

The background is a vibrant yellow. It is decorated with several abstract geometric shapes in shades of blue, teal, and white. These include circles, semi-circles, and rounded rectangular shapes, some of which are layered or overlapping. The shapes are scattered across the page, with a notable concentration in the top right and bottom left corners.

## **Appendix A12.1**

### Desk Study

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## Appendix 12.1: Desk Study

### 1.1 Desk Study Results

Desktop records of protected, rare, or other notable flora and fauna species within the vicinity of the Proposed Scheme are listed below in Table 1: Records of Protected, Red-listed or Notable Flora Recorded from the Desk Study in the Vicinity of the Study Area

Plant species which are legally protected under the Flora (Protection) Order, 2022, Annex II spp. and / or are listed as Critically Endangered, Endangered or Vulnerable on Ireland Red List No. 10: Vascular Plants (Wyse Jackson *et al.*, 2016) and Ireland Red List No. 8 Bryophytes (Lockhart *et al.*, 2012) are listed.

In relation to amphibian, reptile and mammal species those which are protected under the Wildlife Acts, the Habitats Directive and / or are listed as threatened (Vulnerable to Critically Endangered) on Ireland Red List No. 12: Terrestrial Mammals (Marnell *et al.*, 2019); Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish (King *et al.*, 2011).

In the case of bird species, only those species listed in Annex I of the Birds Directive or on the Birds of Conservation Concern in Ireland (BoCCI) Red List are included in the table below.

For invertebrate species, those which are listed as threatened (Vulnerable to Critically Endangered) on Ireland Red List No. 4 – Butterflies (Regan *et al.*, 2010); Ireland Red List No.6: Damselflies & Dragonflies (Nelson *et al.*, 2011); Ireland Red List No. 2 – Non-Marine Molluscs. (Byrne *et al.*, 2009); Ireland Red List No. 1 – Water beetles (Foster *et al.*, 2009); Ireland Red List No. 9: Macro-moths (Allen *et al.*, 2016); Ireland Red List No. 7: Mayflies (Kelly-Quinn *et al.*, 2012); Ireland Red List No. 13: Stoneflies (Feeley *et al.*, 2020); and Regional Red List of Irish Bees (Fitzpatrick *et al.* 2006).

Desktop records of invasive plant species which are scheduled under articles 49 and 50 of the Birds and Habitats Regulations are considered as a potential threat in respect of biodiversity. S.I.477 species within the vicinity of the Proposed Scheme are listed in Table 2.

**Table 1: Records of Protected, Red-listed or Notable Flora Recorded from the Desk Study in the Vicinity of the Study Area**

