re-growth from plant fragments.
- Rapid growth in typically unfavourable habitats.
- Resistance to standard weed control methods.

Typically, if INNS are not managed, they may:

- Out-compete native vegetation, affecting plant community structure and habitat for wildlife.
- Cause damage to infrastructure including property, road carriageways, footpaths, walls and foundations.
- Result in soil erosion and collapse of riverbanks through exposure of the soil during winter floods when the INNS dies back.
- Have an adverse effect on landscape quality through a loss of naturalness, aesthetics, and regional identity.
- Impact on road safety by blocking sightlines at junctions and road signage in general.

A full list of non-native species subject to restrictions under Regulations 49 and 50 is included in **Appendix A** of this report.

#### 1.4.2 Japanese Knotweed (Fallopia japonica)

Japanese knotweed is an invasive herbaceous perennial plant which is native to Japan and northern China. It was introduced to Ireland as an ornamental plant in the 19th Century. Since then, it has established wild populations in a variety of habitat types across the country, including rural and urban waste ground, riparian zones along streams and rivers, and roadsides causing significant problems due to its prolific and dense growth rate.

Japanese knotweed is a tall, robust herbaceous perennial plant that grows in dense clusters, reaching heights of up to 3 metres, with characteristic red, bamboo-like stems. Its leaves are 10-15cm long, shield-shape with a flat base with smooth undersides lacking hairs (Booy *et al.*, 2015).

Dispersal typically occurs through rhizome fragments being transported in soil by humans or, to a lesser extent, through passive mechanical means such as in floodwaters. Dispersal is also achieved through vegetative reproduction from stem fragments.

In Ireland, there are four regulated knotweed species:

- Japanese Knotweed (Fallopia japonica)
- Giant Knotweed (Fallopia sachalinensis)
- Bohemian Knotweed (Fallopia bohemica)
- Himalayan Knotweed (Persicaria wallichii)

It is recommended to seek advise from a qualified invasive species management organisation as dispersal is highly effective.

#### 1.4.3 Giant Hogweed (Heracleum mantegazzianum)

This plant is native to southwest Asia and was introduced to Ireland as an ornamental garden plant in the 19<sup>th</sup> century. It closely resembles hogweed and cow parsley but can typically be identified due to its distinctive size. It is a tall perennial herb, with a lifespan of 3-5 years, characterized by its pale yellow root. It has a single, ridged, sturdy hollow stem that can reach up to 10 cm thick at the base and grow as tall as 5 meters. The stem is green with purple

patches. The leaves are pinnately arranged, consisting of opposite pairs of leaflets with a terminal leaflet, and can grow up to 2.5 meters across. The flowers are white, occasionally pinkish, and form in umbels up to 80 cm wide (Tiley *et al.*, 1996). Each plant can produce up to 50,000 seeds, which are flat, 0.9-1.5 cm long, and feature oil ducts visible as dark stripes—two on one side and four on the other.

When fully mature, its 'giant' size makes it easily recognizable. It may be mistaken for the native hogweed (*Mantegazzianum sphondylium*), but the latter has a much thinner stem (1-2 cm thick), less sharply divided leaves, and rarely exceeds 2 meters in height. Even if Giant Hogweed is disturbed or trampled, preventing it from reaching its full height, it will still retain its large stem, leaves, and umbels.

Giant hogweed produces a sap that is harmful to humans causing blistering and hyperpigmentation of the skin which can last up to months. Caution is advised when working adjacent these plants to avoid human injury. There is an EU-wide ban on the sale, growing, and keeping of this plant. Protective clothing (face masks, goggles, rubber boots, gloves) must be worn by personnel involved in the control of this species (DARD, undated).

Control of this species can be carried out manually, mechanically, chemically, or environmentally.

#### Manual

Scythes can be used to cut flowering plants during the mid-flowering stage which can eradicate seed production and minimise propagation. Likewise, plants can be dug up using a spade to cut diagonally through the roots at least 15cm below soil level. This should be carried out in early spring and again in mid-summer (Nielsen *et al.*,2005).

#### Mechanical

Ploughing the ground at a depth of over 24cm is effective at controlling infestations on open, accessible land. It is recommended to first use manual or chemical control to maximise effectiveness (DARD, undated; Nielsen *et al.*,2005).

#### Chemical

Chemical control of Giant Hogweed can be carried out using glyphosate and triclopyr. Applications should be made in early spring with a second application before the end of May. Treatment will require 4-5 years of application to ensure eradication (DARD, undated; Nielsen *et al.*,2005).

