Appendix 5.1
National Biodiversity Data Centre Records

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Feature name	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	acarine (Acari)	Acari	2	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	amphibian	Common Frog (Rana temporaria)	19	28/03/2019	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
Custom	annelid	Aporrectodea rosea	2	05/08/1978	Earthworms of Ireland	
Custom	annelid	Chestnut Worm (Lumbricus castaneus)	2	06/04/1978	Earthworms of Ireland	
Custom	annelid	Dendrobaena veneta	1	28/04/1979	Earthworms of Ireland	
Custom	annelid	Eiseniella tetraedra	2	05/08/1978	Earthworms of Ireland	
Custom	annelid	Green Worm (Allolobophora chlorotica)	3	19/04/1979	Earthworms of Ireland	
Custom	annelid	Grey Worm (Aporrectodea caliginosa)	4	19/04/1979	Earthworms of Ireland	
Custom	annelid	Little Tree Worm (Satchellius mammalis)	1	19/04/1979	Earthworms of Ireland	
Custom	annelid	Lumbricidae	2	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	annelid	Lumbriculus variegatus	1	15/09/1999	Aquatic Oligochaeta of Ireland	
Custom	annelid	Manure Worm (Eisenia fetida)	1	06/04/1978	Earthworms of Ireland	
Custom	annelid	Octolasion cyaneum	1	28/04/1979	Earthworms of Ireland	
Custom	annelid	Red Worm (Lumbricus rubellus)	2	19/04/1979	Earthworms of Ireland	
Custom	annelid	Ruddy Worm (Lumbricus festivus)	2	06/04/1978	Earthworms of Ireland	
Custom	annelid	Stylodrilus heringianus	1	15/09/1999	Aquatic Oligochaeta of Ireland	
Custom	annelid	Tubificidae	3	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	bird	Barn Owl (Tyto alba)	10	12/12/2018	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

Custom	bird	Barn Swallow (Hirundo rustica)	32	04/04/2021	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Black-billed Magpie (Pica pica)	39	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Blackcap (Sylvia atricapilla)	22	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Black-headed Gull (Larus ridibundus)	21	09/03/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Blue Tit (Cyanistes caeruleus)	47	04/04/2021	Birds of Ireland	
Custom	bird	Brambling (Fringilla montifringilla)	8	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Carrion Crow (Corvus corone)	2	29/02/1984	The First Atlas of Wintering Birds in Britain and Ireland: 1981/82-1983/84.	
Custom	bird	Chaffinch (Fringilla coelebs)	51	04/04/2021	Birds of Ireland	
Custom	bird	Coal Tit (Periparus ater)	36	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Common Blackbird (Turdus merula)	52	04/04/2021	Birds of Ireland	
Custom	bird	Common Bullfinch (Pyrrhula pyrrhula)	41	14/05/2021	Birds of Ireland	
Custom	bird	Common Buzzard (Buteo buteo)	31	14/04/2021	Birds of Ireland	
Custom	bird	Common Chiffchaff (Phylloscopus collybita)	28	03/05/2015	Birds of Ireland	
Custom	bird	Common Coot (Fulica atra)	24	25/02/2018	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Custom	bird	Common Crossbill (Loxia curvirostra)	1	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	
Custom	bird	Common Cuckoo (Cuculus canorus)	8	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Common Goldeneye (Bucephala clangula)	2	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Grasshopper Warbler (Locustella naevia)	7	05/08/2015	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Kestrel (Falco tinnunculus)	27	10/06/2021	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Kingfisher (Alcedo atthis)	20	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Custom	bird	Common Linnet (Carduelis cannabina)	26	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Moorhen (Gallinula chloropus)	44	09/03/2019	Birds of Ireland	
Custom	bird	Common Pheasant (Phasianus colchicus)	37	20/03/2015	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Common Pochard (Aythya ferina)	5	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Quail (Coturnix coturnix)	2	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Common Raven (Corvus corax)	15	31/12/2011	Bird Atlas 2007 - 2011	

Custom	bird	Common Redshank (Tringa totanus)	4	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Common Sandpiper (Actitis hypoleucos)	3	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Shelduck (Tadorna tadorna)	2	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Snipe (Gallinago gallinago)	19	17/01/2015	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Starling (Sturnus vulgaris)	45	19/01/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Custom	bird	Common Swift (Apus apus)	24	07/05/2021	Swifts of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Whitethroat (Sylvia communis)	8	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Common Wood Pigeon (Columba palumbus)	49	17/11/2018	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Corn Crake (Crex crex)	6	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Dunlin (Calidris alpina)	1	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Eurasian Collared Dove (Streptopelia decaocto)	30	04/04/2021	Birds of Ireland	

Custom	bird	Eurasian Curlew (Numenius arquata)	12	06/04/2019	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Eurasian Jackdaw (Corvus monedula)	47	19/01/2019	Birds of Ireland	
Custom	bird	Eurasian Jay (Garrulus glandarius)	14	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Eurasian Siskin (Carduelis spinus)	12	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Eurasian Sparrowhawk (Accipiter nisus)	27	14/03/2021	Birds of Ireland	
Custom	bird	Eurasian Teal (Anas crecca)	10	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Eurasian Tree Sparrow (Passer montanus)	11	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Eurasian Treecreeper (Certhia familiaris)	25	04/04/2021	Birds of Ireland	

Custom	bird	Eurasian Wigeon (Anas penelope)	4	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Eurasian Woodcock (Scolopax rusticola)	7	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	European Golden Plover (Pluvialis apricaria)	7	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List

Custom	bird	European Goldfinch (Carduelis carduelis)	39	04/04/2021	Birds of Ireland	
Custom	bird	European Greenfinch (Carduelis chloris)	44	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	European Honey-buzzard (Pernis apivorus)	1	31/12/1881	Rare birds of Ireland	
Custom	bird	European Robin (Erithacus rubecula)	52	04/04/2021	Birds of Ireland	
Custom	bird	Fieldfare (Turdus pilaris)	12	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Goldcrest (Regulus regulus)	40	04/04/2021	Birds of Ireland	
Custom	bird	Great Black-backed Gull (Larus marinus)	2	29/02/1984	The First Atlas of Wintering Birds in Britain and Ireland: 1981/82-1983/84.	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Great Cormorant (Phalacrocorax carbo)	7	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Great Crested Grebe (Podiceps cristatus)	6	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Great Northern Diver (Gavia immer)	1	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species
Custom	bird	Great Snipe (Gallinago media)	1	31/12/1827	Rare birds of Ireland	
Custom	bird	Great Tit (Parus major)	48	04/04/2021	Birds of Ireland	

Custom	bird	Greater White-fronted Goose (Anser albifrons)	2	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Green Sandpiper (Tringa ochropus)	4	19/01/2016	Birds of Ireland	
Custom	bird	Greenland White-fronted Goose (Anser albifrons subsp. flavirostris)	1	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Grey Heron (Ardea cinerea)	37	21/02/2020	Birds of Ireland	
Custom	bird	Grey Partridge (Perdix perdix)	1	29/02/1984	The First Atlas of Wintering Birds in Britain and Ireland: 1981/82-1983/84.	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Grey Wagtail (Motacilla cinerea)	30	31/12/2011	Bird Atlas 2007 - 2011	

Custom	bird	Greylag Goose (Anser anser)	3	31/12/2011	Bird Atlas 2007 - 2011	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Hawfinch (Coccothraustes coccothraustes)	1	20/07/1894	Rare birds of Ireland	
Custom	bird	Hedge Accentor (Prunella modularis)	42	19/01/2019	Birds of Ireland	
Custom	bird	Hen Harrier (Circus cyaneus)	2	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Herring Gull (Larus argentatus)	8	13/05/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Hooded Crow (Corvus cornix)	41	09/03/2019	Birds of Ireland	

Custom	bird	House Martin (Delichon urbicum)	25	28/07/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	House Sparrow (Passer domesticus)	37	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Jack Snipe (Lymnocryptes minimus)	3	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species
Custom	bird	Lesser Black-backed Gull (Larus fuscus)	12	17/11/2018	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Lesser Redpoll (Carduelis cabaret)	30	04/04/2021	Birds of Ireland	
Custom	bird	Little Egret (Egretta garzetta)	6	17/01/2015	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species
Custom	bird	Little Grebe (Tachybaptus ruficollis)	34	31/12/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Long-eared Owl (Asio otus)	14	07/06/2021	Birds of Ireland	