Common Name / Scientific name	Legal Status	Red List Status	Source
<b>Plants</b>			
Bent-moss <i>Campylostelium saxicola</i>	FPO	Endangered	NBDC online database record
Betony <i>Betonica officinalis</i>	FPO	Endangered	NBDC online database record
Blue Fleabane <i>Erigeron acer</i>	n / a	Endangered	NBDC online database record
Blunt-fruited Pottia <i>Tortula modica</i>	n / a	Vulnerable	NBDC online database record
Bog Orchid <i>Hammarbya paludosa</i>	FPO	Vulnerable	NBDC online database record
Bright Silk-moss <i>Plagiothecium laetum</i>	n / a	Vulnerable	NBDC online database record
Bristle-leaf <i>Brachydontium trichodes</i>	FPO	Endangered	NBDC online database record
Brown's Four-tooth Moss <i>Tetrodontium brownianum</i>	n / a	Near Threatened	NBDC online database record
Capillary Wing-moss <i>Pterigynandrum filiforme</i>	n / a	Regionally Extinct	NBDC online database record
Ceruous Thread-moss <i>Bryum uliginosum</i>	FPO	Endangered	NBDC online database record
Chalk Screw-moss <i>Tortula vahliana</i>	n / a	Regionally Extinct	NBDC online database record
Common Extinguisher-moss <i>Encalypta vulgaris</i>	n / a	Near Threatened	NBDC online database record
Cornflower <i>Centaurea cyanus</i>	n / a	Regionally Extinct	NBDC online database record
Donn's Grimmia <i>Grimmia donniana</i>	n / a	Near Threatened	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Fountain Feather-moss <i>Amblystegium tenax</i>	n / a	Least concern	NBDC online database record
Fringed Heartwort <i>Ricciocarpus natans</i>	n / a	Near Threatened	NBDC online database record
Great Burnet <i>Sanguisorba officinalis</i>	FPO	Endangered	NBDC online database record
Hairy St John's-wort <i>Hypericum hirsutum</i>	FPO	Endangered	NBDC online database record
Hairy Violet <i>Viola hirta</i>	FPO	Endangered	NBDC online database record
Yellow archangel <i>Lamiastrum galeobdolon subsp. montanum</i>	n / a	Vulnerable	NBDC online database record
Lance-leaved Pottia <i>Tortula lanceola</i>	n / a	Critically Endangered	NBDC online database record
Many-seasoned Thread-moss <i>Bryum intermedium</i>	FPO	Endangered	NBDC online database record
Meadow Barley <i>Hordeum secalinum</i>	FPO	Endangered	NBDC online database record
Nettle-leaved Bellflower <i>Campanula trachelium</i>	n / a	Endangered	NBDC online database record
Opposite-leaved Pondweed <i>Groenlandia densa</i>	FPO	Endangered	NBDC online database record,
Oval-leaved Pottia <i>Pterygoneurum ovatum</i>	n / a	Regionally Extinct	NBDC online database record
Purple Spurge <i>Euphorbia pepelis</i>	n / a	Regionally Extinct	NBDC online database record
Rigid Aloe-moss <i>Aloina rigida</i>	n / a	Regionally Extinct	NBDC online database record
Round-fruited Flapwort <i>Jungermannia sphaerocarpa</i>	n / a	Near Threatened	NBDC online database record
Round-leaved Crane's-bill <i>Geranium rotundifolium</i>	n / a	Endangered	NBDC online database record
Russow's Bog-moss <i>Sphagnum russowii</i>	n / a	Near Threatened	NBDC online database record
Showy Feather-moss <i>Eurhynchium speciosum</i>	n / a	Near Threatened	NBDC online database record
Slender Pocket-moss <i>Fissidens exilis</i>	n / a	Vulnerable	NBDC online database record
Small Cudweed <i>Logfia minima</i>	n / a	Vulnerable	NBDC online database record
Spiral Chalk-moss <i>Pterygoneurum lamellatum</i>	n / a	Regionally Extinct	NBDC online database record
Spring Vetch <i>Vicia lathyroides</i>	n / a	Vulnerable	NBDC online database record
Starke's Pottia <i>Microbryum starckeanum</i>	n / a	Regionally Extinct	NBDC online database record
Tall Aloe-moss <i>Aloina ambigua</i>	n / a	Endangered	NBDC online database record
Tiny Feather-moss <i>Amblystegium confervoides</i>	n / a	Near Threatened	NBDC online database record
Tufted Feather-moss <i>Scleropodium cespitans</i>	n / a	Near Threatened	NBDC online database record
Twisting Thread-moss <i>Bryum torquescens</i>	n / a	Vulnerable	NBDC online database record
Water-violet <i>Hottonia palustris</i>	n / a	Vulnerable	NBDC online database record
Wood Bitter-vetch <i>Vicia orobus</i>	FPO	Endangered	NBDC online database record
<b>Mammals</b>			
Brown Long-eared Bat <i>Plecotus auritus</i>	HD IV, WA	Least concern	NBDC online database record
Common Dolphin <i>Delphinus delphis</i>	HD IV, WA	Least concern	NBDC online database record
Common Pipistrelle <i>Pipistrellus pipistrellus sensu stricto</i>	HD IV, WA	Least concern	NBDC online database record
