

CLONASLEE FLOOD RELIEF SCHEME

Appendix 9.2: Desk Study Results

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APPENDIX 9.2: DESK STUDY RESULTS

Apx Table 1: Relevant Designated Sites for nature conservation and their ecological features of interest (excluding European Sites).

Designated Site (code)	Closest Distance (km) to Proposed Development	Ecological Features of Interest
Ramsar & National Sites (NHA, pNHA, National Park, Ramsar Sites, Nature Reserves, Wildfowl Sanctuaries)		
<i>Screggan Bog NHA (000921)</i>	7.8 km northwest	<ul style="list-style-type: none"> • Peatlands [4] • Raised bog comprised of both high bog and cutover bog. • Much of the bog is quite dry due to drainage and peatcutting at the margin. • Extensive colonisation of its southeast portion by Scots Pine (<i>Pinus sylvestris</i>). • Large areas of coniferous forestry, deciduous woodland and scrub also present. • Largely comprised of bog mosses (<i>Sphagnum</i> spp.) including two notable hummock-forming species <i>S. imbricatum</i> and <i>S. fuscum</i>. • Red Data Book species, Alder Buckthorn (<i>Frangula alnus</i>) and Bird Cherry (<i>Prunus padus</i>). • Peat-cutting, agriculture and forestry have resulted in loss of habitat, damage to the hydrological status of the site, and pose a continuing threat to its viability.
<i>Hawkswood Bog NHA (002355)</i>	7.0 km north	<ul style="list-style-type: none"> • Peatlands [4] • Raised bog that includes both areas of high bog and cutover bog. • The high bog has pools present and is still wet and quaking in places with very little drainage and no forestry. • Cutover is found all around the high bog margins. • Current landuses on the site include peat-cutting, agriculture and forestry. • There appears to be very little peat-cutting, with only limited domestic peat-cutting to the south and south-west, but otherwise there is little damaging operations. • Damaging activities associated with these landuses include burning of the high bog and drainage at the bog margins. These activities have resulted in the loss of habitat, damage to the hydrological status of the site, and pose a continuing threat to its viability.
<i>Slieve Bloom Mountains pNHA (000412)</i>	1 km south	<ul style="list-style-type: none"> • Old red sandstone mountains, mountain blanket bog, Peregrine Falcon, Hen harrier, red grouse.
<i>Pallas Lough pNHA (000916)</i>	8.6 km northwest	<ul style="list-style-type: none"> • Significant numbers of wildfowl and waders use the lake. The reed swamp fringes and centre provide cover and make ideal nesting areas for ducks such as Mallard, Teal and Widgeon. The peripheral wet grassland is grazed in the winter by geese. The rare Marsh Harrier has recently been seen hunting in the area. • This area is of botanical interest due to the diversity of plant habitats and the species richness of those habitats.
<i>Raheen Lough pNHA (000917)</i>	15.8 km	<ul style="list-style-type: none"> • Main interest lies in the variety and numbers of wildfowl and waders that this pNHA attracts. It has a particularly important role because open waterbodies are infrequent in the area. • Apart from the open water, the level wet pasture is much used by feeding birds, and in some places has typical marshland vegetation. • Species that use this site include swans, including Whooper Swans, diving ducks, including Goldeneye and Pochard, dabbling ducks, mainly Mallard but including Shoveler and Pintail, waders including Greenshank, Jack Snipe, and Purple Sandpipers, and other species such as Heron, Kingfisher and Grebes. • The site is of at least local importance on ornithological grounds.
<i>Clonad Wood pNHA (000574)</i>	7 km northeast	<ul style="list-style-type: none"> • Deciduous woodland on low-lying agricultural land bordering the Clodiagh River. • The wood is dominated by Pedunculate Oak (<i>Quercus robur</i>) which has been underplanted with Beech (<i>Fagus sylvatica</i>) and conifers.

