

The background is a vibrant yellow. It is decorated with several abstract geometric shapes in shades of blue, teal, and white. These shapes include circles, semi-circles, and rounded rectangles, some of which are layered or overlapping. The overall aesthetic is modern and clean.

## **Appendix A12.1**

### Desk Study

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## Appendix 12.1: Desk Study

### 1.1 Desk Study

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.

Plant species which are legally protected under the Flora (Protection) Order, 2022 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 Species 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>			
Bearded Pawwort <i>Barbilophozia barbata</i>	n / a	Critically endangered	NBDC online database record
Betony <i>Betonica officinalis</i>	FPO	Near threatened	NBDC online database record
Bird's-foot <i>Ornithopus perpusillus</i>	n / a	Least concern	NBDC online database record
Blue Fleabane <i>Erigeron acer</i>	n / a	Least concern	NBDC online database record, NPWS Consultation 2021
Blunt-fruited Pottia <i>Tortula modica</i>	n / a	Vulnerable	NBDC online database record
Cernuous Thread-moss <i>Bryum uliginosum</i>	FPO	Endangered	NBDC online database record
Cornflower <i>Centaurea cyanus</i>	n / a	Waiting List	NBDC online database record
Dwarf Haircap <i>Pogonatum nanum</i>	n / a	Endangered	NBDC online database record
Felted Thyme-moss <i>Rhizomnium pseudopunctatum</i>	n / a	Near threatened	NBDC online database record
Fringed Heartwort <i>Ricciocarpos natans</i>	n / a	Near threatened	NBDC online database record
<i>Gentianella amarella</i> subsp. <i>hibernica</i>	n / a	Near threatened	NBDC online database record
Glass-wort Feather-moss <i>Scleropodium tourettii</i>	FPO	Endangered	NBDC online database record
Great Burnet <i>Sanguisorba officinalis</i>	FPO	Vulnerable	NBDC online database record
Green Figwort <i>Scrophularia umbrosa</i>	n / a	Near threatened	NPWS Consultation 2021
Hairy St John's-wort <i>Hypericum hirsutum</i>	FPO	Vulnerable	NBDC online database record, NPWS Consultation 2021
Hairy Violet <i>Viola hirta</i>	FPO	Vulnerable	NBDC online database record, NPWS Consultation 2021, Dublin City Biodiversity Action Plan 2015 - 2020
Holt Notchwort <i>Cladopodiella francisci</i>	n / a	Vulnerable	NBDC online database record
Lance-leaved Pottia <i>Tortula lanceola</i>	n / a	Critically endangered	NBDC online database record
Lesser Centaury <i>Centaureum pulchellum</i>	FPO	Near threatened	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Little-robin <i>Geranium purpureum</i>	n / a	Near threatened	NBDC online database record
Many-seasoned Thread-moss <i>Bryum intermedium</i>	FPO	Endangered	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Meadow Barley <i>Hordeum secalinum</i>	FPO	Vulnerable	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Meadow Saxifrage <i>Saxifraga granulata</i>	FPO	Regionally Extinct*	NBDC online database record, NPWS Consultation 2021
Petalwort <i>Petalophyllum ralfsii</i>	FPO	Least concern	NBDC online database record
Round-leaved Crane's-bill <i>Geranium rotundifolium</i>	n / a	Least concern	NBDC online database record
Sea Pea <i>Lathyrus japonicus</i>	FPO	Vulnerable	NBDC online database record
Shady Beard-moss <i>Didymodon umbrosus</i>	n / a	Vulnerable	NBDC online database record
Small Cudweed <i>Filago miniman</i>	FPO	Near Threatened	NBDC online database record
Tall Aloe-moss <i>Aloina ambiguan</i>	n / a	Endangered	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
Warne's Thread-moss <i>Bryum warneum</i>	FPO	Endangered	NBDC online database record, Dublin City Biodiversity Action Plan 2015 – 2020
Water-violet <i>Hottonia palustris</i>	n / a	Critically endangered	NBDC online database record
Wild Clary <i>Salvia verbenaca</i>	n / a	Least concern	NBDC online database record
Yellow Archangel <i>Lamiastrum galeobdolon</i> subsp. <i>montanum</i>	n / a	Least concern	NPWS Consultation 2021
<b>Mammals</b>			
Brown Long-eared Bat <i>Plecotus auritus</i>	HD IV, WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Common Porpoise <i>Phocoena phocoena</i>	HD II, HD IV	Least concern	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Common Seal <i>Phoca vitulina</i>	HD II, HD V	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Daubenton's Bat <i>Myotis daubentonii</i>	HD IV, WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Eurasian Badger <i>Meles meles</i>	WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Eurasian Pygmy Shrew <i>Sorex minutus</i>	WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Eurasian Red Squirrel <i>Sciurus vulgaris</i>	WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
European Otter <i>Lutra lutra</i>	HD II, HD IV, WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Grey Seal <i>Halichoerus grypus</i>	HD II, HD V, 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, Dublin City Biodiversity Action Plan 2015 - 2020
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, Dublin City Biodiversity Action Plan 2015 - 2020
Pipistrelle <i>Pipistrellus pipistrellus sensu lato</i>	HD IV, WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	HD IV, WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
West European Hedgehog <i>Erinaceus europaeus</i>	WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
<b>Birds</b>			
Arctic Tern <i>Sterna paradisaea</i>	SCI, BD I, WA	Amber	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Atlantic Puffin <i>Fratercula arctica</i>	WA	Red	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 subsp. nigricans</i>	WA	Green	NBDC online database record
Black Guillemot <i>Cephus grylle</i>	WA	Amber	NBDC online database record
Black-billed Magpie <i>Pica pica</i>	WA	Green	NBDC online database record
Blackcap <i>Sylvia atricapilla</i>	WA	Green	NBDC online database record
Black-headed Gull <i>Chroicocephalus ridibundus</i>	SCI, WA	Amber	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
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
Black-throated Diver <i>Gavia arctica</i>	BD I, WA	Amber	NBDC online database record
Blue Tit <i>Cyanistes caeruleus</i>	WA	Green	NBDC online database record
Brent Goose <i>Branta bernicla</i>	WA	Amber	NBDC online database record
Carrion Crow <i>Corvus corone</i>	WA	Green	NBDC online database record
Carrion / Hooded Crow <i>Corvus corone agg.</i>	WA	Green	NBDC online database record
Chaffinch <i>Fringilla coelebs</i>	WA	Green	NBDC online database record
Coal Tit <i>Parus ater</i>	WA	Green	NBDC online database record
Common Blackbird <i>Turdus merula</i>	WA	Green	NBDC online database record
Common Bullfinch <i>Pyrrhula pyrrhula</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, WA	Amber	NBDC online database record
Common Cuckoo <i>Cuculus canorus</i>	WA	Green	NBDC online database record