Common Porpoise <i>Phocoena phocoena</i>	HD II, HD IV, WA	Least concern	NBDC online database record
Daubenton's Bat <i>Myotis daubentonii</i>	HD IV, WA	Least concern	NBDC online database record
Eurasian Badger <i>Meles meles</i>	WA	Least concern	NBDC online database record
Eurasian Pygmy Shrew <i>Sorex minutus</i>	WA	Least concern	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Eurasian Red Squirrel <i>Sciurus vulgaris</i>	WA	Least concern	NBDC online database record
European Otter <i>Lutra lutra</i>	HD II, HD IV, WA	Least concern	NBDC online database record
Fin Whale <i>Balaenoptera physalus</i>	HD IV, WA	Least concern	NBDC online database record
Grey Seal <i>Halichoerus grypus</i>	HD II, HD V, WA	Least concern	NBDC online database record
Irish Hare <i>Lepus timidus</i> subsp. <i>hibernica</i>	HD V, WA	Least concern	NBDC online database record
Irish Stoat <i>Mustela erminea</i> subsp. <i>hibernica</i>	WA	Least concern	NBDC online database record
Lesser Noctule <i>Nyctalus leisleri</i>	HD IV, WA	Least concern	NBDC online database record
Nathusius's Pipistrelle <i>Pipistrellus nathusii</i>	HD IV, WA	Least concern	NBDC online database record
Natterer's Bat <i>Myotis nattereri</i>	HD IV, WA	Least concern	NBDC online database record
Pine Marten <i>Martes martes</i>	HD V, WA	Least concern	NBDC online database record
Red Deer <i>Cervus elaphus</i>	WA	Least concern	NBDC online database record
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	HD IV, WA	Least concern	NBDC online database record
West European Hedgehog <i>Erinaceus europaeus</i>	WA	Least concern	NBDC online database record
Whiskered Bat <i>Myotis mystacinus</i>	HD IV, WA	Least concern	NBDC online database record
Sperm Whale <i>Physeter macrocephalus</i>	HD IV, WA	Least concern	NBDC online database record
Striped Dolphin <i>Stenella coeruleoalba</i>	HD IV, WA	Least concern	NBDC online database record
<b>Birds</b>			
Arctic Tern <i>Sterna paradisaea</i>	SCI, BD I, WA	Amber	NBDC online database record
Barn Owl <i>Tyto alba</i>	WA	Red	NBDC online database record
Barn Swallow <i>Hirundo rustica</i>	WA	Amber	NBDC online database record
Barnacle Goose <i>Branta leucopsis</i>	SCI, BD I, WA	Amber	NBDC online database record
Bar-tailed Godwit <i>Limosa lapponica</i>	SCI, BD I, WA	Red	NBDC online database record
Black Brant <i>Branta bernicla</i> subsp. <i>nigricans</i>	WA	Green	NBDC online database record
Black Guillemot <i>Cephus grylle</i>	WA	Amber	NBDC online database record
Black-headed Gull <i>Chroicocephalus ridibundus</i>	SCI, WA	Amber	NBDC online database record
Black-legged Kittiwake <i>Rissa tridactyla</i>	SCI, WA	Red	NBDC online database record
Black-tailed Godwit <i>Limosa limosa</i>	SCI, WA	Red	NBDC online database record
Bohemian Waxwing <i>Bombycilla garrulus</i>	WA	Green	NBDC online database record
Brambling <i>Fringilla montifringilla</i>	WA	Green	NBDC online database record
Common Buzzard <i>Buteo buteo</i>	WA	Green	NBDC online database record
Common Chiffchaff <i>Phylloscopus collybita</i>	WA	Green	NBDC online database record
Common Coot <i>Fulica atra</i>	SCI, BD II (I), BD III (II), WA	Amber	NBDC online database record
Common Eider <i>Somateria mollissima</i>	SCI, BD II (II), BD III (II) WA	Red	NBDC online database record
Common Goldeneye <i>Bucephala clangula</i>	SCI, BD II(II), WA	Red	NBDC online database record
Common Grasshopper Warbler <i>Locustella naevia</i>	WA	Green	NBDC online database record
Common Greenshank <i>Tringa nebularia</i>	SCI, WA	Green	NBDC online database record
Common Guillemot <i>Uria aalge</i>	SCI, WA	Amber	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Common Kestrel <i>Falco tinnunculus</i>	WA	Red	NBDC online database record
Common Kingfisher <i>Alcedo atthis</i>	SCI, BD I, WA	Amber	NBDC online database record
Common Linnet <i>Carduelis cannabina</i>	WA	Amber	NBDC online database record
Common Moorhen <i>Gallinula chloropus</i>	WA	Green	NBDC online database record
Common Pheasant <i>Phasianus colchicus</i>	BD II (I) BD III(I), WA	Green	NBDC online database record
Common Pochard <i>Aythya ferina</i>	SCI, WA	Red	NBDC online database record
Common Redshank <i>Tringa totanus</i>	SCI, WA	Red	NBDC online database record
Common Sandpiper <i>Actitis hypoleucos</i>	WA	Amber	NBDC online database record
Common Shelduck <i>Tadorna tadorna</i>	SCI, WA	Amber	NBDC online database record