Designated Site (code)	Closest Distance (km) to Proposed Development	Ecological Features of Interest
		<ul style="list-style-type: none"> The rare Alder Buckthorn (<i>Frangula alnus</i>) and Bird Cherry (<i>Prunus padus</i>) are found in the woodland, while Irish Whitebeam (<i>Sorbus hibernica</i>) is also abundant.
Grand Canal pNHA (002104)	13.5 km north	<ul style="list-style-type: none"> Man-made waterway linking the River Liffey at Dublin with the Shannon at Shannon Harbour and the Barrow at Athy. Comprises the canal channel and the banks on either side of it. A number of different habitats are found within the canal boundaries - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland. The diversity of the water channel is particularly high in the eastern section of the Main Line - between the Summit level at Lowtown and Inchicore. Arrowhead (<i>Sagittaria sagittifolia</i>) and Water-cress (<i>Rorippa nasturtium-aquaticum</i>) are more common in this stretch than on the rest of the system. The rare and legally protected Opposite-leaved Pondweed (<i>Groenlandia densa</i>) is present at a number of sites in the eastern section of the Main Line, between Lowtown and Ringsend Basin in Dublin. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species.
Charleville Wood pNHA (000571)	10.3 km north	<ul style="list-style-type: none"> The site has a large population of the rare snail species, Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). This site is one of the most important ancient woodland sites in Ireland. The woodland has a varied age structure and is relatively intact with areas of both closed and open canopy.
Slieve Bloom Mountains Ramsar Site (335)	4 km southwest	<ul style="list-style-type: none"> The largest and most intact area of mountain blanket bog in Ireland. Well-developed hummock, hollow and pool systems. Vegetation consists of dwarf shrub, herb layer and extensive cover of Sphagnum moss. The Site supports a range of breeding birds, insects and mammals along with frogs, lizards and smooth newts. Together with its surrounding habitats, it is one of Ireland's most important sites for the rare breeding hen harrier (<i>Circus cyaneus</i>). Other raptor species recorded are peregrine falcon (<i>Falco peregrinus</i>) and merlin (<i>Falco columbarius</i>), while another emblematic bird is the red grouse (<i>Lagopus lagopus</i>).
Slieve Bloom Mountains Nature Reserve	5 km southwest	<ul style="list-style-type: none"> Managed to conserve the mountain blanket bog ecosystem. Also designated as a Ramsar Wetland Site and a Council of Europe Biogenetic Reserve. Hen harrier and red grouse nest on the blanket bog and heath. Meadow pipits, skylarks, snow buntings, merlin, peregrine, falcon, raven, snipe, golden plover, lapwing, curlew, wheatear and ring ouzel can also be found in the reserve.

Apx Table 2: Invasive alien animal species returned in NBDC desk study (within 5 km of the Proposed Scheme).

Species Name	Designation	Record Count	Date of Last Record
American mink (<i>Mustela vison</i>)	High Impact Invasive Species Regulation S.I. 477 (Ireland)	3	19/11/2010
Bank vole (<i>Myodes glareolus</i>)	Medium Impact Invasive Species	1	20/01/2011
Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	High Impact Invasive Species - Regulation S.I. 477 (Ireland); EU Regulation No. 1143/2014	3	31/12/2010
European rabbit (<i>Oryctolagus cuniculus</i>)	Medium Impact Invasive Species	3	06/05/2011

Species Name	Designation	Record Count	Date of Last Record
Fallow Deer (<i>Dama dama</i>)	High Impact Invasive Species Regulation S.I. 477 (Ireland) ; Protected Species: Wildlife Acts	21	15/02/2011
Wild boar (<i>Sus scrofa</i>)	High Impact Invasive Species Regulation S.I. 477 (Ireland)	2	31/12/2011
Jenkins' Spire Snail (<i>Potamopyrgus antipodarum</i>)	Medium Impact Invasive Species	10	06/07/2017

Apx Table 3: Invasive alien plant species returned in NBDC desk study (within 5 km of the Proposed Scheme).

Species name	Record count	Date of last record	Designation
Indian Balsam (<i>Impatiens glandulifera</i>)	1	18/07/2019	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Sycamore (<i>Acer pseudoplatanus</i>)	12	31/12/2010	Medium Impact Invasive Species

Apx Table 4: Rare or protected plant species returned in NBDC desk study (within 5 km of the Proposed Scheme).

Species name	Record count	Date of last record	Designation	Red List Status
Irish Whitebeam (<i>Sorbus hibernica</i>)	2	22/01/2014	-	Vulnerable
Large White-moss (<i>Leucobryum glaucum</i>)	3	22/01/2014	EU Habitats Directive Annex IV	Least concern

Apx Table 5: Protected terrestrial mammal species records returned in NBDC desk study (within 5 km of the Proposed Scheme).