Custom	bird	Long-tailed Tit (Aegithalos caudatus)	30	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Mallard (Anas platyrhynchos)	48	07/06/2021	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Meadow Pipit (Anthus pratensis)	27	20/03/2015	Birds of Ireland	
Custom	bird	Merlin (Falco columbarius)	2	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Mew Gull (Larus canus)	4	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Mistle Thrush (Turdus viscivorus)	41	04/04/2021	Birds of Ireland	
Custom	bird	Mute Swan (Cygnus olor)	52	13/05/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Custom	bird	Northern Lapwing (Vanellus vanellus)	20	15/03/2016	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Northern Shoveler (Anas clypeata)	1	29/02/1984	The First Atlas of Wintering Birds in Britain and Ireland: 1981/82-1983/84.	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Northern Wheatear (Oenanthe oenanthe)	2	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Peregrine Falcon (Falco peregrinus)	5	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species
Custom	bird	Pied Wagtail (Motacilla alba subsp. yarrellii)	2	19/01/2019	Birds of Ireland	

Custom	bird	Red Grouse (Lagopus lagopus)	2	29/02/1984	The First Atlas of Wintering Birds in Britain and Ireland: 1981/82-1983/84.	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	bird	Red Kite (Milvus milvus)	1	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Red-legged Partridge (Alectoris rufa)	2	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Redwing (Turdus iliacus)	14	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Reed Bunting (Emberiza schoeniclus)	26	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Ringed Plover (Charadrius hiaticula)	2	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Rock Pigeon (Columba livia)	22	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species
Custom	bird	Rook (Corvus frugilegus)	47	17/11/2018	Birds of Ireland	

Custom	bird	Sand Martin (Riparia riparia)	18	24/06/2017	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Sedge Warbler (Acrocephalus schoenobaenus)	12	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	Short-eared Owl (Asio flammeus)	1	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Sky Lark (Alauda arvensis)	23	20/03/2015	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Song Thrush (Turdus philomelos)	45	04/04/2021	Birds of Ireland	
Custom	bird	Spotted Flycatcher (Muscicapa striata)	17	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Stock Pigeon (Columba oenas)	16	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Stonechat (Saxicola torquata)	10	31/12/2011	Bird Atlas 2007 - 2011	

Custom	bird	Tufted Duck (Aythya fuligula)	15	13/04/2018	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Water Rail (Rallus aquaticus)	8	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Whinchat (Saxicola rubetra)	4	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	White Wagtail (Motacilla alba)	40	31/12/2011	Bird Atlas 2007 - 2011	
Custom	bird	White-throated Dipper (Cinclus cinclus)	15	21/07/2020	Birds of Ireland	
Custom	bird	Whooper Swan (Cygnus cygnus)	4	31/12/2011	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Willow Warbler (Phylloscopus trochilus)	27	07/08/2015	Birds of Ireland	

Custom	bird	Winter Wren (Troglodytes troglodytes)	49	17/11/2018	Birds of Ireland	
Custom	bird	Yellowhammer (Emberiza citrinella)	38	16/06/2021	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Custom	crustacean	Asellus	1	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Asellus aquaticus	2	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Crangonyx	1	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	crustacean	Freshwater White-clawed Crayfish (Austropotamobius pallipes)	10	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
Custom	crustacean	Gammarus	2	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	fern	Hart's-tongue (Phyllitis scolopendrium)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	fern	Maidenhair Spleenwort (Asplenium trichomanes)	1	15/06/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flatworm (Turbellaria)	flatworms (Tricladida)	1	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	flowering plant	Alder (Alnus glutinosa)	7	15/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Altar-lily (Zantedeschia aethiopica)	1	07/08/2013	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	American Willowherb (Epilobium ciliatum)	3	31/12/2010	BSBI tetrad data for Ireland	

Custom	flowering plant	American Winter-cress (Barbarea verna)	1	31/12/1905	Irish Crop Wild Relative Database	
Custom	flowering plant	Amphibious Bistort (Persicaria amphibia)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Annual Meadow-grass (Poa annua)	2	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Annual Mercury (Mercurialis annua)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Annual Wall-rocket (Diplotaxis muralis)	1	31/12/1904	Irish Crop Wild Relative Database	
Custom	flowering plant	Apple-of-Peru (Nicandra physalodes)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Arctium minus agg.	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Argentinian Vervain (Verbena bonariensis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Arrowhead (Sagittaria sagittifolia)	4	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Ash (Fraxinus excelsior)	3	12/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Atlantic Ivy (Hedera hibernica)	1	09/01/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Autumn Hawkbit (Leontodon autumnalis)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Bastard Cabbage (Rapistrum rugosum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Beaked Hawk's-beard (Crepis vesicaria)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bearded Couch (Elymus caninus)	3	31/12/1905	Irish Crop Wild Relative Database	
Custom	flowering plant	Bee Orchid (Ophrys apifera)	3	21/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Beech (Fagus sylvatica)	2	01/05/2007	River Biologists' Database (EPA)	
Custom	flowering plant	Biting Stonecrop (Sedum acre)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bittersweet (Solanum dulcamara)	2	27/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Black Medick (Medicago lupulina)	3	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Black Mustard (Brassica nigra)	4	31/12/1904	Irish Crop Wild Relative Database	
Custom	flowering plant	Black Nightshade (Solanum nigrum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Black-bindweed (Fallopia convolvulus)	1	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Black-poplar (Populus nigra)	1	31/12/1999	BSBI tetrad data for Ireland	
Custom	flowering plant	Blackthorn (Prunus spinosa)	5	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Blue Water-speedwell (Veronica anagallis-aquatica)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bluebell (Hyacinthoides non-scripta)	1	21/05/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bogbean (Menyanthes trifoliata)	1	14/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Borage (Borago officinalis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bramble (Rubus fruticosus agg.)	7	21/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Branched Bur-reed (Sparganium erectum)	2	02/05/2007	River Biologists' Database (EPA)	
Custom	flowering plant	Broad-leaved Dock (Rumex obtusifolius)	7	15/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Broad-leaved Pondweed (Potamogeton natans)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Brooklime (Veronica beccabunga)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Buckwheat (Fagopyrum esculentum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bulrush (Typha latifolia)	2	09/01/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Burnet-saxifrage (Pimpinella saxifraga)	1	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Bush Vetch (Vicia sepium)	8	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Butterbur (Petasites hybridus)	5	17/03/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Butterfly-bush (Buddleja davidii)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Canadian Goldenrod (Solidago canadensis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Canadian Waterweed (Elodea canadensis)	5	31/12/2010	BSBI tetrad data for Ireland	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	flowering plant	Canary-grass (Phalaris canariensis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Caper Spurge (Euphorbia lathyris)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cat's-ear (Hypochaeris radicata)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Celery-leaved Buttercup (Ranunculus sceleratus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Charlock (Sinapis arvensis)	2	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cherry Laurel (Prunus laurocerasus)	1	05/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
Custom	flowering plant	Cleavers (Galium aparine)	4	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Clustered Dock (Rumex conglomeratus)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Cock's-foot (Dactylis glomerata)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cockspur (Echinochloa crus-galli)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Coltsfoot (Tussilago farfara)	3	06/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Bent (Agrostis capillaris)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Bird's-foot-trefoil (Lotus corniculatus)	5	09/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Centaury (Centaurium erythraea)	2	11/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Chickweed (Stellaria media)	4	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Club-rush (Schoenoplectus lacustris)	1	02/05/2007	River Biologists' Database (EPA)	
Custom	flowering plant	Common Cottongrass (Eriophorum angustifolium)	1	06/04/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Couch (Elytrigia repens)	2	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Dog-violet (Viola riviniana)	4	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Duckweed (Lemna minor)	5	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Common Evening-primrose (Oenothera biennis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Field-speedwell (Veronica persica)	4	19/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Knapweed (Centaurea nigra)	4	16/07/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Mallow (Malva sylvestris)	3	06/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Mouse-ear (Cerastium fontanum)	4	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Nettle (Urtica dioica)	10	24/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Common Orache (Atriplex patula)	2	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Poppy (Papaver rhoeas)	7	06/09/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Ragwort (Senecio jacobaea)	7	16/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Ramping-fumitory (Fumaria muralis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Reed (Phragmites australis)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Restharrow (Ononis repens)	1	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Spotted-orchid (Dactylorhiza fuchsii)	5	14/07/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Common Valerian (Valeriana officinalis)	5	15/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cow Parsley (Anthriscus sylvestris)	6	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cowslip (Primula veris)	9	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Crab Apple (Malus sylvestris)	2	20/08/2009	Heritage Trees of Ireland	
Custom	flowering plant	Crack-willow (Salix fragilis)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Creeping Bent (Agrostis stolonifera)	3	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Creeping Buttercup (Ranunculus repens)	7	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Creeping Cinquefoil (Potentilla reptans)	4	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Creeping Thistle (Cirsium arvense)	4	16/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Crested Dog's-tail (Cynosurus cristatus)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cuckooflower (Cardamine pratensis)	8	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Curled Dock (Rumex crispus)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Curly Waterweed (Lagarosiphon major)	1	31/12/1987	National Invasive Species Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)