Common Snipe <i>Gallinago gallinago</i>	BD II(I) BD III(III), WA	Red	NBDC online database record
Common Starling <i>Sturnus vulgaris</i>	WA	Amber	NBDC online database record
Common Swift <i>Apus apus</i>	WA	Red	NBDC online database record
Common Tern <i>Sterna hirundo</i>	SCI, BD I, WA	Amber	NBDC online database record
Common Whitethroat <i>Sylvia communis</i>	WA	Green	NBDC online database record
Corn Crane <i>Crex crex</i>	SCI, BD I, WA	Red	NBDC online database record
Dunlin <i>Calidris alpina</i>	SCI, BD I, WA	Red	NBDC online database record
Eurasian Collared Dove <i>Streptopelia decaocto</i>	WA	Green	NBDC online database record
Eurasian Curlew <i>Numenius arquata</i>	SCI, BD II(II), WA	Red	NBDC online database record
Eurasian Hobby <i>Falco subbuteo</i>	WA	Green	NBDC online database record
Eurasian Jackdaw <i>Corvus monedula</i>	WA	Green	NBDC online database record
Eurasian Jay <i>Garrulus glandarius</i>	WA	Green	NBDC online database record
Eurasian Oystercatcher <i>Haematopus ostralegus</i>	SCI, WA	Red	NBDC online database record
Eurasian Siskin <i>Carduelis spinus</i>	WA	Green	NBDC online database record
Eurasian Sparrowhawk <i>Accipiter nisus</i>	WA	Green	NBDC online database record
Eurasian Teal <i>Anas crecca</i>	SCI, BD II(I) BD III(II), WA	Amber	NBDC online database record
Eurasian Tree Sparrow <i>Passer montanus</i>	WA	Amber	NBDC online database record
Eurasian Wigeon <i>Anas penelope</i>	SCI, BD II(I) BD III(II), WA	Amber	NBDC online database record
Eurasian Woodcock <i>Scolopax rusticola</i>	BD II(I) BD III(III), WA	Red	NBDC online database record
European Golden Plover <i>Pluvialis apricaria</i>	SCI, BD I BD II(II), WA	Red	NBDC online database record
European Greenfinch <i>Chloris chloris</i>	WA	Amber	NBDC online database record
European Robin <i>Erithacus rubecula</i>	WA	Green	NBDC online database record
European Shag <i>Phalacrocorax aristotelis</i>	SCI, WA	Amber	NBDC online database record
European Turtle Dove <i>Streptopelia turtur</i>	WA	Red	NBDC online database record
Fieldfare <i>Turdus pilaris</i>	WA	Green	NBDC online database record
Gadwall <i>Anas strepera</i>	SCI, WA	Amber	NBDC online database record
Goldcrest <i>Regulus regulus</i>	WA	Amber	NBDC online database record
Great Black-backed Gull <i>Larus marinus</i>	WA	Green	NBDC online database record
Great Cormorant <i>Phalacrocorax carbo</i>	SCI, WA	Amber	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Great Crested Grebe <i>Podiceps cristatus</i>	SCI, WA	Amber	NBDC online database record
Great Northern Diver <i>Gavia immer</i>	SCI, BD I, WA	Amber	NBDC online database record
Great Spotted Woodpecker <i>Dendrocopos major</i>	WA	Green	NBDC online database record
Greater Scaup <i>Aythya marila</i>	SCI, BD II(II) BD III(III), WA	Red	NBDC online database record
Green Sandpiper <i>Tringa ochropus</i>	WA	Green	NBDC online database record
Grey Heron <i>Ardea cinerea</i>	SCI, WA	Green	NBDC online database record
Grey Partridge <i>Perdix perdix</i>	WA	Red	NBDC online database record
Grey Plover <i>Pluvialis squatarola</i>	SCI, WA	Red	NBDC online database record
Grey Wagtail <i>Motacilla cinerea</i>	WA	Red	NBDC online database record
Greylag Goose <i>Anser anser</i>	SCI, WA	Amber	NBDC online database record
Hen Harrier <i>Circus cyaneus</i>	SCI, BD I, WA	Amber	NBDC online database record
Herring Gull <i>Larus argentatus</i>	SCI, WA	Amber	NBDC online database record
Hooded Crow <i>Corvus cornix</i>	WA	Green	NBDC online database record
House Martin <i>Delichon urbicum</i>	WA	Amber	NBDC online database record
House Sparrow <i>Passer domesticus</i>	WA	Amber	NBDC online database record
Icelandic Gull <i>Larus glaucoides</i>	WA	Green	NBDC online database record
Lesser Black-backed Gull <i>Larus fuscus</i>	SCI, WA	Amber	NBDC online database record
Light-bellied Brent Goose <i>Branta bernicla</i> subsp. <i>hrota</i>	SCI, WA	Amber	NBDC online database record
Little Egret <i>Egretta garzetta</i>	BD I, WA	Green	NBDC online database record
Little Grebe <i>Tachybaptus ruficollis</i>	SCI, WA	Green	NBDC online database record
Little Tern <i>Sternula albifrons</i>	SCI BD I, WA	Amber	NBDC online database record
Long-eared Owl <i>Asio otus</i>	WA	Green	NBDC online database record
Long-tailed Tit <i>Aegithalos caudatus</i>	WA	Green	NBDC online database record
Mallard <i>Anas platyrhynchos</i>	SCI, BD II(I) BD III(I), WA	Amber	NBDC online database record