Species name	Record count	Date of last record	Designation	Red List Status ¹
Brown Long-eared Bat (<i>Plecotus auritus</i>)	1	30/07/2008	EU Habitats Directive Annex IV; Wildlife Acts	Least Concern
Daubenton's Bat (<i>Myotis daubentonii</i>)	1	25/04/2009	EU Habitats Directive Annex IV; Wildlife Acts	Least Concern
Lesser Noctule (<i>Nyctalus leisleri</i>)	15	20/08/2018	EU Habitats Directive Annex IV; Wildlife Acts	Least Concern
Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	22	08/08/2019	EU Habitats Directive Annex IV; Wildlife Acts	Least Concern
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	13	21/05/2019	EU Habitats Directive Annex IV; Wildlife Acts	Least Concern
Eurasian Badger (<i>Meles meles</i>)	37	31/12/2016	Wildlife Acts	Least Concern
Eurasian Pygmy Shrew (<i>Sorex minutus</i>)	3	12/05/2018	Wildlife Acts	Least Concern
Eurasian Red Squirrel (<i>Sciurus vulgaris</i>)	18	12/05/2018	Wildlife Acts	Least Concern
Pine Marten (<i>Martes martes</i>)	16	25/02/2021	EU Habitats Directive Annex V; Wildlife Acts	Least Concern
West European Hedgehog (<i>Erinaceus europaeus</i>)	5	18/01/2022	Wildlife Acts	Least Concern

¹ Marnell, F., Looney, D. & Lawton, C. (2019) Ireland Red List No. 12: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Apx Table 6: Threatened and protected bird species returned in NBDC desk study (within 5 km of the Proposed Scheme). Birds listed include those on the Birds of Conservation Concern in Ireland (BOCCI)² red and amber lists, SCI (Special Conservation Interest) bird species (within SPA) and those listed on Annex I of the Birds Directive.

Species name	Record count	Date of last record	BOCCI Status	Birds Directive Annex I	SCI Bird Species
Barn Owl (<i>Tyto alba</i>)	5	08/02/2016	Red	-	-
Barn Swallow (<i>Hirundo rustica</i>)	29	14/04/2018	Amber	-	-
Common Coot (<i>Fulica atra</i>)	13	31/12/2011	Amber	-	✓
Common Goldeneye (<i>Bucephala clangula</i>)	1	31/12/2011	Red	-	✓
Common Kestrel (<i>Falco tinnunculus</i>)	25	30/10/2019	Red	-	-
Common Kingfisher (<i>Alcedo atthis</i>)	8	31/12/2011	Amber	✓	✓
Common Linnet (<i>Carduelis cannabina</i>)	27	31/12/2011	Amber	-	-
Common Pochard (<i>Aythya ferina</i>)	4	31/12/2011	Red	-	✓
Common Quail (<i>Coturnix coturnix</i>)	1	31/12/2011	Red	-	-
Common Redshank (<i>Tringa totanus</i>)	4	31/12/2011	Red	-	✓
Common Sandpiper (<i>Actitis hypoleucos</i>)	1	31/12/2011	Amber	-	-
Common Snipe (<i>Gallinago gallinago</i>)	22	31/12/2011	Red	-	-
Common Starling (<i>Sturnus vulgaris</i>)	42	31/12/2011	Amber	-	-
Common Swift (<i>Apus apus</i>)	14	31/12/2011	Red	-	-
Eurasian Curlew (<i>Numenius arquata</i>)	18	31/12/2011	Red	-	✓
Eurasian Teal (<i>Anas crecca</i>)	9	31/12/2011	Amber	-	✓
Eurasian Wigeon (<i>Anas penelope</i>)	6	31/12/2011	Amber	-	✓
Eurasian Woodcock (<i>Scolopax rusticola</i>)	14	31/12/2011	Red	-	-
European Golden Plover (<i>Pluvialis apricaria</i>)	9	03/03/2022	Red	✓	✓
European Greenfinch (<i>Carduelis chloris</i>)	36	31/12/2011	Amber	-	-
Gadwall (<i>Anas strepera</i>)	1	31/12/2011	Amber	-	✓
Goldcrest (<i>Regulus regulus</i>)	37	31/12/2011	Amber	-	-
Great Cormorant (<i>Phalacrocorax carbo</i>)	3	31/12/2011	Amber	-	✓
Great Crested Grebe (<i>Podiceps cristatus</i>)	3	31/12/2011	Amber	-	✓
Grey Heron (<i>Ardea cinerea</i>)	20	31/12/2011	Green	-	✓
Grey Partridge (<i>Perdix perdix</i>)	7	31/12/2011	Red	-	-
Grey Wagtail (<i>Motacilla cinerea</i>)	21	31/12/2011	Red	-	-
Hen Harrier (<i>Circus cyaneus</i>)	25	26/01/2022	Amber	✓	✓
House Martin (<i>Delichon urbicum</i>)	20	31/12/2011	Amber	-	-
House Sparrow (<i>Passer domesticus</i>)	40	31/12/2011	Amber	-	-
Little Egret (<i>Egretta garzetta</i>)	1	31/12/2011	Green	✓	-
Little Grebe (<i>Tachybaptus ruficollis</i>)	5	31/12/2011	Green	-	✓
Mallard (<i>Anas platyrhynchos</i>)	23	31/12/2011	Amber	-	✓
Meadow Pipit (<i>Anthus pratensis</i>)	40	31/12/2011	Red	-	-
Merlin (<i>Falco columbarius</i>)	8	31/12/2011	Amber	✓	✓
Mute Swan (<i>Cygnus olor</i>)	15	31/12/2011	Amber	-	-