Common Name / Scientific name	Legal Status	Red List Status	Source
Common Eider <i>Somateria mollissima</i>	SCI, WA	Red	NBDC online database record
Common Goldeneye <i>Bucephala clangula</i>	SCI, BD II(II), WA	Red	NBDC online database record
Common Greenshank <i>Tringa nebularia</i>	WA	Green	NBDC online database record
Common Guillemot <i>Uria aalge</i>	SCI, WA	Amber	NBDC online database record
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, Dublin City Biodiversity Action Plan 2015 - 2020
Common Linnet <i>Carduelis cannabina</i>	WA	Amber	NBDC online database record
Common Pheasant <i>Phasianus colchicus</i>	BD II(I) BD III(I), WA	Green	NBDC online database record
Common Raven <i>Corvus corax</i>	WA	Green	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 Scoter <i>Melanitta nigra</i>	SCI, BD II(II) BD III(III), WA	Red	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, Dublin City Biodiversity Action Plan 2015 - 2020
Common Wood Pigeon <i>Columba palumbus</i>	BD II(I) BD III(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, Dublin City Biodiversity Action Plan 2015 - 2020
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 Oystercatcher <i>Haematopus ostralegus</i>	SCI, WA	Red	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
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 III(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>Carduelis 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
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

Common Name / Scientific name	Legal Status	Red List Status	Source
Great Tit <i>Parus 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-winged Teal <i>Anas carolinensis</i>	WA	n / a	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, Dublin City Biodiversity Action Plan 2015 - 2020
Grey Wagtail <i>Motacilla cinerea</i>	WA	Red	NBDC online database record
Hedge Accentor <i>Prunella modularis</i>	WA	Green	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
Jack Snipe <i>Lymnocyptes minimus</i>	WA	Green	NBDC online database record
Lesser Black-backed Gull <i>Larus fuscus</i>	SCI, WA	Amber	NBDC online database record
Lesser Whitethroat <i>Sylvia curruca</i>	WA	Amber	NBDC online database record
Little Grebe <i>Tachybaptus ruficollis</i>	SCI, WA	Green	NBDC online database record
Little Gull <i>Larus minutus</i>	BD I, WA	Amber	NBDC online database record
Little Egret <i>Egretta garzetta</i>	BD I, WA	Green	Dublin City Biodiversity Action Plan 2015 - 2020
Little Tern <i>Sternula albifrons</i>	BD I, WA	Amber	NBDC online database record
Long-tailed Duck <i>Clangula hyemalis</i>	BD II(II), WA	Red	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
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, Dublin City Biodiversity Action Plan 2015 - 2020
Merlin <i>Falco columbarius</i>	SCI, BD I, WA	Amber	NBDC online database record
Mew Gull <i>Larus canus</i>	WA	Green	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 Fulmar <i>Fulmarus glacialis</i>	SCI, WA	Amber	NBDC online database record
Northern Gannet <i>Morus bassanus</i>	SCI, WA	Amber	NBDC online database record
Northern Lapwing <i>Vanellus vanellus</i>	SCI, BD II(II), WA	Red	NBDC online database record
Northern Pintail <i>Anas acuta</i>	SCI, WA	Amber	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	Dublin City Biodiversity Action Plan 2015 - 2020
Razorbill <i>Alca torda</i>	SCI, 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