#### **Environmental**

Cattle, sheep, goats, and pigs readily eat Giant Hogweed and can used to gradually weaken infestations over time. It is recommended to monitor animal wellbeing over time, particularly for signs of photosensitisation. It will take 5-rhubarb10 years to eradicate infestations using this method (DARD, undated; Nielsen *et al.*,2005).

#### 1.4.4 Giant Rhubarb (Gunnera tinctoria)

Giant rhubarb is a large herbaceous perennial with leaves resembling rhubarb, growing up to 2 meters wide. The leaves have a rough texture and jagged, toothed lobes, with two rounded

lobes at the base separated by a deep division (Stace, 1997). The stout leaf stalks can reach up to 1.5 meters long and are covered with green bristles. Its cone-shaped flowering spike, up to 1 meter long, consists of densely packed, short branches (less than 5 cm) bearing small, stalk-less reddish-green flowers. Flowering occurs from June to August, followed by small orange-red berries forming. The rhizomes are 6–25 cm in diameter, mostly horizontal and above ground, extending up to 3.5 meters. The plant dies back in winter. It can be challenging to distinguish from the non-invasive *Gunnera manicata*, as key features are only apparent when fully developed and flowering. It may also be mistaken for wild-growing cultivated rhubarb.

There is an EU-wide ban on the sale, growing, and keeping of this plant. The plant can regrow from rhizome fragments and can disperse a large number of seeds, meaning eradication can be difficult (Armstrong *et al.*, 2009). Possible control measures are listed below:

#### Manual

Spades can be used to dig up smaller plants and sparse infestations (Armstrong *et al.*, 2009) and monitoring for regrowth should be carried out within a year (Williams *et al.*, 2005).

#### Mechanical

Excavators can be used to clear large infestations, ensuring that the entire rhizome is removed (Armstrong *et al.*, 2009; Williams *et al.*, 2005). Disposal can involve deep burial, drying and burning, or leaving to decay in black plastic. (Mayo County Council).

#### Chemical

Glyphosate can be used to control infestations. Spraying should be carried out between August and September at the end of the growing season, with repeat applications necessary (Armstrong *et al.*, 2009; Williams *et al.*, 2005).

#### 1.4.5 Indian Balsam (Impatiens glandulifera)

Himalayan Balsam was originally used as an ornamental garden plant which has spread into the wild and can rapidly colonise riverbanks and areas of damp ground. It can grow up to 3m in height and displays purple/pink to pale pink flowers from June-August. Seeds can be dispersed far from the original plant, meaning spread via rivers and streams poses a high risk.

There is an EU-wide ban on the sale, growing, and keeping of this plant. Control measures must be implemented on a recurring basis over several years. If tackling infestations along watercourses, work should start upstream and proceed in a downstream direction to avoid reinfestation downstream. Control measures include:

#### Manual

This species can be pulled by hand as it features shallow roots. This should be carried out before seeding where possible (end of July) (Helmisaari, 2010), although if seeds are already present, the heads can be bagged and cut off before the rest of the plant is removed (Kelly *et al.*, 2008).

#### Mechanical

Mowing and strimming can be utilised at the appearance of first flowers before seeding occurs. If cut before the start of flowering, shoots will be encouraged to regenerate. Plant material can be disposed of by composting, with the exception of seeds which should be disposed of by deep burial (EPPO, 2005; Helmisaari, 2010).

#### Chemical

Glyphosate can be used to control infestations, with certain formulations suitable for use near water (EPPO, 2005).

#### **Environmental**

Grazing by livestock can be used for infestations that are easily accessible. Grazing may need to take place on an annual basis (EPPO, 2005; Helmisaari, 2010).

#### 1.5 Project Description

The development will comprise a Large-Scale Residential Development (LRD) on a site at Boreen Bradach, Kinnegad, Co. Westmeath. The proposed development is for 129 no. residential dwellings, made up of 2 beds, 3 beds and 4 beds and the provision of a crèche facility.

The proposal includes for a new vehicular access and a new pedestrian access to the east of the site.

The development also includes all car and bicycle parking, bin stores, residential private open space, public open space, substation, boundary treatments, landscaping and all associated site development works.

#### 1.6 Methodology

The following methodology was carried out for the assessment of INNS present on site:

- 1. A visual survey of the subject site was carried out during a thorough walkover based on transects established across the site. Site boundaries were examined for signs of invasive species potentially entering the site from external sources.
- 2. GPS coordinates of any areas where invasive species were encountered were recorded and maps were generated to indicate where remedial works are required and where exclusion zones should be established.
- 3. Depending on the species observed, appropriate mitigation and management measures were outlined where necessary.