² Gilbert G, Stanbury A and Lewis L (2021), Birds of Conservation Concern in Ireland 2020 –2026. Irish Birds 9: 523–544

Species name	Record count	Date of last record	BOCCI Status	Birds Directive Annex I	SCI Bird Species
Northern Lapwing (<i>Vanellus vanellus</i>)	18	31/12/2011	Red	-	✓
Northern Shoveler (<i>Anas clypeata</i>)	1	31/12/2011	Red	-	✓
Northern Wheatear (<i>Oenanthe oenanthe</i>)	6	31/12/2011	Amber	-	-
Peregrine Falcon (<i>Falco peregrinus</i>)	7	30/10/2019	Green	✓	✓
Red Grouse (<i>Lagopus lagopus</i>)	17	26/09/2017	Red	-	-
Redwing (<i>Turdus iliacus</i>)	15	31/12/2011	Red	-	-
Ringed Plover (<i>Charadrius hiaticula</i>)	2	31/12/2011	Amber	-	✓
Sand Martin (<i>Riparia riparia</i>)	13	31/12/2011	Amber	-	-
Sky Lark (<i>Alauda arvensis</i>)	25	31/12/2011	Amber	-	-
Spotted Flycatcher (<i>Muscicapa striata</i>)	17	31/12/2011	Amber	-	-
Stock Pigeon (<i>Columba oenas</i>)	8	31/12/2011	Red	-	-
Tufted Duck (<i>Aythya fuligula</i>)	7	31/12/2011	Amber	-	✓
Whooper Swan (<i>Cygnus cygnus</i>)	9	29/12/2019	Amber	✓	✓
Willow Warbler (<i>Phylloscopus trochilus</i>)	31	14/04/2018	Amber	-	-
Yellowhammer (<i>Emberiza citrinella</i>)	27	15/07/2020	Red	-	-

Apx Table 7: Protected and rare amphibian, reptile and invertebrate species returned in NBDC desk study (within 5 km of the Proposed Scheme).

Species name	Record count	Date of last record	Designation	Red List Status ³
Common Frog (<i>Rana temporaria</i>)	5	31/05/2005	EU Habitats Directive Annex V; Wildlife Acts	Least concern
Smooth Newt (<i>Lissotriton vulgaris</i>)	1	02/07/2020	Wildlife Acts	Least concern
Freshwater White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	8	31/12/2022	EU Habitats Directive Annex II & Annex V; Wildlife Acts	-
Dingy Skipper (<i>Erynnis tages</i>)	1	26/05/2014	-	Near threatened
Marsh Fritillary (<i>Euphydryas aurinia</i>)	17	04/09/2018	EU Habitats Directive Annex II	Vulnerable
Small Heath (<i>Coenonympha pamphilus</i>)	2	03/07/2021	-	Near threatened
Common Whorl Snail (<i>Vertigo pygmaea</i>)	5	23/08/2005	-	Near threatened
Geyer's Whorl Snail (<i>Vertigo (Vertigo) geyeri</i>)	4	31/12/2005	EU Habitats Directive Annex; Wildlife Acts	Vulnerable
Marsh Whorl Snail (<i>Vertigo (Vertigo) antivertigo</i>)	4	23/08/2005	-	Vulnerable
Smooth Grass Snail (<i>Vallonia pulchella</i>)	1	23/08/2005	-	Vulnerable
Striated Whorl Snail (<i>Vertigo substriata</i>)	2	23/08/2005	-	Near threatened

³ 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. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

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. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Ireland.

Byrne, A., Moorkens, E.A., Anderson, R., Killeen, I.J. & Regan, E.C. (2009) Ireland Red List No. 2 – Non-Marine Molluscs. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.