Custom	flowering plant	Cut-leaved Crane's-bill (Geranium dissectum)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Cut-leaved Dead-nettle (Lamium hybridum)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Dahlia pinnata	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Daisy (Bellis perennis)	7	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Dipsacus fullonum sensu lato	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Dog-rose (Rosa canina)	6	10/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Druce's Crane's-bill (Geranium endressii x versicolor = G. x oxonianum)	1	25/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Elder (Sambucus nigra)	4	09/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Epilobium montanum x ciliatum = E. x interjectum	1	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	False Oat-grass (Arrhenatherum elatius)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	False-brome (Brachypodium sylvaticum)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Fat-hen (Chenopodium album)	2	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Fennel (Foeniculum vulgare)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Fern-grass (Catapodium rigidum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Festuca rubra agg.	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Feverfew (Tanacetum parthenium)	3	28/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Field Forget-me-not (Myosotis arvensis)	1	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Field Pepperwort (Lepidium campestre)	2	31/12/1904	Irish Crop Wild Relative Database	
Custom	flowering plant	Field Scabious (Knautia arvensis)	2	30/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Floating Sweet-grass (Glyceria fluitans)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Flowering Currant (Ribes sanguineum)	1	04/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Fool's-water-cress (Apium nodiflorum)	4	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Foxglove (Digitalis purpurea)	1	25/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Garlic Mustard (Alliaria petiolata)	1	30/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Germander Speedwell (Veronica chamaedrys)	7	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Giant Viper's-bugloss (Echium pininana)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Glaucous Sedge (Carex flacca)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Gold-of-pleasure (Camelina sativa)	1	31/12/1905	Irish Crop Wild Relative Database	
Custom	flowering plant	Gorse (Ulex europaeus)	5	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Great Millet (Sorghum bicolor)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Great Willowherb (Epilobium hirsutum)	6	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Greater Periwinkle (Vinca major)	1	04/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Greater Plantain (Plantago major)	3	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Greater Pond-sedge (Carex riparia)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Grey Alder (Alnus incana)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ground-elder (Aegopodium podagraria)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Ground-ivy (Glechoma hederacea)	2	06/04/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Groundsel (Senecio vulgaris)	6	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Guelder-rose (Viburnum opulus)	2	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Guernsey Fleabane (Conyza sumatrensis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hairy Bitter-cress (Cardamine hirsuta)	1	01/07/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hairy-brome (Bromopsis ramosa)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hard Rush (Juncus inflexus)	5	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hawthorn (Crataegus monogyna)	7	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hedge Bindweed (Calystegia sepium)	3	09/07/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hedge Mustard (Sisymbrium officinale)	2	16/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hedgerow Crane's-bill (Geranium pyrenaicum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hemlock Water-dropwort (Oenanthe crocata)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hemp-agrimony (Eupatorium cannabinum)	2	19/08/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Herb-Robert (Geranium robertianum)	9	24/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Himalayan Honeysuckle (Leycesteria formosa)	1	03/03/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Hoary Ragwort (Senecio erucifolius)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hoary Willowherb (Epilobium parviflorum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hogweed (Heracleum sphondylium)	6	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Holly (Ilex aquifolium)	1	16/01/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hollyhock (Alcea rosea)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Honeysuckle (Lonicera periclymenum)	1	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hop (Humulus lupulus)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Horse-chestnut (Aesculus hippocastanum)	2	24/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Hybrid Black-poplar (Populus nigra x deltoides = P. x canadensis)	1	05/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ivy (Hedera helix)	2	26/04/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ivy-leaved Duckweed (Lemna trisulca)	4	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Ivy-leaved Toadflax (Cymbalaria muralis)	5	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Japanese Knotweed (Fallopia japonica)	6	04/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	flowering plant	Kangaroo-apple (Solanum laciniatum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Knotgrass (Polygonum aviculare)	2	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lady's Bedstraw (Galium verum)	2	30/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lamiastrum galeobdolon subsp. argentatum	1	30/04/2014	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Large Bindweed (Calystegia silvatica)	2	06/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Lesser Celandine (Ranunculus ficaria)	20	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Hawkbit (Leontodon saxatilis)	1	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Pond-sedge (Carex acutiformis)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Stitchwort (Stellaria graminea)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Swine-cress (Coronopus didymus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Trefoil (Trifolium dubium)	1	05/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lesser Water-parsnip (Berula erecta)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Lungwort (Pulmonaria officinalis)	2	21/02/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Malus sylvestris sens.lat.	1	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Mare's-tail (Hippuris vulgaris)	3	27/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Marsh Thistle (Cirsium palustre)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Marsh Woundwort (Stachys palustris)	3	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Marsh-bedstraw (Galium palustre)	1	05/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Meadow Buttercup (Ranunculus acris)	2	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Meadow Foxtail (Alopecurus pratensis)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Meadow Vetchling (Lathyrus pratensis)	3	21/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Meadowsweet (Filipendula ulmaria)	5	16/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Mind-your-own-business (Soleirolia soleirolii)	1	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Mistletoe (Viscum album)	1	25/04/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Montbretia (Crocosmia pottsii x aurea = C. x crocosmiiflora)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Mugwort (Artemisia vulgaris)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Musk-mallow (Malva moschata)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Nasturtium (Tropaeolum majus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Nipplewort (Lapsana communis)	2	14/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Nuttall's Waterweed (Elodea nuttallii)	2	31/12/2010	BSBI tetrad data for Ireland	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	flowering plant	Oat (Avena sativa)	2	27/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Opium Poppy (Papaver somniferum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Opposite-leaved Golden-saxifrage (Chrysosplenium oppositifolium)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Orange-peel Clematis (Clematis tangutica)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Osier (Salix viminalis)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Oxeye Daisy (Leucanthemum vulgare)	6	17/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Pale Persicaria (Persicaria lapathifolia)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Papaver dubium	1	06/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Pendulous Sedge (Carex pendula)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Perennial Rye-grass (Lolium perenne)	3	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Perennial Wall-rocket (Diplotaxis tenuifolia)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Perforate St John's-wort (Hypericum perforatum)	4	18/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Pineappleweed (Matricaria discoidea)	2	13/10/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Populus nigra subsp. betulifolia	1	31/12/1999	BSBI tetrad data for Ireland	
Custom	flowering plant	Pot Marigold (Calendula officinalis)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Potato (Solanum tuberosum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Prickly Lettuce (Lactuca serriola)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Primrose (Primula vulgaris)	12	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Purple Moor-grass (Molinia caerulea)	1	11/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Purple Toadflax (Linaria purpurea)	2	10/07/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Purple-loosestrife (Lythrum salicaria)	1	05/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Pyramidal Orchid (Anacamptis pyramidalis)	8	21/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ragged-Robin (Lychnis flos-cuculi)	1	03/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ramsons (Allium ursinum)	1	27/04/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Raspberry (Rubus idaeus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Bartsia (Odontites vernus)	3	11/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Campion (Silene dioica)	2	30/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Clover (Trifolium pratense)	5	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Dead-nettle (Lamium purpureum)	3	03/03/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Goosefoot (Chenopodium rubrum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red Valerian (Centranthus ruber)	4	17/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Red-osier Dogwood (Cornus sericea)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Redshank (Persicaria maculosa)	3	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Reed Canary-grass (Phalaris arundinacea)	4	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Reed Sweet-grass (Glyceria maxima)	4	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Remote Sedge (Carex remota)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Ribwort Plantain (Plantago lanceolata)	5	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Rigid Hornwort (Ceratophyllum demersum)	4	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Rosa canina agg.	1	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Rosebay Willowherb (Chamerion angustifolium)	3	06/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Rough Meadow-grass (Poa trivialis)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Rumex sanguineus	4	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Salix cinerea	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Scarlet Pimpernel (Anagallis arvensis)	2	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Scentless Mayweed (Tripleurospermum inodorum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Selfheal (Prunella vulgaris)	4	14/07/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Shepherd's-purse (Capsella bursa-pastoris)	1	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Shining Pondweed (Potamogeton lucens)	4	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Silverweed (Potentilla anserina)	1	27/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Smooth Hawk's-beard (Crepis capillaris)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Smooth Sow-thistle (Sonchus oleraceus)	3	17/09/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Snapdragon (Antirrhinum majus)	2	01/08/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Snowberry (Symphoricarpos albus)	7	30/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Soft-rush (Juncus effusus)	2	05/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Spear Thistle (Cirsium vulgare)	4	26/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Spear-leaved Orache (Atriplex prostrata)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Spiked Sedge (Carex spicata)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Spiked Water-milfoil (Myriophyllum spicatum)	5	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Sunflower (Helianthus annuus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Sweet Vernal-grass (Anthoxanthum odoratum)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Sycamore (Acer pseudoplatanus)	2	05/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	flowering plant	Tall Fescue (Festuca arundinacea)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Tall Melilot (Melilotus altissimus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Tall Rocket (Sisymbrium altissimum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Taraxacum aggregate	10	23/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Thyme-leaved Speedwell (Veronica serpyllifolia)	3	17/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Timothy (Phleum pratense)	2	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Tomato (Lycopersicon esculentum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Tufted Hair-grass (Deschampsia cespitosa)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Tufted Vetch (Vicia cracca)	5	15/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Twiggy Mullein (Verbascum virgatum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Unbranched Bur-reed (Sparganium emersum)	5	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Urtica dioica subsp. dioica	1	15/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Vicia sativa	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Viper's-bugloss (Echium vulgare)	3	15/06/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wall Barley (Hordeum murinum)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Water Figwort (Scrophularia auriculata)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Water Mint (Mentha aquatica)	2	11/08/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Water-cress (Rorippa nasturtium-aquaticum)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Water-plantain (Alisma plantago-aquatica)	2	13/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wavy Bitter-cress (Cardamine flexuosa)	1	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	White Clover (Trifolium repens)	5	15/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	White Dead-nettle (Lamium album)	1	30/04/2014	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	White Poplar (Populus alba)	1	27/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	White Willow (Salix alba)	1	31/01/2007	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Whorled Water-milfoil (Myriophyllum verticillatum)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Wild Angelica (Angelica sylvestris)	2	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wild Carrot (Daucus carota subsp. carota)	2	31/12/2010	BSBI tetrad data for Ireland	
Custom	flowering plant	Wild Carrot (Daucus carota)	3	31/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wild Marjoram (Origanum vulgare)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wild Privet (Ligustrum vulgare)	2	15/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wild Radish (Raphanus raphanistrum subsp. raphanistrum)	1	31/12/1898	Irish Crop Wild Relative Database	
Custom	flowering plant	Wild Strawberry (Fragaria vesca)	1	25/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	