## 2 Site Details

#### 2.1 Site Location

The proposed site consists of greenfield land *ca.* 4.279ha (gross) in size located within Kinnegad town. The site is bounded to the north/northeast by Bun Daire housing estate. The site is bounded to the east by the Riverside Lawns estate and to the west by playing fields associated with St. Etchen's National School located immediately southwest of the site. The site is bounded to the south by properties associated with St. Etchen's Court estate and ruins of a Roman Catholic church on the lands of the Church of the Assumption located along the southeast boundary of the proposed site.

The site location can be seen in **Figure 2.1** below.

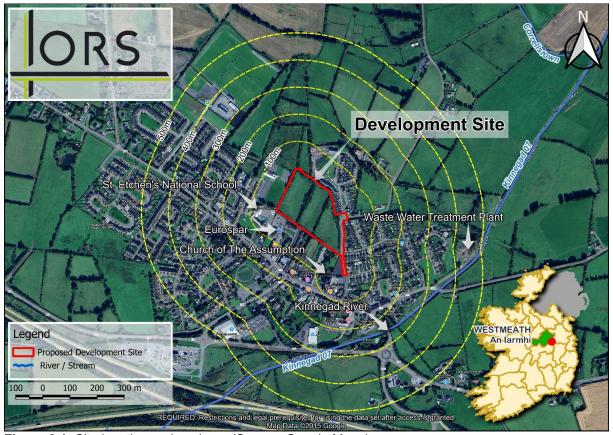


Figure 2.1: Site location and environs (Source: Google Maps)

#### 2.2 Existing Site Conditions

Existing site conditions at time of surveying (14<sup>th</sup> August 2024) consisted of dry meadow dominating the interior portions of the site. The site is subdivided into three parts by mature treeline and shrubbery and dense blackthorn hedging was observed along the northeast boundary of the site.

# 3 Survey Results

A thorough visual survey was carried out on the subject site to assess the presence of INNS. This process involved a walkover of the site based on transects across the site and a thorough analysis of boundary vegetation.

There was no evidence recorded at the time of survey of INNS occurring on site. Despite an absence of invasive species recorded on site, best practice measures to avoid the spread of invasive species during development still apply. Invasive species management and mitigation measures to prevent the translocation of invasive species to and from site are outlined in **Section 4** of this report.

# 4 Invasive Species Management & Mitigation

#### 4.1 General Measures

General measures for the management of non-native species are outlined in the guidance document 'Field Guide to Invasive Species in Ireland' published by Invasive Species Ireland. The general steps for invasive species management and mitigation follow a process of Inspect-Remove-Clean-Dispose-Report as outlined below:

- 4. **Inspect:** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site.
- 5. **Remove:** any adhering plant, soil or animal material from your equipment before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments.
- 6. Clean: power hose all equipment. Use hot water (>60 degrees centigrade) where possible.
- 7. **Dispose:** of all plant material and animal material appropriately. This material should be contained in sealed bags or containers prior to removal. Do not throw them back into the water or leave them lying at the water's edge.
- 8. **Report:** Report any sightings of an invasive species on the www.invasivespeciesireland.com website in the 'Alienwatch' section.

With regards to the subject site, no invasive species were observed following site survey. Despite this, best practice measures for the prevention of translocation of invasive species are recommended as follows:

- All machinery and equipment used during the construction works will be inspected and will be completely dry prior to entering site to prevent the risk of invasive species translocation. A 'Check, Clean, Dry' protocol will be undertaken with all equipment, machinery and vehicles entering and leaving the proposed development site.
- It is recommended that construction traffic follows predetermined haul routes to ensure that threat of invasive species translocation is minimised. Pre-set haul routes should be adhered to as often as possible.
- Prior to commencement of works, staff should be made aware of the risk and impacts of introducing INNS on to site.

# 5 Conclusions

An invasive species survey was carried out for the proposed development site on the 14<sup>th of</sup> August 2024. There was no evidence recorded on site of invasive species occurring at the time of surveying. Development on site may proceed as planned with mitigation measures implemented as outlined in **Section 4.1** above.

The results published herein are accurate as of the time of survey. Should instances of INNS presence on site be encountered during development works, advice from a suitably qualified Invasive Species Removal specialist should be sought.

