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INVASIVE SPECIES REPORT FOR A SITE IN HARRISTOWN, CASTLEREA, CO. ROSCOMMON



Roscommon County Council

*c/o Sweeney Architects,
Block A,
Gem Park,
Athlone Road,
Longford*

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1 INTRODUCTION

1.1 BACKGROUND

This report was prepared for a Part 8 application for a proposed development at the Brí Chaoilínne Halting Site in Harristown, Castlerea, Co. Roscommon. As part of the tendering process for this application, a report on the potential invasive species within the site was sought.

1.2 REGULATORY CONTEXT

RELEVANT IRISH LEGISLATION

In September 2011, comprehensive regulations which addressed deficiencies in Irish law implementing the EU Birds and Habitats Regulations (2011) were signed into law. The European Communities (Birds and Natural Habitats) Regulations 2011 contained important new provisions to address the problem of invasive species. A blacklist of unwanted species is set out in the regulations and it is an offence to release, allow to disperse or escape, to breed, propagate, import, transport, sell or advertise such species without a license.

The two regulations that deal specifically with these scheduled lists of species are:

Regulation 49: Prohibition on introduction and dispersal of certain species

Regulation 50: Prohibition on dealing in and keeping certain species (Regulation 50 is not yet in effect)

The invasive plant and animal species to which the Birds and Habitats Regulations (2011) apply are presented in Schedule Three, Part 1 - 3. Part 1 details the plants species, Part 2 the animal species while Part 3 outlines the animal or plant vector materials. These species are presented in Tables 1 - 3 below.

| Common name | Scientific name | Geographical Application |
|--------------------------|----------------------------------|--------------------------|
| American skunk-cabbage | <i>Lysichiton americanus</i> | Throughout the State |
| A red alga | <i>Grateloupia doryphora</i> | Throughout the State |
| Brazilian giant-rhubarb | <i>Gunnera manicata</i> | Throughout the State |
| Broad-leaved rush | <i>Juncus planifolius</i> | Throughout the State |
| Cape pondweed | <i>Aponogeton distachyos</i> | Throughout the State |
| Cord-grasses | <i>Spartina</i> | Throughout the State |
| Curly waterweed | <i>Lagarosiphon major</i> | Throughout the State |
| Dwarf eel-grass | <i>Zostera japonica</i> | Throughout the State |
| Fanwort | <i>Cabomba caroliniana</i> | Throughout the State |
| Floating pennywort | <i>Hydrocotyle ranunculoides</i> | Throughout the State |
| Fringed water-lily | <i>Nymphaeodes peltata</i> | Throughout the State |
| Giant hogweed | <i>Heracleum mantegazzianum</i> | Throughout the State |
| Giant knotweed | <i>Fallopia sachalinensis</i> | Throughout the State |
| Giant-rhubarb | <i>Gunnera tinctoria</i> | Throughout the State |
| Giant salvinia | <i>Salvinia molesta</i> | Throughout the State |
| Himalayan balsam | <i>Impatiens glandulifera</i> | Throughout the State |
| Himalayan knotweed | <i>Persicaria wallichii</i> | Throughout the State |
| Hottentot-fig | <i>Carpobrotus edulis</i> | Throughout the State |
| Japanese knotweed | <i>Fallopia japonica</i> | Throughout the State |
| Large-flowered waterweed | <i>Egeria densa</i> | Throughout the State |
| Mile-a-minute weed | <i>Persicaria perfoliata</i> | Throughout the State |
| New Zealand pigmyweed | <i>Crassula helmsii</i> | Throughout the State |
| Parrot's feather | <i>Myriophyllum aquaticum</i> | Throughout the State |

| | | |
|---------------------|--------------------------------|----------------------|
| Rhododendron | <i>Rhododendron ponticum</i> | Throughout the State |
| Salmonberry | <i>Rubus spectabilis</i> | Throughout the State |
| Sea-buckthorn | <i>Hippophae rhamnoides</i> | Throughout the State |
| Spanish bluebell | <i>Hyacinthoides hispanica</i> | Throughout the State |
| Three-cornered leek | <i>Allium triquetrum</i> | Throughout the State |
| Wakame | <i>Undaria pinnatifida</i> | Throughout the State |
| Water chestnut | <i>Trapa natans</i> | Throughout the State |
| Water fern | <i>Azolla filiculoides</i> | Throughout the State |
| Water lettuce | <i>Pistia stratiotes</i> | Throughout the State |
| Water-primrose | <i>Ludwigia</i> (all species) | Throughout the State |
| Waterweeds | <i>Elodea</i> (all species) | Throughout the State |
| Wireweed | <i>Sargassum muticum</i> | Throughout the State |