Custom	flowering plant	Winter Heliotrope (Petasites fragrans)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wood Avens (Geum urbanum)	1	25/08/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Wood-sorrel (Oxalis acetosella)	1	09/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yarrow (Achillea millefolium)	4	06/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yellow Iris (Iris pseudacorus)	7	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yellow Water-lily (Nuphar lutea)	5	07/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yellow-rattle (Rhinanthus minor)	2	03/07/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	flowering plant	Yorkshire-fog (Holcus lanatus)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	fungus	Pestle Puffball (Handkea excipuliformis)	1	31/12/1988	Fungal Records for Ireland	
Custom	fungus	Stinkhorn (Phallus impudicus var. impudicus)	1	31/08/1986	Fungal Records for Ireland	
Custom	fungus	Stump Puffball (Lycoperdon pyriforme)	2	31/12/1988	Fungal Records for Ireland	
Custom	horsetail	Field Horsetail (Equisetum arvense)	4	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	horsetail	Great Horsetail (Equisetum telmateia)	1	30/09/2011	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	
Custom	insect - beetle (Coleoptera)	14-spot Ladybird (Propylea quattuordecimpunctata)	3	09/09/2021	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	22-spot Ladybird (Psyllobora vigintiduopunctata)	2	20/04/2022	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	2-spot Ladybird (Adalia bipunctata)	1	06/09/2021	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	7-spot Ladybird (Coccinella septempunctata)	12	29/05/2022	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	Cream-spot Ladybird (Calvia quattuordecimguttata)	1	18/07/2021	Ladybirds of Ireland	
Custom	insect - beetle (Coleoptera)	Elmidae	1	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - beetle (Coleoptera)	Elmis aenea	6	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - beetle (Coleoptera)	Glischrochilus (Librodor) hortensis	1	05/05/1935	Saproxylic Beetles of Ireland	

Custom	insect - beetle (Coleoptera)	Gyrinidae	1	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - beetle (Coleoptera)	Leperisinus varius	1	13/09/1942	Saproxylic Beetles of Ireland	
Custom	insect - beetle (Coleoptera)	Lily Beetle (Lilioceris lilii)	1	18/04/2019	National Invasive Species Database	
Custom	insect - butterfly	Brimstone (Gonepteryx rhamni)	3	31/12/1976	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	
Custom	insect - butterfly	Clouded Yellow (Colias croceus)	1	03/08/1975	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	
Custom	insect - butterfly	Common Blue (Polyommatus icarus)	4	03/08/2018	Butterflies of Ireland	
Custom	insect - butterfly	Dark Green Fritillary (Argynnis aglaja)	2	31/12/1978	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	Threatened Species: Vulnerable
Custom	insect - butterfly	Dingy Skipper (Erynnis tages)	4	31/12/1984	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	Threatened Species: Near threatened
Custom	insect - butterfly	Grayling (Hipparchia semele)	1	31/08/1974	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	Threatened Species: Near threatened
Custom	insect - butterfly	Green Hairstreak (Callophrys rubi)	2	31/12/1984	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	
Custom	insect - butterfly	Green-veined White (Pieris napi)	38	23/07/2021	Butterflies of Ireland	
Custom	insect - butterfly	Holly Blue (Celastrina argiolus)	31	26/08/2021	Butterflies of Ireland	
Custom	insect - butterfly	Large Heath (Coenonympha tullia)	2	31/12/1984	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	Threatened Species: Vulnerable
Custom	insect - butterfly	Large White (Pieris brassicae)	25	19/08/2021	Butterflies of Ireland	
Custom	insect - butterfly	Marsh Fritillary (Euphydryas aurinia)	22	31/12/2010	All Ireland Marsh Fritillary Database	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Threatened Species: Vulnerable
Custom	insect - butterfly	Meadow Brown (Maniola jurtina)	22	23/07/2021	Butterflies of Ireland	
Custom	insect - butterfly	Orange-tip (Anthocharis cardamines)	17	08/05/2021	Butterflies of Ireland	
Custom	insect - butterfly	Painted Lady (Vanessa cardui)	12	26/08/2019	Butterflies of Ireland	
Custom	insect - butterfly	Peacock (Inachis io)	25	26/08/2021	Butterflies of Ireland	
Custom	insect - butterfly	Red Admiral (Vanessa atalanta)	35	04/10/2021	Butterflies of Ireland	
Custom	insect - butterfly	Ringlet (Aphantopus hyperantus)	13	23/06/2021	Butterflies of Ireland	
Custom	insect - butterfly	Silver-washed Fritillary (Argynnis paphia)	2	27/07/2018	Butterflies of Ireland	

Custom	insect - butterfly	Small Copper (Lycaena phlaeas)	4	31/12/1978	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	
Custom	insect - butterfly	Small Heath (Coenonympha pamphilus)	1	03/08/1975	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	Threatened Species: Near threatened
Custom	insect - butterfly	Small Tortoiseshell (Aglais urticae)	39	09/09/2021	Butterflies of Ireland	
Custom	insect - butterfly	Small White (Pieris rapae)	24	02/05/2021	Butterflies of Ireland	
Custom	insect - butterfly	Speckled Wood (Pararge aegeria)	29	19/09/2021	Butterflies of Ireland	
Custom	insect - butterfly	Wall (Lasiommata megera)	5	31/12/1984	Distribution Atlas of Butterflies in Ireland 1979 (An Foras Forbartha)	Threatened Species: Endangered
Custom	Insect - butterfly	Wood White (Leptidea sp.)	6	02/05/2020	Butterflies of Ireland	
Custom	insect - caddis fly (Trichoptera)	Glossosomatidae	2	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Goeridae	1	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Hydropsyche	3	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Hydropsychidae	2	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Hydroptilidae	1	01/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Lepidostomatidae	2	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Leptoceridae	1	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Limnephilidae	1	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Limnephilus lunatus	1	31/12/2015	Caddisflies (Trichoptera) of Ireland	