#### 6 References

- 1. Booy, O., Wade, M. & Roy, H. (2015) A Field Guide to Invasive Plants & Animals in Britain. Bloomsbury.
- 2. Tiley, G. E. D., Dodd, F. S., & Wade, P. M. (1996). *Heracleum mantegazzianum* Sommier & Levier. *Journal of Ecology*, 297-319.
- 3. Giant hogweed (*Heracleum mantegazzianum*). Countryside Management Publications. Department of Agriculture and Rural Affairs.
- 4. Stace, C. (2002). *New Flora of the British Isles 2nd Edition*. Cambridge University Press, Cambridge.
- 5. Armstrong, C; Osborne, B; Kelly, J and Maguire, CM. (2009). Giant Rhubarb (*Gunnera tinctoria*) Invasive Species Action Plan. Prepared for NIEA and NPWS as part of Invasive Species Ireland.
- 6. Williams PA, Ogle CC, Timmins SM, Cock GDLa, Clarkson J, 2005. Chilean rhubarb (*Gunnera tinctoria*): biology, ecology and conservation impacts in New Zealand. DOC Research and Development Series. Wellington, New Zealand: Department of Conservation.
- 7. Mayo County Council (undated). Invasive Alien Plant Information Leaflet Giant Rhubarb (*Gunnera tinctoria*). An action of the County Mayo Heritage Plan 2006–2011.
- 8. Helmisaari, H. (2010): NOBANIS Invasive Alien Species Fact Sheet *Impatiens glandulifera*.
- 9. Kelly, J., Maguire, C.M. and Cosgrove, P.J. (2008). Best practice management guidelines Himalayan balsam *Impatiens glandulifera*.
- 10. European and Mediterranean Plant Protection Organisation (EPPO) (2005) Draft EPPO data sheet on invasive plants *Impatiens glandulifera*.

# Appendix A – Non-native species subject to restrictions under Regulations 49 and 50

## THIRD SCHEDULE

Non-native species subject to restrictions under Regulations 49 and 50

## Part 1: PLANTS

First column	Second column	Third column
Common name	Scientific name	Geographical application
American skunk-cabbage	Lysichiton americanus	Throughout the State
A red alga	Grateloupia doryphora	Throughout the State
Brazilian giant-rhubarb	Gunnera manicata	Throughout the State
Broad-leaved rush	Juncus planifolius	Throughout the State
Cape pondweed	Aponogeton distachyos	Throughout the State
Cord-grasses	Spartina (all species and hybrids)	Throughout the State
Curly waterweed	Lagarosiphon major	Throughout the State
Dwarf eel-grass	Zostera japonica	Throughout the State
Fanwort	Cabomba caroliniana	Throughout the State
Floating pennywort	Hydrocotyle ranunculoides	Throughout the State
Fringed water-lily	Nymphoides peltata	Throughout the State
Giant hogweed	Heracleum mantegazzianum	Throughout the State
Giant knotweed	Fallopia sachalinensis	Throughout the State
Giant-rhubarb	Gunnera tinctoria	Throughout the State
Giant salvinia	Salvinia molesta	Throughout the State
Himalayan balsam	Impatiens glandulifera	Throughout the State
Himalayan knotweed	Persicaria wallichii	Throughout the State
Hottentot-fig	Carpobrotus edulis	Throughout the State
Japanese knotweed	Fallopia japonica	Throughout the State
Large-flowered waterweed	Egeria densa	Throughout the State
Mile-a-minute weed	Persicaria perfoliata	Throughout the State
New Zealand pigmyweed	Crassula helmsii	Throughout the State
Parrot's feather	Myriophyllum aquaticum	Throughout the State
Rhododendron	Rhododendron ponticum	Throughout the State
Salmonberry	Rubus spectabilis	Throughout the State
Sea-buckthorn	Hippophae rhamnoides	Throughout the State
Spanish bluebell	Hyacinthoides hispanica	Throughout the State
Three-cornered leek	Allium triquetrum	Throughout the State
Wakame	Undaria pinnatifida	Throughout the State
Water chestnut	Trapa natans	Throughout the State
Water fern	Azolla filiculoides	Throughout the State
Water lettuce	Pistia stratiotes	Throughout the State
Water-primrose	Ludwigia (all species)	Throughout the State
Waterweeds	Elodea (all species)	Throughout the State
Wireweed	Sargassum muticum	Throughout the State
	<del></del>	+

Part 2: ANIMALS

A: animals to which Regulations 49 and 50 apply throughout the State or in particular places or categories of places.