Table 1 - Third Schedule: Part 1 Plants

| Common name | Scientific name | Geographical Application |
|--|---|--------------------------|
| A colonial sea squirt | <i>Didemnum spp.</i> | Throughout the State |
| A colonial sea squirt | <i>Perophora japonica</i> | Throughout the State |
| All freshwater crayfish species except the white-clawed crayfish | <i>All freshwater crayfish species except Austropotamobius pallipes</i> | Throughout the State |
| American bullfrog | <i>Rana catesbeiana</i> | Throughout the State |
| American mink | <i>Neovison vison</i> | Throughout the State |
| American oyster drill | <i>Urosalpinx cinerea</i> | Throughout the State |
| Asian oyster drill | <i>Ceratostoma inornatum</i> | Throughout the State |
| Asian rapa whelk | <i>Rapana venosa</i> | Throughout the State |
| Asian river clam | <i>Corbicula fluminea</i> | Throughout the State |
| Bay barnacle | <i>Balanus improvisus</i> | Throughout the State |

| | | |
|--------------------------|-----------------------------------|-----------------------|
| Black rat | <i>Rattus rattus</i> | Offshore islands only |
| Brown hare | <i>Lepus europaeus</i> | Throughout the State |
| Brown rat | <i>Rattus norvegicus</i> | Offshore islands only |
| Canada goose | <i>Branta canadensis</i> | Throughout the State |
| Carp | <i>Cyprinus carpio</i> | Throughout the State |
| Chinese mitten crab | <i>Eriocheir sinensis</i> | Throughout the State |
| Chinese water deer | <i>Hydropotes inermis</i> | Throughout the State |
| Chub | <i>Leuciscus cephalus</i> | Throughout the State |
| Common toad | <i>Bufo bufo</i> | Throughout the State |
| Coypu | <i>Myocastor coypus</i> | Throughout the State |
| Dace | <i>Leuciscus leuciscus</i> | Throughout the State |
| Freshwater shrimp | <i>Dikerogammarus villosus</i> | Throughout the State |
| Fox | <i>Vulpes vulpes</i> | Offshore islands only |
| Grey squirrel | <i>Sciurus carolinensis</i> | Throughout the State |
| Greylag goose | <i>Anser anser</i> | Throughout the State |
| Harlequin Ladybird | <i>Harmonia axyridis</i> | Throughout the State |
| Hedgehog | <i>Erinaceus europaeus</i> | Offshore islands only |
| Irish stoat | <i>Mustela erminea hibernicus</i> | Offshore islands only |
| Japanese skeleton shrimp | <i>Caprella mutica</i> | Throughout the State |
| Muntjac deer | <i>Muntiacus reevesi</i> | Throughout the State |
| Muskrat | <i>Ondatra zibethicus</i> | Throughout the State |
| Quagga Mussel | <i>Dreissena rostriformis</i> | Throughout the State |
| Roach | <i>Rutilus rutilus</i> | Throughout the State |
| Roe deer | <i>Capreolus capreolus</i> | Throughout the State |
| Ruddy duck | <i>Oxyura jamaicensis</i> | Throughout the State |

| | | |
|--|-----------------------------|----------------------|
| Siberian chipmunk | <i>Tamias sibiricus</i> | Throughout the State |
| Slipper limpet | <i>Crepidula fornicata</i> | Throughout the State |
| Stalked sea squirt | <i>Styela clava</i> | Throughout the State |
| Tawny owl | <i>Strix aluco</i> | Throughout the State |
| Wild boar | <i>Sus scrofa</i> | Throughout the State |
| Zebra mussel | <i>Dreissena polymorpha</i> | Throughout the State |
| Animals to which Specified Provisions of Regulations 49 and 50 apply: | | |
| Fallow deer | <i>Dama dama</i> | Throughout the State |
| Sika deer | <i>Cervus nippon</i> | Throughout the State |