Custom	insect - caddis fly (Trichoptera)	Polycentropodidae	2	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Polycentropus	1	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Rhyacophila	2	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Rhyacophilidae	2	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - caddis fly (Trichoptera)	Sericostoma	3	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - dragonfly (Odonata)	Azure Damselfly (Coenagrion puella)	3	13/07/2019	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Banded Demoiselle (Calopteryx splendens)	5	17/06/2021	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Beautiful Demoiselle (Calopteryx virgo)	1	17/06/2021	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Black Darter (Sympetrum danae)	1	30/09/1947	Dragonfly Ireland	
Custom	insect - dragonfly (Odonata)	Blue-tailed Damselfly (Ischnura elegans)	13	11/08/2020	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Brown Hawker (Aeshna grandis)	6	20/08/2019	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Common Blue Damselfly (Enallagma cyathigerum)	12	17/06/2021	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Common Darter (Sympetrum striolatum)	1	30/09/1947	Dragonfly Ireland	
Custom	insect - dragonfly (Odonata)	Common Hawker (Aeshna juncea)	7	22/07/2021	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Emerald Damselfly (Lestes sponsa)	3	05/07/2006	Dragonfly Ireland	
Custom	insect - dragonfly (Odonata)	Emperor Dragonfly (Anax imperator)	1	17/06/2021	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Four-spotted Chaser (Libellula quadrimaculata)	1	31/12/1972	Dragonfly Ireland	
Custom	insect - dragonfly (Odonata)	Hairy Dragonfly (Brachytron pratense)	4	06/05/2020	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Large Red Damselfly (Pyrrhosoma nymphula)	3	05/07/2006	Dragonfly Ireland	

Custom	insect - dragonfly (Odonata)	Lesser Emperor (Anax parthenope)	1	05/07/2006	Dragonfly Ireland	
Custom	insect - dragonfly (Odonata)	Migrant Hawker (Aeshna mixta)	7	23/08/2021	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Odonata	1	01/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - dragonfly (Odonata)	Ruddy Darter (Sympetrum sanguineum)	1	19/09/2019	Dragonfly Ireland 2019 to 2024	
Custom	insect - dragonfly (Odonata)	Variable Damselfly (Coenagrion pulchellum)	3	05/07/2006	Dragonfly Ireland	
Custom	insect - earwig (Dermaptera)	Common Earwig (Forficula auricularia)	1	19/08/2012	Grasshoppers, Crickets and Allied Insects (Orthoptera) of Ireland	
Custom	insect - flea (Siphonaptera)	a squirrel flea (Ceratophyllus (Monopsyllus) sciurorum subsp. sciurorum)	1	31/12/1996	Fleas (Siphonaptera) of Ireland	
Custom	insect - flea (Siphonaptera)	Ctenophthalmus	1	31/12/1996	Fleas (Siphonaptera) of Ireland	
Custom	insect - flea (Siphonaptera)	Ctenophthalmus (Ctenophthalmus) nobilis subsp. vulgaris	1	31/12/1996	Fleas (Siphonaptera) of Ireland	
Custom	insect - hymenopteran	Andrena (Andrena) praecox	1	13/04/1974	Bees of Ireland	Threatened Species: Vulnerable
Custom	insect - hymenopteran	Andrena (Melandrena) nigroaenea	1	21/04/1924	Bees of Ireland	Threatened Species: Vulnerable
Custom	insect - hymenopteran	Andrena (Micrandrena) subopaca	2	05/05/1935	Bees of Ireland	
Custom	insect - hymenopteran	Bombus (Bombus) lucorum	2	20/03/2020	Bees of Ireland	
Custom	insect - hymenopteran	Bombus (Bombus) terrestris	5	25/04/2020	Bees of Ireland	
Custom	insect - hymenopteran	Bombus lucorum agg.	4	09/06/2021	Bees of Ireland	
Custom	insect - hymenopteran	Common Carder Bee (Bombus (Thoracombus) pascuorum)	5	09/06/2021	Bees of Ireland	
Custom	insect - hymenopteran	Common Wasp (Vespula (Paravespula) vulgaris)	1	15/08/1926	Wasps of Ireland	
Custom	insect - hymenopteran	Early Bumble Bee (Bombus (Pyrobombus) pratorum)	1	11/06/2021	Bees of Ireland	
Custom	insect - hymenopteran	Early Mining Bee (Andrena (Trachandrena) haemorrhoa)	5	06/05/2019	Bees of Ireland	
Custom	insect - hymenopteran	Honey Bee (Apis mellifera)	3	02/08/2020	Bees of Ireland	
Custom	insect - hymenopteran	Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)	4	09/06/2021	Bees of Ireland	Threatened Species: Near threatened
Custom	insect - hymenopteran	Megachile (Megachile) centuncularis	1	15/07/2020	Bees of Ireland	Threatened Species: Near threatened
Custom	insect - hymenopteran	Priocnemis (Priocnemis) exaltata	1	23/08/1939	Spider-Hunting Wasps of Ireland	
Custom	insect - hymenopteran	Slender Mining Bee (Lasioglossum (Evylaeus) calceatum)	1	15/08/1926	Bees of Ireland	
Custom	insect - hymenopteran	Sphecodes ephippius	1	28/04/1935	Bees of Ireland	

Custom	insect - hymenopteran	Sphecodes hyalinatus	1	28/04/1935	Bees of Ireland	Threatened Species: Vulnerable
Custom	insect - lacewing (Neuroptera)	Hemerobius nitidulus	1	04/08/1939	Lacewings (Neuroptera) of Ireland	
Custom	insect - louse (Phthiraptera)	Felicola (Suricatoecus) vulpis	1	11/02/1946	Lice (Phthiraptera) of Ireland	
Custom	insect - louse (Phthiraptera)	Trichodectes (Stachiella) ermineae	1	31/12/1987	Lice (Phthiraptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Alainites muticus	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Baetidae	1	20/04/2018	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Baetis	5	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Baetis rhodani	5	02/05/2007	River Biologists' Database (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Baetis scambus	4	01/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Caenis	2	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus	5	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus dispar	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus insignis	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus torrentis	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	Threatened Species: Data deficient
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus venosus	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Electrogena lateralis	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Ephemerella notata	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	Threatened Species: Endangered
Custom	insect - mayfly (Ephemeroptera)	Green Drake (Ephemera danica)	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Heptagenia	2	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	

Custom	insect - mayfly (Ephemeroptera)	Heptagenia sulphurea	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Heptageniidae	1	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Paraleptophlebia cincta	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Procloeon bifidum	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	Threatened Species: Vulnerable
Custom	insect - mayfly (Ephemeroptera)	Rhithrogena germanica	1	31/12/1947	Mayflies (Ephemeroptera) of Ireland	Threatened Species: Vulnerable
Custom	insect - mayfly (Ephemeroptera)	Serratella ignita	7	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Siphlonurus alternatus	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Siphlonurus lacustris	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - moth	Agapeta zoegana	1	31/12/1984	Moths Ireland	
Custom	insect - moth	Bordered White (Bupalus piniaria)	1	31/05/1896	Moths Ireland	
Custom	insect - moth	Cameraria ohridella	1	30/10/2020	Moths Ireland	
Custom	insect - moth	Cinnabar (Tyria jacobaeae)	4	19/07/2021	Moths Ireland	
Custom	insect - moth	Convolvulus Hawk-moth (Agrius convolvuli)	1	30/08/1945	Moths Ireland	
Custom	insect - moth	Dark Sword-grass (Agrotis ipsilon)	1	31/12/1985	Moths Ireland	
Custom	insect - moth	Elephant Hawk-moth (Deilephila elpenor)	2	15/08/2020	Moths Ireland	
Custom	insect - moth	Garden Carpet (Xanthorhoe fluctuata)	2	15/06/2019	Moths Ireland	
Custom	insect - moth	Humming-bird Hawk-moth (Macroglossum stellatarum)	3	24/09/2014	Moths Ireland	
Custom	insect - moth	Large Yellow Underwing (Noctua pronuba)	1	21/07/2019	Moths Ireland	
Custom	insect - moth	Light Brown Apple Moth (Epiphyas postvittana)	2	14/09/2020	Moths Ireland	
Custom	insect - moth	Oak Eggar (Lasiocampa quercus)	1	22/07/2020	Moths Ireland	
Custom	insect - moth	Pale Pinion (Lithophane hepatica)	1	04/11/2020	Moths Ireland	
Custom	insect - moth	Pale Tussock (Calliteara pudibunda)	2	19/06/2021	Moths Ireland	
Custom	insect - moth	Shaded Broad-bar (Scotopteryx chenopodiata)	1	09/08/2020	Moths Ireland	
Custom	insect - moth	Silver Y (Autographa gamma)	1	23/09/2020	Moths Ireland	
Custom	insect - moth	Udea lutealis	1	26/08/2019	Moths Ireland	
Custom	insect - moth	White Ermine (Spilosoma lubricipeda)	1	28/05/2020	Moths Ireland	