Common Name / Scientific name	Legal Status	Red List Status	Source
Red-necked Phalarope <i>Phalaropus lobatus</i>	BD I, WA	Red	NBDC online database record
Red-throated Diver <i>Gavia stellata</i>	SCI, BD I, WA	Amber	NBDC online database record
Ringed Plover <i>Charadrius hiaticula</i>	SCI, WA	Amber	NBDC online database record
Rock Pigeon <i>Columba livia</i>	WA, BD II(I)	Green	NBDC online database record
Rock Pipit <i>Anthus petrosus</i>	WA	Green	NBDC online database record
Rook <i>Corvus frugilegus</i>	WA	Green	NBDC online database record
Roseate Tern <i>Sterna dougallii</i>	SCI, BD I, 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
Sandwich Tern <i>Sterna sandvicensis</i>	SCI, BD I, WA	Amber	NBDC online database record
Short-eared Owl <i>Asio flammeus</i>	BD I, WA	Amber	NBDC online database record
Sky Lark <i>Alauda arvensis</i>	WA	Amber	NBDC online database record
Smew <i>Marcellus albellus</i>	BD I, WA	Amber	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
Spotted Redshank <i>Tringa erythropus</i>	WA	Amber	NBDC online database record
Stonechat <i>Saxicola torquata</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
Whooper Swan <i>Cygnus cygnus</i>	SCI, BD I, WA	Amber	NBDC online database record
Yellow Wagtail <i>Motacilla flava</i>	WA	Amber	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, Dublin City Biodiversity Action Plan 2015 - 2020
<b>Amphibians</b>			
Common Frog <i>Rana temporaria</i>	HD V	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Smooth Newt <i>Lissotriton vulgaris</i>	WA	Least concern	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
<b>Fish</b>			
European Eel <i>Anguilla anguilla</i>	OSPAR, Fisheries Acts	Critically endangered	NBDC online database record, Dublin City Biodiversity Action Plan 2015 - 2020
Brown / sea trout <i>Salmo trutta L.</i>	Fisheries Acts and fishing bylaws	Least Concern	IFI Consultation (2020), Dublin City Biodiversity Action Plan 2015 – 2020
River lamprey <i>Lampetra fluviatilis</i>	HD II, HD V, OSPAR, Fisheries Acts	Least Concern	Kelly <i>et al.</i> , (2012), Matson <i>et al.</i> , (2018), IFI Consultation (2020), Dublin City Biodiversity Action Plan 2015 – 2020
Brook lamprey <i>Lampetra planeri</i>	HD II, Fisheries Acts	Least Concern	IFI Consultation (2020), Dublin City Biodiversity Action Plan 2015 – 2020
Sea lamprey <i>Petromyzon marinus</i>	HD II, Fisheries Acts	Near threatened	Dublin City Biodiversity Action Plan 2015 – 2020
Atlantic salmon <i>Salmo salar</i>	HD II, HD V, Fisheries Acts and fishing bylaws	Vulnerable	Kelly <i>et al.</i> , (2012), IFI Consultation (2020), Dublin City Biodiversity Action Plan 2015 – 2020
<b>Invertebrates</b>			



Common Name / Scientific name	Legal Status	Red List Status	Source
Brown Snail <i>Zenobiella subrufescens</i>	n / a	Vulnerable	NBDC online database record
Common Oyster <i>Ostrea edulis</i>	n / a	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	n / a	NBDC online database record
Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i>	HDII	Endangered	NBDC online database record
Dog Whelk <i>Nucella lapillus</i>	n / a	n / a	NBDC online database record
Duck Mussel <i>Anodonta Anodonta anatina</i>	n / a	Vulnerable	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
Field Slug <i>Deroceras agreste</i>	n / a	n / a	NBDC online database record
Globular Pea Mussel <i>Pisidium hibernicum</i>	n / a	n / a	NBDC online database record
Glutinous Snail <i>Myxas glutinosa</i>	n / a	Endangered	NBDC online database record
Heath Snail <i>Helicella itala</i>	n / a	Vulnerable	NBDC online database record
Lake Orb Mussel <i>Musculium lacustre</i>	n / a	Vulnerable	NBDC online database record
Lesser Bulin <i>Merdigera obscura</i>	n / a	Endangered	NBDC online database record
Marsh Whorl Snail <i>Vertigo antivertigo</i>	n / a	Vulnerable	NBDC online database record
Mauge's Shelled Slug <i>Testacella maugaei</i>	n / a	Near threatened	NBDC online database record
Moss Chrysalis Snail <i>Pupilla Pupilla muscorum</i>	n / a	Endangered	NBDC online database record
False Orb Pea Mussel <i>Pisidium pseudosphaerium</i>	n / a	Endangered	NBDC online database record
Iridescent pea mussel <i>Pisidium pulchellum</i>	n / a	Endangered	NBDC online database record
Plated Snail <i>Spermodea lamellata</i>	n / a	Endangered	NBDC online database record
Point Snail <i>Acicula fusca</i>	n / a	Vulnerable	NBDC online database record
Prickly Snail <i>Acanthinula aculeata</i>	n / a	n / a	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	n / a	NBDC online database record
Swan Mussel <i>Anodonta cygnea</i>	n / a	Vulnerable	NBDC online database record
Tree Snail <i>Balea perversa</i>	n / a	Vulnerable	NBDC online database record
Spire snail <i>Ventrosia ventrosa</i>	n / a	Vulnerable	NBDC online database record
Spattered diver beetle <i>Agabus conspersus</i>	n / a	Endangered	NBDC online database record
Grey banded mining Bee <i>Andrena denticulata</i>	n / a	Vulnerable	NBDC online database record
Heather mining Bee <i>Andrena fuscipes</i>	n / a	Vulnerable	NBDC online database record
Buffish mining Bee <i>Andrena nigroaenea</i>	n / a	Vulnerable	NBDC online database record
Shiny margined mini-miner Bee <i>Andrena semilaevis</i>	n / a	Vulnerable	NBDC online database record
European legume miner Bee <i>Andrena wilkella</i>	n / a	Data deficient	NBDC online database record
Water Plantain Sloth Weevil <i>Bagous alismatis</i>	n / a	Critically endangered	NBDC online database record
Barbut's Cuckoo Bee <i>Bombus barbutellus</i>	n / a	Endangered	NBDC online database record
Bare saddled Colletes <i>Colletes similis</i>	n / a	Near threatened	NBDC online database record
Dark Green Fritillary <i>Argynnis aglaja</i>	n / a	Vulnerable	NBDC online database record
Field Cuckoo Bee <i>Bombus Psithyrus campestris</i>	n / a	Vulnerable	NBDC online database record
Gatekeeper <i>Pyronia tithonus</i>	n / a	Near threatened	NBDC online database record
Gipsy Cuckoo Bee <i>Bombus Psithyrus</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