Table 2 - Third Schedule: Part 2 Animals

| Common name | Scientific names | Geographical Application |
|--|--|--------------------------|
| Blue mussel (<i>Mytilus edulis</i>) seed for aquaculture taken from places (including places outside the State) where there are established populations of the slipper limpet (<i>Crepidula fornicata</i>) or from places within 50 km. of such places | Mussel (<i>Mytilus edulis</i>) Slipper limpet (<i>Crepidula fornicata</i>) | Throughout the State |
| Soil or spoil taken from places infested with Japanese knotweed (<i>Fallopia japonica</i>), giant knotweed (<i>Fallopia sachalinensis</i>) or their hybrid Bohemian knotweed (<i>Fallopia x bohemica</i>) | Japanese knotweed (<i>Fallopia japonica</i>) Giant knotweed (<i>Fallopia sachalinensis</i>) Bohemian knotweed (<i>Fallopia x bohemica</i>) | Throughout the State |

Table 3 - Third Schedule: Part 3 Vector Material

EUROPEAN LEGISLATION

In July 2016 the European Commission published the Commission Implementing Regulation 2016/1141 which sets out an initial list of 37 species to which EU Invasive Alien Species Regulation 1143/2014 will apply. The associated restrictions and obligations came into force on 3rd August 2016.

Three distinct types of measures are envisaged under the Directive, which follow an internationally agreed hierarchical approach to combatting IAS (Invasive Alien Species):

- **Prevention:** a number of robust measures aimed at preventing IAS of Union concern from entering the EU, either intentionally or unintentionally.
- **Early detection and rapid eradication:** Member States must put in place a surveillance system to detect the presence of IAS of Union concern as early as possible and take rapid eradication measures to prevent them from establishing.
- **Management:** some IAS of Union concern are already well-established in certain Member States and concerted management action is needed so that they do not spread any further and to minimize the harm they cause.

Plant species listed on this directive include:

- American skunk cabbage *Lysichiton americanus*
- Asiatic tearthumb *Persicaria perfoliata* (*Polygonum perfoliatum*)
- Curly waterweed *Lagarosiphon major*
- Eastern Baccharis *Baccharis halimifolia*
- Floating pennywort *Hydrocotyle ranunculoides*
- Floating primrose willow *Ludwigia peploides*
- Green cabomba *Cabomba caroliniana*
- Kudzu vine *Pueraria lobata*
- Parrot's feather *Myriophyllum aquaticum*
- Persian hogweed *Heracleum persicum*
- Sosnowski's hogweed *Heracleum sosnowskyi*
- Water hyacinth *Eichhornia crassipes*
- Water primrose *Ludwigia grandiflora*
- Whitetop weed *Parthenium hysterophorus*

Animal species listed on the directive include:

- Amur sleeper *Perccottus glenii*
- Asian hornet *Vespa velutina*

- Chinese mitten crab *Eriocheir sinensis*
- Coypu *Myocastor coypus*
- Fox squirrel *Sciurus niger*
- Grey squirrel *Sciurus carolinensis*
- Indian house crow *Corvus splendens*
- Marbled crayfish *Procambarus spp.*
- Muntjac deer *Muntiacus reevesii*
- North american bullfrog *Lithobates (Rana) catesbeianus*
- Pallas's squirrel *Callosciurus erythraeus*
- Raccoon *Procyon lotor*
- Red swamp crayfish *Procambarus clarkii*
- Red-eared terrapin/slider *Trachemys scripta elegans*
- Ruddy duck *Oxyura jamaicensis*
- Sacred ibis *Threskiornis aethiopicus*
- Siberian chipmunk *Tamias sibiricus*
- Signal crayfish *Pacifastacus leniusculus*
- Small Asian mongoose *Herpestes javanicus*
- South American coati *Nasua nasua*
- Spiny-cheek crayfish *Orconectes limosus*
- Topmouth gudgeon *Pseudorasbora parva*
- Virile crayfish *Orconectes virilis*