Mandarin Duck <i>Aix galericulata</i>	WA	Green	NBDC online database record
Manx Shearwater <i>Puffinus puffinus</i>	SCI, WA	Amber	NBDC online database record
Meadow Pipit <i>Anthus pratensis</i>	WA	Red	NBDC online database record
Mediterranean Gull <i>Larus melanocephalus</i>	BD I, WA	Amber	NBDC online database record
Merlin <i>Falco columbarius</i>	SCI, BD I, WA	Amber	NBDC online database record
Mew Gull <i>Larus canus</i>	WA	Amber	NBDC online database record
Mistle Thrush <i>Turdus viscivorus</i>	WA	Green	NBDC online database record
Mute Swan <i>Cygnus olor</i>	WA	Amber	NBDC online database record
Northern Gannet <i>Morus bassanus</i>	SCI, WA	Amber	NBDC online database record
Northern Goshawk <i>Accipiter gentilis</i>	WA	Amber	NBDC online database record
Northern Lapwing <i>Vanellus vanellus</i>	SCI, BD II(II), WA	Red	NBDC online database record
Northern Shoveler <i>Anas clypeata</i>	SCI, BD II(I) BD III(III), WA	Red	NBDC online database record
Northern Wheatear <i>Oenanthe oenanthe</i>	WA	Amber	NBDC online database record
Purple Sandpiper <i>Calidris maritima</i>	SCI, WA	Red	NBDC online database record
Peregrine Falcon <i>Falco peregrinus</i>	SCI, BD I, WA	Green	NBDC online database record
Red Grouse <i>Lagopus lagopus</i>	BD II(I) BD III(I), WA	Red	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Red Kite <i>Milvus milvus</i>	BD I, WA	Red	NBDC online database record
Red Knot <i>Calidris canutus</i>	SCI, WA	Red	NBDC online database record
Red-backed Shrike <i>Lanius collurio</i>	BD I, WA	n/a	NBDC online database record
Red-breasted Merganser <i>Mergus serrator</i>	SCI, BD II(II), WA	Amber	NBDC online database record
Red-footed Falcon <i>Falco vespertinus</i>	BD I	n / a	NBDC online database record
Red-legged Partridge <i>Alectoris rufa</i>	WA	n/a	NBDC online database record
Red-necked Grebe <i>Podiceps grisegena</i>	WA	Green	NBDC online database record
Red-throated Diver <i>Gavia stellata</i>	SCI, BD I, WA	Amber	NBDC online database record
Redwing <i>Turdus iliacus</i>	WA	Red	NBDC online database record
Ring Ouzel <i>Turdus torquatus</i>	WA	Red	NBDC online database record
Ring-billed Gull <i>Larus delawarensis</i>	WA	Green	NBDC online database record
Ringed Plover <i>Charadrius hiaticula</i>	SCI, WA	Amber	NBDC online database record
Rock Pigeon <i>Columba livia</i>	BD II (I), WA	Green	NBDC online database record
Rock Pipit <i>Anthus petrosus</i>	WA	Green	NBDC online database record
Ruddy Duck <i>Oxyura jamaicensis</i>	WA	Green	NBDC online database record
Ruddy Turnstone <i>Arenaria interpres</i>	SCI, WA	Amber	NBDC online database record
Sand Martin <i>Riparia riparia</i>	WA	Amber	NBDC online database record
Sanderling <i>Calidris alba</i>	SCI, WA	Green	NBDC online database record
Sedge Warbler <i>Acrocephalus schoenobaenus</i>	SCI, WA	Amber	NBDC online database record
Sky Lark <i>Alauda arvensis</i>	WA	Amber	NBDC online database record
Smew <i>Mergellus albellus</i>	BD I, WA	Amber	NBDC online database record
Snowy Owl <i>Bubo scandiaca</i>	BD I, WA	Red	NBDC online database record
Spotted Crake <i>Porzana porzana</i>	BD I, WA	Amber	NBDC online database record
Spotted Flycatcher <i>Muscicapa striata</i>	WA	Amber	NBDC online database record
Stock Pigeon <i>Columba oenas</i>	WA	Red	NBDC online database record
Stonechat <i>Saxicola torquata</i>	WA	Green	NBDC online database record
Surf Scoter <i>Melanitta perspicillata</i>	WA	Green	NBDC online database record
Tufted Duck <i>Aythya fuligula</i>	SCI, BD II(I) BD III(II), WA	Amber	NBDC online database record
Twite <i>Carduelis flavirostris</i>	WA	Red	NBDC online database record
Water Rail <i>Rallus aquaticus</i>	WA	Green	NBDC online database record
White-throated Dipper <i>Cinclus cinclus</i>	WA	Green	NBDC online database record
Whooper Swan <i>Cygnus cygnus</i>	SCI, BD I, WA	Amber	NBDC online database record
Wood Warbler <i>Phylloscopus sibilatrix</i>	WA	Red	NBDC online database record
Yellow-browed Warbler <i>Phylloscopus inornatus</i>	WA	Green	NBDC online database record
Yellowhammer <i>Emberiza citrinella</i>	WA	Red	NBDC online database record
<b>Reptiles</b>			
Common Lizard <i>Zootoca vivipara</i>	WA	Least concern	NBDC online database record,
<b>Amphibians</b>			
Common Frog <i>Rana temporaria</i>	HD V, WA	Least concern	NBDC online database record
Smooth Newt <i>Lissotriton vulgaris</i>	WA	Least concern	NBDC online database record



Common Name / Scientific name	Legal Status	Red List Status	Source
<b>Fish</b>			
European Eel <i>Anguilla anguilla</i>	OSPAR, Fisheries Acts	Critically endangered	NBDC online database record
Brown / sea trout <i>Salmo trutta</i>	Fisheries Acts and fishing bylaws	Least Concern	NBDC online database record, IFI Consultation (2020)
Atlantic salmon <i>Salmo salar</i>	Fisheries Acts and fishing bylaws	Vulnerable	NBDC online database record, IFI Consultation (2020)
Thornbark Ray <i>Raja clavata</i>	OSPAR	Least Concern	NBDC online database record
<b>Invertebrates</b>			
Barbut's Cuckoo Bee <i>Bombus barbutellus</i>	n / a	Endangered	NBDC online database record
Blind Snail <i>Cecilioides acicula</i>	n/a	Vulnerable	NBDC online database record
Blunt-jawed Nomad Bee <i>Nomada striata</i>	n / a	Endangered	NBDC online database record
Bronze Furrow Bee <i>Halictus tumulorum</i>	n / a	Near Threatened	NBDC online database record
Buffish mining Bee <i>Andrena nigroaenea</i>	n / a	Vulnerable	NBDC online database record
Common Oyster <i>Ostrea edulis</i>	OSPAR	n / a	NBDC online database record
Common Shelled Slug <i>Testacella haliotidea</i>	n/a	Vulnerable	NBDC online database record
Common Whorl Snail <i>Vertigo pygmaea</i>	n / a	Near Threatened	NBDC online database record
Dark Green Fritillary <i>Argynnis aglaja</i>	n / a	Vulnerable	NBDC online database record
Dark Olive Mayfly <i>Labiobaetis atrebatinus</i>	n / a	Endangered	NBDC online database record
Davis's River Diver <i>Oreodytes davisii</i>	n / a	Near Threatened	NBDC online database record
Diminutive Moss Beetle <i>Hydraena flavipes</i>	n / a	Critically Endangered	NBDC online database record
Dull-vented Sharp-tail Bee <i>Coelioxys elongata</i>	n / a	Endangered	NBDC online database record
Ear Pond Snail <i>Radix auricularia</i>	n/a	Vulnerable	NBDC online database record
English Chrysalis Snail <i>Leiostyla anglica</i>	n/a	Vulnerable	NBDC online database record
European Legume miner Bee <i>Andrena wilkella</i>	n / a	n / a	NBDC online database record
Field Slug <i>Deroceras agreste</i>	n / a	n / a	NBDC online database record
False Orb Pea Mussel <i>Pisidium pseudosphaerium</i>	n/a	Endangered	NBDC online database record
Field Cuckoo Bee <i>Bombus campestris</i>	n / a	Vulnerable	NBDC online database record
Flat-ridged Nomad Bee <i>Nomada obtusifrons</i>	n / a	Endangered	NBDC online database record
Furry-bellied Blood Bee <i>Sphecodes hyalinatus</i>	n / a	Vulnerable	NBDC online database record
Globular Pea Mussel <i>Pisidium hibernicum</i>	n / a	Near Threatened	NBDC online database record
Glutinous Snail <i>Myxas glutinosa</i>	n/a	Endangered	NBDC online database record
Gipsy Cuckoo Bee <i>Bombus bohemicus</i>	n / a	Near Threatened	NBDC online database record
Gooden's Nomad Bee <i>Nomada goodeniana</i>	n / a	Endangered	NBDC online database record
Grayling <i>Hipparchia semele</i>	n / a	Near Threatened	NBDC online database record
Great Yellow Bumble Bee <i>Bombus distinguendus</i>	n / a	Endangered	NBDC online database record
Grey banded mining Bee <i>Andrena denticulata</i>	n / a	Vulnerable	NBDC online database record
Heath Bumble Bee <i>Bombus jonellus</i>	n / a	Least Concern	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Heather mining Bee <i>Andrena fuscipes</i>	n / a	Vulnerable	NBDC online database record
Heath Snail <i>Helicella itala</i>	n/a	Vulnerable	NBDC online database record
Hill Cuckoo Bee <i>Bombus rupestris</i>	n / a	Endangered	NBDC online database record
Icelandic Cyprine <i>Arctica islandica</i>	OSPAR	n / a	NBDC online database record
Iridescent pea mussel <i>Pisidium pulchellum</i>	n / a	Endangered	NBDC online database record
Lake Orb Mussel <i>Musculium lacustre</i>	n/a	Near threatened	NBDC online database record