Common Name / Scientific name	Legal Status	Red List Status	Source
Great Yellow Bumble Bee <i>Bombus distinguendus</i>	n / a	Endangered	NBDC online database record
Bronze Furrow Bee <i>Halictus tumulorum</i>	n / a	Near threatened	NBDC online database record
Orangeman water beetle <i>Helophorus fulgidicollis</i>	n / a	Vulnerable	NBDC online database record
Hill Cuckoo Bee <i>Bombus Psithyrus rupestris</i>	n / a	Endangered	NBDC online database record
Short-horned Yellow-face Bee <i>Hylaeus brevicornis</i>	n / a	Endangered	NBDC online database record
Mayfly <i>Labiobaetis atrebatinus</i>	n / a	Endangered	NBDC online database record
Large Red Tailed Bumble Bee <i>Bombus lapidarius</i>	n / a	Near threatened	NBDC online database record
Marsh Fritillary <i>Euphydryas aurinia</i>	HD II	Vulnerable	NBDC online database record, Dublin City Biodiversity Action Plan 2015 – 2020
Willoughy's Leafcutter Bee <i>Megachile willughbiella</i>	n / a	Near threatened	NBDC online database record
Patchwork Leafcutter Bee <i>Megachile centuncularis</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
Panzer's Nomad Bee	n / a	Near threatened	NBDC online database record
<i>Nomada panzeri</i>			
Northern Colletes <i>Colletes floralis</i>	n / a	Vulnerable	NBDC online database record
Double Colon Moss Beetle <i>Ochthebius bicolon</i>	n / a	Vulnerable	NBDC online database record
Pale Evening Dun mayfly	n / a	Vulnerable	NBDC online database record
<i>Procloeon bifidum</i>			
March brown mayfly <i>Rhithrogena germanica</i>	n / a	Vulnerable	NBDC online database record
Scarce Blue-tailed Damselfly <i>Ischnura pumilio</i>	n / a	Vulnerable	NBDC online database record
Small Blue <i>Cupido minimus</i>	n / a	Endangered	NBDC online database record
Small Heath <i>Coenonympha pamphilus</i>	n / a	Near threatened	NBDC online database record
Trimmer's Mining Bee <i>Andrena trimmerana</i>	n / a	Critically endangered	NBDC online database record
the * refers to species considered regional extinct in the relevant Red list documents, which have been rediscovered since its publication. I have included a descriptor for this at the tables end.			