On 13 July 2017 the European Commission published Commission Implementing Regulation 2017/1263 which added a further 12 species to the current list of 37 species regulated under the EU Invasive Alien Species Regulation (1143/2014). These are:

Plant species

- Alligator weed *Alternanthera philoxeroides*
- Milkweed *Asclepias syriaca*
- Nuttall's waterweed *Elodea nuttallii*
- Chilean rhubarb *Gunnera tinctoria*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*
- Japanese stiltgrass *Microstegium vimineum*
- Broadleaf watermilfoil *Myriophyllum heterophyllum*
- Crimson fountaingrass *Pennisetum setaceum*

Animal species

- Egyptian goose *Alopochen aegyptiacus*
- Raccoon dog *Nyctereutes procyonoides*
- Muskrat *Ondatra zibethicus*

2 METHODOLOGY

2.1 STATEMENT OF COMPETENCY

This report was carried out by Noreen McLoughlin. Noreen is the owner and main ecologist at Whitehill Environmental. Noreen holds a BA (Hons) in Natural Science (Mod) Zoology and an MSc in freshwater ecology (TCD, Dublin). She has been a full member of the CIEEM (Chartered Institute of Ecology and Environmental Management) for over 15 years.

2.2 DESK STUDIES

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Biodiversity Data Centre (NBDC) – Information pertaining to invasive plant and animal species within the study area;
- Sweeney Architects – Information regarding the proposed development including site plans and specifications;

2.3 FIELD STUDIES

A visit to the site of the proposed application at Harristown was conducted on October 1st 2020, when field notes, species lists and photographs were taken. Habitats within the application site were classified in accordance to Level 3 of *A Guide to Habitats in Ireland* (Fossit, 2000). Particular attention was paid to invasive plant species within the application site.

SEASONAL CONSTRAINTS

There were no seasonal constraints identified for the purpose of conducting an invasive species survey. All plants would be in the height of their growth season and would be clearly visible if present.

3 RESULTS

An examination of the website of the National Biodiversity Data Centre, revealed that there are records for the presence of a number of listed invasive species (Under S.I. 477) from within the relevant 10km square (M67) of the proposed development. These species include:

- Canadian waterweed *Elodea Canadensis* - High Impact Invasive Species
- Indian balsam *Impatiens glandulifera* – High Impact Invasive Species
- Japanese Knotweed *Fallopia japonica* - High Impact Invasive Species
- *Rhododendron ponticum* – High Impact Invasive Species
- American mink *Mustela vison* – High Impact Invasive Species
- Brown rat *Rattus norvegicus* - High Impact Invasive Species
- Fallow deer *Dama dama* - High Impact Invasive Species

None of the above species were recorded within the application site nor are there any records for these species within the 1km² of the application site (M6877). Knotweed is perhaps the most likely invasive plant species to occur locally. It spreads easily through the movement of vegetative material or topsoil and spoil containing vegetative material, which can rapidly propagate. Knotweed was not seen within the development site, in any area adjacent to the application site. This means that the chances of the site becoming naturally infested with knotweed is relatively low at the moment. However, the introduction of vegetative material with the potential to propagate from machinery moving between sites or from contaminated topsoil is a possibility, and therefore every precaution must be taken to ensure that this does not occur.

4 DISCUSSION AND RECOMMENDATIONS

Although there are currently no species of knotweed found within the application site, precautions should be undertaken during all stages of site preparation, construction and landscaping. This is especially important given the fact that knotweed is generally common in Co. Roscommon and the potential for the transfer of vector material from one construction site to another remains a genuine risk. Therefore, the following recommendations should be adhered to at all stages of site preparation and construction:

- Machinery should not be brought onto the site from areas contaminated with knotweed or any other known invasive without thorough cleaning and power washing.
- All topsoil brought into the site must be free from invasive species vector material.
- During the landscaping of the site, only native Irish species should be used. Consideration should be given to pollinators and areas providing suitable plants for pollinating species should be provided.