Large Red Tailed Bumble Bee <i>Bombus lapidarius</i>	n / a	Near Threatened	NBDC online database record
Large Sallow Mining Bee <i>Andrena apicata</i>	n / a	n / a	NBDC online database record
Lesser Bulin <i>Merdigera obscura</i>	n/a	Endangered	NBDC online database record
March brown mayfly <i>Rhithrogena germanica</i>	n / a	Vulnerable	NBDC online database record
Marsh Fritillary <i>Euphydryas aurinia</i>	HD II	Vulnerable	NBDC online database record
Marsh Whorl Snail <i>Vertigo antvertigo</i>	n/a	Vulnerable	NBDC online database record
Mauge's Shelled Slug <i>Testacella maugei</i>	n/a	Near threatened	NBDC online database record
Moss bladder snail <i>Aplexa hypnorum</i>	n/a	Near threatened	NBDC online database record
Moss Carder-bee <i>Bombus Thoracombus muscorum</i>	n / a	Near Threatened	NBDC online database record
Neat Mining Bee <i>Lasioglossum Evylaeus nitidiusculum</i>	n / a	Vulnerable	NBDC online database record
Northern White-tailed Bumblebee <i>Bombus magnus</i>	n / a	n / a	NBDC online database record
Painted Mining Bee <i>Andrena fucata</i>	n / a	Near Threatened	NBDC online database record
Pale Evening Dun mayfly <i>Proclleon bifidum</i>	n / a	Vulnerable	NBDC online database record
Panzer's Nomad Bee <i>Nomada panzeri</i>	n / a	Near Threatened	NBDC online database record
Patchwork Leafcutter Bee <i>Megachile centuncularis</i>	n / a	Near Threatened	NBDC online database record
Sandpit Mining Bee <i>Andrena barbilabris</i>	n / a	Near Threatened	NBDC online database record
Scarce Blue-tailed Damsel fly <i>Ischnura pumilio</i>	n / a	Vulnerable	NBDC online database record
Short-horned Yellow-face Bee <i>Hylaeus brevicornis</i>	n / a	Endangered	NBDC online database record
Shinny margined mini-miner Bee <i>Andrena semilaevis</i>	n / a	Vulnerable	NBDC online database record
Silky Snail <i>Ashfordia granulata</i>	n / a	Near Threatened	NBDC online database record
Small Flecked Mining Bee <i>Andrena coitana</i>	n / a	Vulnerable	NBDC online database record
Small Sallow Mining Bee <i>Andrena praecox</i>	n / a	Vulnerable	NBDC online database record
Small Heath <i>Coenonympha pamphilus</i>	n / a	Near Threatened	NBDC online database record
Smooth Grass Snail <i>Vallonia pulchella</i>	n / a	Vulnerable	NBDC online database record
Smooth Ramshorn <i>Gyraulus laevis</i>	n/a	Endangered	NBDC online database record
Striated Whorl Snail <i>Vertigo substriata</i>	n / a	Near Threatened	NBDC online database record
Swan Mussel <i>Anodonta cygnea</i>	n/a	Vulnerable	NBDC online database record
Tawny Mining Bee <i>Andrena fulva</i>	n / a	Regionally Extinct	NBDC online database record
The Bright Moss Beetle <i>Limnebius nitidus</i>	n / a	Endangered	NBDC online database record
The Elegant Diver <i>Nebrioporus depressus</i>	n / a	n / a	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
The Halfpenny Reed Beetle <i>Donacia semicuprea</i>	n / a	Regionally Extinct	NBDC online database record
The Moss Beetle <i>Ochthebius bicolon</i>	n / a	Vulnerable	NBDC online database record
The Rockhopper Beetle <i>Hydrocyphon deflexicollis</i>	n / a	Endangered	NBDC online database record
The Sculptured Moss Beetle <i>Enicocerus exsculptus</i>	n / a	Endangered	NBDC online database record
The Submerged Reed Beetle <i>Macrolea appendiculata</i>	n / a	Near Threatened	NBDC online database record
Tree Snail <i>Balea perversa</i>	n / a	Vulnerable	NBDC online database record
Upland Summer Mayfly <i>Ameletus inopinatus</i>	n / a	Near Threatened	NBDC online database record
Wall <i>Lasiommata megera</i>	n / a	Endangered	NBDC online database record
Water Plantain Sloth Weevil <i>Bagous alismatis</i>	n / a	Critically Endangered	NBDC online database record
Willoughby's Leafcutter Bee <i>Megachile willughbiella</i>	n / a	Near Threatened	NBDC online database record