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
Canadian Waterweed <i>Elodea canadensis</i>	Delisted as S.I. 477	NBDC online database record
Common Cord-grass <i>Spartina anglica</i>	Third schedule of S.I. 477	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
Hottentot-fig <i>Carpobrotus edulis</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

Common Name / Scientific name	Legal Status	Source
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
Spanish Bluebell <i>Hyacinthoides hispanica</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.

## 1.2 References:

FitzPatrick, Ú., Murray, T.E., Byrne, A., Paxton, R.J. and Brown, M.J.F. (2006) Regional Red List of Irish Bees. Report to National Parks & Wildlife Service (Ireland) and Environment & Heritage Service (N. Ireland).

Gilbert, G., Stanbury, A., Lewis, L. (2021). Birds of Conservation Concern in Ireland 4: 2020–2026. Irish Birds 9: 523-544.. RSPB Great Britain and Birdwatch Ireland.

Temple, H.J. and Terry, A. (Compilers), (2007), The Status and Distribution of European Mammals. Luxembourg: Office for Official Publications of the European Communities.

Byrne, A., Moorkens, E.A., Anderson, R., Killeen, I.J. & Regan, E.C. (2009) Ireland Red List No. 2 – Non-Marine Molluscs.

Foster, G. N., Nelson, B. H. & O Connor, Á. (2009) Ireland Red List No. 1 – Water beetles.

Regan, E.C., Nelson, B., Aldwell, B., Bertrand, C., Bond, K., Harding, J., Nash, D., Nixon, D., & Wilson, C.J. (2010) Ireland Red List No. 4 – Butterflies.

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., Fitzpatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D. (2011) Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish.

Nelson, B., Ronayne, C. & Thompson, R. (2011) Ireland Red List No.6: Damselflies & Dragonflies (Odonata).

Kelly F. L., Matson, R., Connor, L., Feeney, R., Morrissey, E., Wogerbauer C., Rocks, K. (2011). Water Framework Directive Fish Stock Survey of Rivers in the Eastern River Basin District, 2011. Inland Fisheries Ireland, Swords Business Campus, Swords, Co. Dublin.

Kelly-Quinn, M. & Regan, E.C. (2012) Ireland Red List No. 7: Mayflies (Ephemeroptera). National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Allen, D., O'Donnell, M., Nelson, B., Tyner, A., Bond, K.G.M., Bryant, T., Croy, A., Mellon, C., O'Boyle, J., O'Donnell, E., Rolston, T., Sheppard, R., Strickland, P., Fitzpatrick, U., & Regan, E. (2016) Ireland Red List No. 9: Macro-moths (Lepidoptera).

Dublin City Biodiversity Action Plan 2015 - 2020 (2015), Dublin City Council.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) Ireland Red List No. 10: Vascular Plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

Matson, R., *et. al.* (2018) Sampling Fish in Rivers 2017 – Camac, Factsheet No. 3. National Research Survey Programme. Inland Fisheries Ireland.

Marnell, F., Looney, D. & Lawton, C. (2019) Ireland Red List No. 12: Terrestrial Mammals.

Nelson, B., Cummins, S., Fay, L., Jeffrey, R., Kelly, S., Kingston, N., Lockhart, N., Marnell, F., Tierney, D. and Wyse Jackson, M. (2019) Checklists of protected and threatened species in Ireland. Irish Wildlife Manuals, No. 116. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Matson, R., Delanty, K., Gordon, P., O'Briain, R., McCarthy, E., Cierpal, D., Connor, L., Corcoran, W., Coyne, J., McLoone, P., Morrissey, McCaffrey, E., Brett, T., Gavin, A., Kelly, F.L., (2019). Sampling Fish in Rivers 2018 - Dodder, Factsheet No. 2. National Research Survey Programme. Inland Fisheries Ireland.

Feeley, H.B., Baars, J-R., Kelly-Quinn, M. & Nelson, B. (2020) Ireland Red List No. 13: Stoneflies (Plecoptera). National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland.