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Invasive Species Report For a Proposed Development Site in Ballinamore, Co. Leitrim

Leitrim County Council
c/o WGG Architects,
21 Church View
Cavan

March 2020

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1 INTRODUCTION

1.1 BACKGROUND

Leitrim County Council are seeking permission for a proposed development in Lahard, Ballinamore, Co. Leitrim. Permission will be sought under Part 8 of the Planning and Development Regulations 2001. 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	*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*	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

Table 1 - Third Schedule: Part 1 Plants

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

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
Animals to which Specified Provisions of Regulations 49 and 50 apply:		
Fallow deer	*Dama dama*	Throughout the State
Sika deer	*Cervus nippon*	Throughout the State

Table 2 - Third Schedule: Part 2 Animals

Common name	Scientific names	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

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 PERSONNEL

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 13 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;
- WGG 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 Ballinamore was conducted on February 25th2020, 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

Late February is a sub-optimal time of the year to undertake any plant survey. However, in the case of Japanese knotweed, its over wintering form is usually fairly evident, as the bamboo like stems persist throughout the winter months. Other invasive species may not be evident.

3 RESULTS

An examination of the website of the National Biodiversity Data Centre, revealed that there are records for the presence of listed invasive species (Under S.I. 477) from within the relevant 10km square of this proposed development. These records are cited below. Records also exist for listed invasive species from within the 1km square of the application site (H1311). These species are additionally marked below with an Asterix.

- Canada goose – *Branta canadensis* - High Impact Invasive Species
- Greylag goose – *Anser anser*
- Roach *Rutilus rutilus* – Medium Impact Invasive Species
- Canadian waterweed *Elodea Canadensis* - High Impact Invasive Species
- Indian balsam *Impatiens glandulifera* – High Impact Invasive Species
- Nuttall's waterweed *Elodea nuttallii* - High Impact Invasive Species
- Japanese Knotweed *Fallopia japonica* - High Impact Invasive Species
- Zebra mussel *Dreissena polymorpha* – High Impact Invasive Species
- American mink – *Mustela vison* – High Impact Invasive Species*
- Grey squirrel *Sciurus carolinensis* - High Impact Invasive Species

None of the above species were recorded within the application site. Despite the density of vegetation on the site in some areas, dead canes of Japanese knotweed were not observed. 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. Dead / decayed stems of knotweed were not seen within or in any area directly 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.

The remnants of a species of plant in the hogweed family was observed on site. The remains of this plant were tall (~5ft) and therefore there is the *possibility* that this plant is giant hogweed *Heracleum mantegazzianum*, a listed invasive species. However, it is probably more likely that this was tall specimen of the common hogweed *Heracleum sphondylium*, which can grow very tall when not out-competed.

Giant hogweed is a tall (usually 3 – 5m), herbaceous perennial plant with hollow, red-spotted hairy stems and several hundred small white flowers in large umbrella-like flower

heads up to 500mm across. Stems are green with dark-red or purple blotches and are hollow; they can be up to 100mm in diameter. The leaves are large (to 1.5 metres across), deeply divided and often jagged in form. They have hairy spines or bristles underneath. The root is tuberous and fleshy. Individual plants set seed after three to four years growth and then die. The large umbrella-shaped flower heads are borne on tall (up to 4 metres) flowering stems. The flowers are relatively small and are normally white, although they can be pink. Flowers are produced in June / July with seeds appearing in late July and August. Each plant is capable of producing 50,000 viable seeds.

Giant Hogweed poses a very real threat to humans as well as to our native fauna and flora. The plant's sap contains a chemical that sensitises the skin, which leads to severe blistering when exposed to sunlight. This may recur for several years after the initial exposure. The intensity of the reaction varies with individual sensitivity. Other problems caused by giant hogweed include:

- It forms dense stands that severely depletes local biodiversity by light exclusion.
- It restricts access to rivers for leisure or inspection purposes.
- In winter, following dieback, its leaves can cause blockages in water courses, as well as exposing river banks to severe erosion.

Dead Unidentified Hogweed Plant Remnants

4 DISCUSSION AND RECOMMENDATIONS

Due to the potential presence of giant hogweed on site, the following recommendations should be adhered to:

- Prior to the commencement of the development, the site should be inspected again in summer to ascertain the species of hogweed present on site. The plant on site is likely to be common hogweed *Heracleum sphondylium,* but this should be confirmed with a freshly grown plant specimen. This can take the form of a pre-construction survey.

- There is extensive vegetation on the site, and during the timing of the field work in late February, winter growth of Japanese knotweed may have been overlooked. It is therefore recommended that the site is resurveyed in summer for Japanese knotweed prior to the commencement of any site works.

- 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 used. Consideration should be given to pollinators and areas providing suitable plants for pollinating species should be provided.