HDII / IV / V = Habitats Directive Annexes II / IV / V; FPO = Flora (Protection) Order, 2022; WA = Wildlife Acts.

HD II / IV / V = Habitats Directive Annexes II / IV / V; BD I / II / III = Birds Directive Annex I / II / III; OSPAR = Convention for the protection of the marine environment of the North-east Atlantic 1992, Third schedule of S.I. 477 = Third Schedule of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011, Species of Union concern = Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species.

**Table 2 Non-native IAPS species listed under S.I 477 of the Birds and Habitats Regulations 2011**

Common Name / Scientific name	Legal Status	Source
American Skunk-Cabbage <i>Lysichiton americanus</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record
Bohemian knotweed <i>Reynoutria x bohemica</i>	Third schedule of S.I. 477	NBDC online database record
Brazilian Giant-Rhubarb <i>Gunnera Manicata</i>	Third schedule of S.I. 477	NBDC online database record
Canadian Waterweed <i>Elodea canadensis</i>	Delisted as Third Schedule per SI355 of 2015	NBDC online database record
Curly Waterweed <i>Lagarosiphon major</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record
Giant Hogweed <i>Heracleum mantegazzianum</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record
Giant Knotweed <i>Reynoutria sachalinensis</i>	Third schedule of S.I. 477	NBDC online database record
Giant-rhubarb <i>Gunnera tinctoria</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record
Himalayan Knotweed ( <i>Persicaria wallichii</i> )	Third schedule of S.I. 477	NBDC online database record
Indian Balsam <i>Impatiens glandulifera</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record
Japanese Knotweed <i>Reynoutria japonica</i>	Third schedule of S.I. 477	NBDC online database record
New Zealand Pigmyweed <i>Crassula helmsii</i>	Third schedule of S.I. 477	NBDC online database record
Nuttall's Waterweed <i>Elodea nuttallii</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record,
Parrot's-feather <i>Myriophyllum aquaticum</i>	Third schedule of S.I. 477 / Species of Union concern	NBDC online database record
Rhododendron <i>Rhododendron ponticum</i>	Third schedule of S.I. 477	NBDC online database record
Sea-Buckthorn <i>Hippophae rhamnoides</i>	Third schedule of S.I. 477	NBDC online database record
Spanish Bluebell <i>Hyacinthoides hispanica</i>	Third schedule of S.I. 477	NBDC online database record
Three-cornered Garlic <i>Allium triquetrum</i>	Third schedule of S.I. 477	NBDC online database record
Water Fern <i>Azolla filiculoides</i>	Third schedule of S.I. 477	NBDC online database record

S.I. 477 = Third Schedule of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011, Species of Union concern = Regulation (EU) No 1143 / 2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species, and Commission Implementing Regulation (EU) 2017/1263 updating the list of invasive alien species of Union concern established by Implementing Regulation (EU) 2016/1141 pursuant to Regulation (EU) No 1143/2014 of the European Parliament and of the Council.

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