First column	Second column	Third Column
Common name	Scientific name	Geographical application
A colonial sea squirt	Didemnum spp.	Throughout the State
A colonial sea squirt	Perophora japonica	Throughout the State
All freshwater crayfish species except the white-clawed crayfish	All freshwater crayfish species except Austropotamobius pallipes	Throughout the State
American bullfrog	Rana catesbeiana	Throughout the State
American mink	Neovison vison	Throughout the State
American oyster drill	Urosalpinx cinerea	Throughout the State
Asian oyster drill	Ceratostoma inornatum	Throughout the State
Asian rapa whelk	Rapana venosa	Throughout the State
Asian river clam	Corbicula fluminea	Throughout the State
Bay barnacle	Balanus improvisus	Throughout the State
Black rat	Rattus rattus	Offshore islands only
Brown hare	Lepus europaeus	Throughout the State
Brown rat	Rattus norvegicus	Offshore islands only
Canada goose	Branta canadensis	Throughout the State
Carp	Cyprinus carpio	Throughout the State
Chinese mitten crab	Eriocheir sinensis	Throughout the State
Chinese water deer	Hydropotes inermis	Throughout the State
Chub	Leuciscus cephalus	Throughout the State
Common toad	Bufo bufo	Throughout the State
Coypu	Myocastor coypus	Throughout the State
Dace	Leuciscus leuciscus	Throughout the State
Freshwater shrimp	Dikerogammarus villosus	Throughout the State
Fox	Vulpes vulpes	Offshore islands only
Grey squirrel	Sciurus carolinensis	Throughout the State
Greylag goose	Anser anser	Throughout the State
Harlequin Ladybird	Harmonia axyridis	Throughout the State
Hedgehog	Erinaceus europaeus	Offshore islands only
Irish stoat	Mustela erminea hibernicus	Offshore islands only
Japanese skeleton shrimp	Caprella mutica	Throughout the State
Muntjac deer	Muntiacus reevesi	Throughout the State
Muskrat	Ondatra zibethicus	Throughout the State
Quagga Mussel	Dreissena rostriformis	Throughout the State
Roach	Rutilus rutilus	Throughout the State
Roe deer	Capreolus capreolus	Throughout the State
Ruddy duck	Oxyura jamaicensis	Throughout the State

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First column	Second column	Third Column
Siberian chipmunk	Tamias sibiricus	Throughout the State
Slipper limpet	Crepidula fornicata	Throughout the State
Stalked sea squirt	Styela clava	Throughout the State
Tawny owl	Strix aluco	Throughout the State
Wild boar	Sus scrofa	Throughout the State
Zebra mussel	Dreissena polymorpha	Throughout the State

# B: animals to which specified provisions of Regulations 49 and 50 apply.

First column	Second column	Third Column
Common name	Scientific name	Geographical application
Fallow deer	Dama dama	Throughout the State
Sika deer	Cervus nippon	Throughout the State

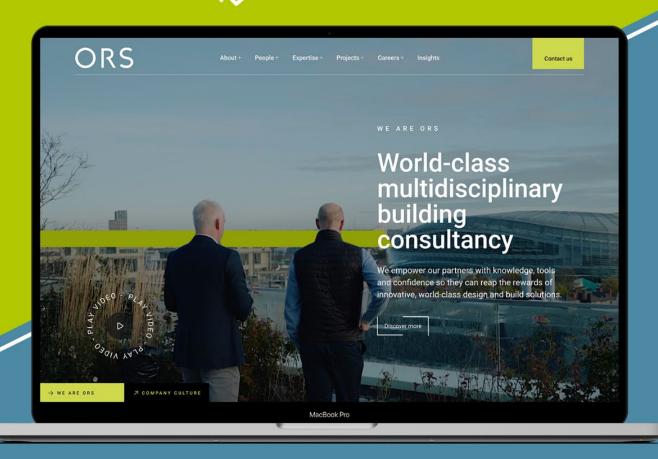
#### Part 3: VECTOR MATERIALS

First column	Second column	Third Column
Vector material	Species referred to	Geographical application
Blue mussel (Mytilus edulis) seed for aquaculture taken from places (including places outside the State) where there are established populations of the slipper limpet (Crepidula fornicata) or from places within 50 km. of such places	Mussel (Mytilus edulis) Slipper limpet (Crepidula fornicata)	Throughout the State
Soil or spoil taken from places infested with Japanese knotweed (Fallopia japonica), giant knotweed (Fallopia sachalinensis) or their hybrid Bohemian knotweed (Fallopia x bohemica)	Japanese knotweed (Fallopia japonica) Giant knotweed (Fallopia sachalinensis) Bohemian knotweed (Fallopia x bohemica)	Throughout the State

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