Custom	insect - orthopteran	Common Green Grasshopper (Omocestus viridulus)	3	31/12/1964	Grasshoppers, Crickets and Allied Insects (Orthoptera) of Ireland	
Custom	insect - orthopteran	Field Grasshopper (Chorthippus brunneus)	1	31/12/1963	Grasshoppers, Crickets and Allied Insects (Orthoptera) of Ireland	
Custom	insect - stonefly (Plecoptera)	Amphinemura sulcicollis	1	07/07/2001	Stoneflies (Plecoptera) of Ireland	
Custom	insect - stonefly (Plecoptera)	Brachyptera risi	1	07/07/2001	Stoneflies (Plecoptera) of Ireland	
Custom	insect - stonefly (Plecoptera)	Diura bicaudata	1	07/07/2001	Stoneflies (Plecoptera) of Ireland	
Custom	insect - stonefly (Plecoptera)	Leuctra	2	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - stonefly (Plecoptera)	Leuctra inermis	2	07/07/2001	Stoneflies (Plecoptera) of Ireland	
Custom	insect - stonefly (Plecoptera)	Nemoura cinerea	1	07/07/2001	Stoneflies (Plecoptera) of Ireland	
Custom	insect - stonefly (Plecoptera)	Siphonoperla torrentium	1	07/07/2001	Stoneflies (Plecoptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Blepharidopterus angulatus	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Broad Damselbug (Nabis (Nabicula) flavomarginatus)	1	31/08/1926	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Common Green Capsid (Lygocoris (Lygocoris) pabulinus)	1	31/08/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Dark Green Apple Capsid (Orthotylus (Orthotylus) marginalis)	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Forget-me-not Shieldbug (Sehirus luctuosus)	1	09/05/1926	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Gerridae	1	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - true bug (Hemiptera)	Green Shieldbug (Palomena prasina)	3	29/09/2019	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Hawthorn Shieldbug (Acanthosoma haemorrhoidale)	4	26/08/2019	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Marsh Damselbug (Nabis (Dolichonabis) limbatus)	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Mecomma (Mecomma) ambulans	1	30/09/1919	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Orthocephalus saltator	1	15/08/1926	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Phytocoris (Phytocoris) tiliae	1	30/09/1928	True Bugs (Heteroptera) of Ireland	

Custom	insect - true bug (Hemiptera)	Pinalitus rubricatus	1	31/12/1935	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Pithanus maerkelii	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Plagiognathus (Plagiognathus) arbustorum	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Plagiognathus (Plagiognathus) chrysanthemi	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Potato Capsid (Closterotomus norwegicus)	1	30/09/1909	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Saldula orthochila	1	19/10/1927	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Sloe Shieldbug (Dolycoris baccarum)	2	26/08/2019	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Stenodema (Brachystira) calcarata	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Stenodema (Stenodema) laevigata	1	30/09/1928	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Stygnocoris sabulosus	1	31/08/1926	True Bugs (Heteroptera) of Ireland	
Custom	insect - true bug (Hemiptera)	Tetraphleps bicuspis	1	31/12/1935	True Bugs (Heteroptera) of Ireland	
Custom	insect - true fly (Diptera)	Anasimyia lineata	2	09/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Arctophila superbiens	1	11/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Ceratopogonidae	1	01/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Cheilosia albitarsis	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Cheilosia grossa	1	13/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Cheilosia pagana	2	13/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Cheilosia scutellata	1	02/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Cheilosia variabilis	1	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Cheilosia vernalis	1	13/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Chironomidae	6	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	

Custom	insect - true fly (Diptera)	Chironomus	1	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Chrysogaster solstitialis	2	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Dicranota	1	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Dictenidia bimaculata	1	11/08/1952	Craneflies of Ireland	
Custom	insect - true fly (Diptera)	Diptera larva (Diptera)	2	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Epistrophe grossulariae	2	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eristalinus sepulchralis	1	01/06/1971	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eristalis arbustorum	2	21/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eristalis horticola	1	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eristalis pertinax	3	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eristalis tenax	1	13/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eupeodes corollae	1	11/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Eupeodes latifasciatus	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Ferdinandea cuprea	1	09/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Helophilus hybridus	1	11/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Leucozona glaucia	1	11/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Leucozona laternaria	1	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Leucozona lucorum	1	01/06/1981	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Melangyna arctica	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Melangyna lasiophthalma	1	13/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Melangyna umbellatarum	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	

Custom	insect - true fly (Diptera)	Melanogaster hirtella	1	09/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	Insect - true fly (Diptera)	Meligramma cincta	1	09/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Meliscaeva cinctella	1	11/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Merodon equestris	2	01/07/1977	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Neoascia geniculata	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Neoascia meticulosa	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Neoascia podagrica	2	14/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Neoascia tenur	2	09/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Pipiza austriaca	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Pipiza noctiluca	2	11/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Platycheirus albimanus	3	21/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Platycheirus granditarsus	2	20/08/1952	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Platycheirus rosarum	2	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Scaeva pyrastri	1	05/07/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Simuliidae	5	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Sphegina elegans	1	11/08/1946	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Syritta pipiens	1	13/04/1974	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Tipulidae	1	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	insect - true fly (Diptera)	Tropidia scita	2	09/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Volucella pellucens	1	09/07/1950	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Xanthogramma citrofasciatum	1	24/04/1935	Hoverflies (Syrphidae) of Ireland	
Custom	insect - true fly (Diptera)	Xylota segnis	1	11/08/1952	Hoverflies (Syrphidae) of Ireland	

Custom	insect - true fly (Diptera)	Xylota sylvarum	1	04/06/1953	Hoverflies (Syrphidae) of Ireland	
Custom	liverwort	Chiloscyphus polyanthos	1	31/12/1979	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Common Crystalwort (Riccia sorocarpa)	2	31/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Common Frillwort (Fossombronia pusilla)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Crescent-cup Liverwort (Lunularia cruciata)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Dilated Scalewort (Frullania dilatata)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Endive Pellia (Pellia endiviifolia)	2	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Floating Crystalwort (Riccia fluitans)	2	30/09/1954	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Fringed Heartwort (Ricciocarpos natans)	6	31/12/1972	Bryophytes of Ireland	Threatened Species: Near threatened
Custom	liverwort	Glaucous Crystalwort (Riccia glauca)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	liverwort	Jungermannia	1	30/10/2011	Bryophytes of Ireland	
Custom	liverwort	Sea Scalewort (Frullania teneriffae)	1	31/03/1954	Bryophytes of Ireland	Threatened Species: Least concern
Custom	mollusc	Ancylus fluviatilis	1	19/07/2010	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Arion (Arion)	5	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Arion (Carinarion) circumscriptus	3	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Arion (Kobeltia)	6	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Blind Snail (Cecilioides (Cecilioides) acicula)	1	24/09/1977	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Brown Lipped Snail (Cepaea (Cepaea) nemoralis)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Budapest Slug (Tandonia budapestensis)	4	24/09/1977	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Carychium	1	31/12/1914	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Cellar Snail (Oxychilus (Oxychilus) cellarius)	7	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Chestnut Slug (Deroceras (Deroceras) panormitanum)	2	24/09/1977	All Ireland Non-Marine Molluscan Database	

Custom	mollusc	Clear Glass Snail (Aegopinella pura)	5	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Columella	4	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Columella aspera	2	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Common Bithynia (Bithynia (Bithynia) tentaculata)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Common Bladder Snail (Physa fontinalis)	7	24/01/2002	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Common Chrysalis Snail (Lauria (Lauria) cylindracea)	7	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Common Garden Snail (Cornu aspersum)	6	24/09/1977	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Common Whorl Snail (Vertigo (Vertigo) pygmaea)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	Threatened Species: Near threatened
Custom	mollusc	Crystal Snail (Vitrea crystallina)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Darparnaud's Glass Snail (Oxychilus (Oxychilus) draparnaudi)	1	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Desmoulin's Whorl Snail (Vertigo (Vertigo) moulinsiana)	7	31/12/1997	All Ireland Non-Marine Molluscan Database	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: Wildlife Acts || Threatened Species: Endangered
Custom	mollusc	Dusky Slug (Arion (Mesarion) subfuscus)	1	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Dwarf Pond Snail (Galba (Galba) truncatula)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Dwarf Snail (Punctum (Punctum) pygmaeum)	5	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Eccentric Grass Snail (Vallonia cf. excentrica)	4	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	English Chrysalis Snail (Leiostyla (Leiostyla) anglica)	2	31/12/1997	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Euconulus	3	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Euconulus (Euconulus) cf. alderi	1	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Flat Ramshorn (Hippeutis complanatus)	1	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Flat Valve Snail (Valvata (Valvata) cristata)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	

Custom	mollusc	Freshwater Nerite (Theodoxus (Theodoxus) fluviatilis)	6	15/08/2013	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Garlic Snail (Oxychilus (Oxychilus) alliarius)	4	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Giant Pea Shell (Pisidium amnicum)	1	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Glutinous Snail (Myxas glutinosa)	2	24/01/2002	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
Custom	mollusc	Great Grey Slug (Limax maximus)	3	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Great Pond Snail (Lymnaea (Lymnaea) stagnalis)	3	24/01/2002	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Great Ramshorn (Planorbarius corneus)	1	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Hairy Snail (Trochulus (Trochulus) hispidus)	8	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Heath Snail (Helicella itala)	3	24/09/1977	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Hedgehog Slug (Arion (Kobeltia) intermedius)	5	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Horny Orb Mussel (Sphaerium corneum)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Jenkins' Spire Snail (Potamopyrgus antipodarum)	9	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Keeled Ramshorn (Planorbis carinatus)	5	24/01/2002	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Keeled Slug (Tandonia sowerbyi)	1	01/04/1971	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Large Amber Snail (Succinea putris)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Leach's Bithynia (Bithynia (Codiella) leachii)	4	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Least Slippery Snail (Cochlicopa cf. lubricella)	3	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Lesser Bulin (Merdigera obscura)	1	24/09/1977	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
Custom	mollusc	Long-toothed Herald Snail (Carychium tridentatum)	5	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Lymnaea (Stagnicola)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	

Custom	mollusc	Margined Ramshorn (Planorbis planorbis)	1	31/12/1914	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Marsh Slug (Deroceras (Deroceras) laeve)	2	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Marsh Whorl Snail (Vertigo (Vertigo) antivertigo)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Milky Crystal Snail (Vitrea contracta)	6	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Moss Chrysalis Snail (Pupilla (Pupilla) muscorum)	4	24/09/1977	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
Custom	mollusc	Netted Slug (Deroceras (Deroceras) reticulatum)	7	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Pellucid Glass Snail (Vitrina pellucida)	7	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Pfeiffer's Amber Snail (Oxyloma (Oxyloma) elegans)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Pisidium	1	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network, 2007–2018 (EPA)	
Custom	mollusc	Pisidium casertanum	2	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Pisidium pseudosphaerium	1	31/12/1997	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
Custom	mollusc	Pisidium pulchellum	1	01/04/1971	All Ireland Non-Marine Molluscan Database	Threatened Species: Endangered
Custom	mollusc	Porous Pea Mussel (Pisidium obtusale)	3	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Prickly Snail (Acanthinula aculeata)	2	24/09/1977	All Ireland Non-Marine Molluscan Database	Threatened Species: Near threatened
Custom	mollusc	Rayed Glass Snail (Nesovitrea (Perpolita) hammonis)	3	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Red-crusted Pea Mussel (Pisidium personatum)	1	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Ribbed Grass Snail (Vallonia costata)	4	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Rock Snail (Pyramidula pusilla)	2	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Rosy Pea Shell (Pisidium milium)	3	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Rounded Snail (Discus (Gonyodiscus) rotundatus)	6	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Shining Pea Mussel (Pisidium nitidum)	3	01/04/1971	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Shiny Glass Snail (Zonitoides (Zonitoides) nitidus)	1	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Short-ended Pea Mussel (Pisidium subtruncatum)	3	01/04/1971	All Ireland Non-Marine Molluscan Database	

Custom	mollusc	Short-toothed Herald Snail (Carychium minimum)	3	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Silver Slug (Arion (Carinarion) silvaticus)	3	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Slippery Moss Snail (Cochlicopa cf. lubrica)	9	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Smooth Glass Snail (Aegopinella nitidula)	7	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Smooth Grass Snail (Vallonia pulchella)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Sphaeriidae	3	01/09/2016	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	mollusc	Sphaerium	1	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	mollusc	Strawberry Snail (Trochulus (Trochulus) striolatus)	7	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Striated Whorl Snail (Vertigo (Vertigo) substriata)	1	31/12/1914	All Ireland Non-Marine Molluscan Database	Threatened Species: Near threatened
Custom	mollusc	Tawny Glass Snail (Euconulus (Euconulus) cf. fulvus)	1	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Tree Slug (Lehmannia marginata)	2	24/09/1977	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Tree Snail (Balea (Balea) perversa)	1	24/09/1977	All Ireland Non-Marine Molluscan Database	Threatened Species: Vulnerable
Custom	mollusc	Twisted Ramshorn (Bathyomphalus contortus)	4	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Two-toothed Door Snail (Clausilia (Clausilia) bidentata)	8	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Valve Snail (Valvata (Cincinna) piscinalis)	3	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Vitrea	1	31/12/1914	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Wandering Snail (Radix balthica)	8	02/05/2007	A national macroinvertebrate dataset collected for the biomonitoring of Ireland's river network. 2007–2018 (EPA)	
Custom	mollusc	White Ramshorn (Gyraulus (Gyraulus) albus)	2	31/12/1997	All Ireland Non-Marine Molluscan Database	
Custom	mollusc	Wrinkled Snail (Candidula intersecta)	1	31/12/1997	All Ireland Non-Marine Molluscan Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	mollusc	Yellow Slug (Limacus flavus)	3	24/09/1977	All Ireland Non-Marine Molluscan Database	

Custom	moss	Bird's-claw Beard-moss (Barbula unguiculata)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Blunt Feather-moss (Homalia trichomanoides)	1	31/10/1937	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Brook-side Feather-moss (Amblystegium fluviatile)	2	06/10/2011	Bryophytes of Ireland	
Custom	moss	Bryum dichotomum	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Campylium stellatum var. protensum	1	31/07/1962	Bryophytes of Ireland	
Custom	moss	Clustered Feather-moss (Rhynchostegium confertum)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Common Cord-moss (Funaria hygrometrica)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Common Extinguisher-moss (Encalypta vulgaris)	1	30/04/1949	Bryophytes of Ireland	Threatened Species: Near threatened
Custom	moss	Common Feather-moss (Eurhynchium praelongum)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Common Pottia (Tortula truncata)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Creeping Feather-moss (Amblystegium serpens)	1	30/10/2011	Bryophytes of Ireland	
Custom	moss	Crimson-tuber Thread-moss (Bryum rubens)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Cuspidate Earth-moss (Tortula acaulon)	1	06/12/2002	Bryophytes of Ireland	
Custom	moss	Cylindric Ditrichum (Ditrichum cylindricum)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Delicate Tamarisk-moss (Thuidium delicatulum)	1	31/12/1979	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Donn's Grimmia (Grimmia donniana)	4	31/12/1991	Bryophytes of Ireland	Threatened Species: Near threatened
Custom	moss	Dwarf Swan-neck Moss (Campylopus pyriformis)	1	31/05/1953	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Elegant Silk-moss (Pseudotaxiphyllum elegans)	1	31/05/1953	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Ephemerum serratum var. minutissimum	2	31/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Fallacious Beard-moss (Didymodon fallax)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Fatfoot Pocket-moss (Fissidens crassipes)	2	01/09/2005	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Fern-leaved Hook-moss (Cratoneuron filicinum)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Field Forklet-moss (Dicranella staphylina)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Fine-leaved Marsh Feather-moss (Campyliadelphus elodes)	1	30/06/1953	Bryophytes of Ireland	Threatened Species: Near threatened
Custom	moss	Flat Neckera (Neckera complanata)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern

Custom	moss	Fountain Feather-moss (Amblystegium tenax)	1	31/08/1963	Bryophytes of Ireland	Threatened Species: Near threatened || Threatened Species: Least concern
Custom	moss	Giant Spear-moss (Calliergon giganteum)	1	30/06/1953	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Greater Water-moss (Fontinalis antipyretica)	1	06/10/2011	Bryophytes of Ireland	
Custom	moss	Green Mountain Fringe-moss (Racomitrium fasciculare)	1	30/04/1954	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Grey-cushioned Grimmia (Grimmia pulvinata)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Hooded Bristle-moss (Orthotrichum cupulatum)	1	31/05/1968	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Hooked Scorpion-moss (Scorpidium scorpioides)	1	31/07/1938	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Intermediate Screw-moss (Syntrichia intermedia)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Kneiff's Feather-moss (Leptodictyum riparium)	1	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Kneiff's Hook-moss (Drepanocladus aduncus)	1	11/12/1998	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Lateral Cryphaea (Cryphaea heteromalla)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Lesser Bird's-claw Beard-moss (Barbula convoluta)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Long-beaked Water Feather-moss (Rhynchostegium riparioides)	1	06/10/2011	Bryophytes of Ireland	
Custom	moss	Lyell's Bristle-moss (Orthotrichum lyellii)	1	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Many-fruited Leskea (Leskea polycarpa)	1	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Marsh Bryum (Bryum pseudotriquetrum)	2	06/10/2011	Bryophytes of Ireland	
Custom	moss	Marsh Thyme-moss (Plagiomnium ellipticum)	1	30/06/1967	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Olive Beard-moss (Didymodon tophaceus)	2	22/05/2010	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Pale Glaucous Thread-moss (Pohlia wahlenbergii)	1	30/09/1952	Bryophytes of Ireland	
Custom	moss	Pale-fruited Thread-moss (Pohlia annotina)	1	30/09/1954	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Palustriella commutata var. commutata	2	13/12/2010	Bryophytes of Ireland	
Custom	moss	Palustriella commutata var. falcata	2	13/12/2010	Bryophytes of Ireland	
Custom	moss	Pink-fruited Thread-moss (Pohlia melanodon)	1	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Pointed Spear-moss (Calliergonella cuspidata)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern

Custom	moss	Rambling Tail-moss (Anomodon viticulosus)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Red Beard-moss (Bryoerythrophyllum recurvirostrum)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Redshank (Ceratodon purpureus)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Rigid Beard-moss (Didymodon rigidulus)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	River Feather-moss (Brachythecium rivulare)	3	05/06/2010	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Rock Pocket-moss (Fissidens dubius)	1	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Rough-stalked Feather-moss (Brachythecium rutabulum)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Rusty Bog-moss (Sphagnum fuscum)	1	31/07/1956	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Silky Wall Feather-moss (Homalothecium sericeum)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Slender Stubble-moss (Gyroweisia tenuis)	1	17/08/1987	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Small Hairy Screw-moss (Syntrichia laevipila)	1	31/10/1937	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Smaller Lattice-moss (Cinclidotus fontinaloides)	1	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Spiral Extinguisher-moss (Encalypta streptocarpa)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Streaky Feather-moss (Brachythecium glareosum)	1	31/07/1938	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Swartz's Feather-moss (Oxyrrhynchium hians)	2	06/12/2002	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Taper-leaved Earth-moss (Pleuridium acuminatum)	1	17/03/1998	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Tender Feather-moss (Rhynchostegiella tenella)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Variable Forklet-moss (Dicranella varia)	2	13/12/2010	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Wall Feather-moss (Rhynchostegium murale)	1	31/07/1938	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Wall Screw-moss (Tortula muralis)	1	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Whitish Feather-moss (Brachythecium albicans)	1	31/08/1951	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Whorled Tufa-moss (Eucladium verticillatum)	1	06/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	moss	Wood Bristle-moss (Orthotrichum affine)	2	30/10/2011	Bryophytes of Ireland	Threatened Species: Least concern
Custom	spider (Araneae)	Steatoda nobilis	1	29/05/2020	Citizen Science Spider Records for Ireland	

Custom	spider (Araneae)	Woodlouse Spider (Dysdera crocata)	1	04/06/2018	Citizen Science Spider Records for Ireland	
Custom	terrestrial mammal	American Mink (Mustela vison)	7	24/08/2016	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	terrestrial mammal	Brown Long-eared Bat (Plecotus auritus)	1	19/09/2005	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	Brown Rat (Rattus norvegicus)	3	05/10/2012	Atlas of Mammals in Ireland 2010-2015	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	terrestrial mammal	Chinese Muntjac (Muntiacus reevesi)	1	31/12/2008	Deer of Ireland Database	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	terrestrial mammal	Daubenton's Bat (Myotis daubentonii)	29	26/08/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Custom	terrestrial mammal	Eastern Grey Squirrel (Sciurus carolinensis)	7	19/09/2015	Atlas of Mammals in Ireland 2010-2015	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	terrestrial mammal	Eurasian Badger (Meles meles)	13	15/08/2016	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Custom	terrestrial mammal	Eurasian Red Squirrel (Sciurus vulgaris)	1	31/12/1985	Mammal Recording Scheme 1970-1985 (An Foras Forbartha)	Protected Species: Wildlife Acts
Custom	terrestrial mammal	European Otter (Lutra lutra)	8	24/01/2017	Mammals of Ireland 2016-2025	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	European Rabbit (Oryctolagus cuniculus)	9	01/07/2015	Atlas of Mammals in Ireland 2010-2015	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	terrestrial mammal	Greater White-toothed Shrew (Crocidura russula)	12	12/05/2020	Mammals of Ireland 2016-2025	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species
Custom	terrestrial mammal	Hazel Dormouse (Muscardinus avellanarius)	9	08/10/2020	Mammals of Ireland 2016-2025	
Custom	terrestrial mammal	House Mouse (Mus musculus)	2	31/12/1985	Mammal Recording Scheme 1970-1985 (An Foras Forbartha)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species
Custom	terrestrial mammal	Irish Hare (Lepus timidus subsp. hibernicus)	2	21/05/2016	Mammals of Ireland 2016-2025	
Custom	terrestrial mammal	Irish Stoat (Mustela erminea subsp. hibernica)	1	31/12/1985	Mammal Recording Scheme 1970-1985 (An Foras Forbartha)	

Custom	terrestrial mammal	Lesser Noctule (Nyctalus leisleri)	3	11/06/2008	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	Natterer's Bat (Myotis nattereri)	1	19/09/2005	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	Pipistrelle (Pipistrellus pipistrellus sensu lato)	5	16/04/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	Red Deer (Cervus elaphus)	2	31/12/2008	Deer of Ireland Database	Protected Species: Wildlife Acts
Custom	terrestrial mammal	Red Fox (Vulpes vulpes)	20	22/05/2018	Mammals of Ireland 2016-2025	
Custom	terrestrial mammal	Sika Deer (Cervus nippon)	3	10/10/2015	Atlas of Mammals in Ireland 2010-2015	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts
Custom	terrestrial mammal	Soprano Pipistrelle (Pipistrellus pygmaeus)	2	11/06/2008	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Custom	terrestrial mammal	West European Hedgehog (Erinaceus europaeus)	51	13/06/2021	Hedgehogs of Ireland	Protected Species: Wildlife Acts

Appendix 5.2
Ecological Survey for Bats

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ECOLOGICAL SURVEY FOR BATS

HERBATA DATA CENTRE

NI 2615 - Ecology
Ecological Survey for Bats
F01
August 2023

www.rpsgroup.com

Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	For Issue	S. O'Hara	S. Lowry	J. McCrory	15.08.23

Approval for issue

James McCrory CEcol CEnv MCIEEM CBiol MRSB  2023-08-15

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Prepared for:

Herbata Ltd

Contents

Plates

Graphs

Figures

Appendices

1 INTRODUCTION

1.1 Introduction

RPS was commissioned by Herbata Ltd to undertake an Ecological Survey for Bats to inform an Environmental Impact Assessment Report (EIAR) for the proposed Herbata Data Centre, Jigginstown, Naas, County Dublin. A full description of the proposed development can be found in Chapter 4 Project Description of the accompanying EIAR.

1.2 Ecological Survey for Bats

The aim of the report is to provide a description of the bat survey methods used; to provide the detailed results of bat surveys; and to provide an interpretation of the results. The Ecological Survey for Bats is used to inform the Biodiversity Chapter of the EIAR, which identifies the impacts associated with the proposed development, evaluates the likely significance of effects on bats and applies the mitigation hierarchy to avoid, reduce or offset any significant negative effects on bats.

1.3 Legislation

All species of bats are European Protected Species (EPS) listed on Annex IV of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive"), the lesser horseshoe bat, are also listed on Annex II. The domestic legislation, the European Communities (Birds and Natural Habitats) Regulations 2011, (S.I. No. 477 of 2011) ("the Habitats Regulations"), which implements this Directive, combined with the Wildlife Acts 1976 to 2021, ensures that individual bats and their breeding sites and resting places are fully protected (Marnell et al. 2022).

1.4 Proposed Development

The proposed development would involve the construction of a large data centre on the site inclusive of the requirement for significant habitat clearance, and the delivery of significant areas of compensatory planting, SUDs features and other required infrastructure.

The location of the proposed development and the planning application boundary are illustrated in Figure 5.1 Site Location of the EIAR (see Volume III: Figures).

2 METHODOLOGY

2.1 Statement of Authority

The lead bat surveyor and author, Samuel O'Hara, is an Associate Ecologist with RPS and holds a BSc (Hons) in Ecology and has over eight years of experience in the field of ecology consultancy. Samuel has specialist training in bat survey, sound analysis and species identification, mitigation and compensation, and Lantra Tree Climbing and Arial Rescue. He holds a Natural England Class 1 Licence to survey known bat roosts (No. C191799). Samuel is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The assistant bat surveyor, Dave Welsh, is a Principal Ecologist with RPS and holds a BSc (Hons) in Marine Science, a MSc in Ecological Management and Conservation Biology with over seven years of experience in conservation and over eight years of experience in ecological consultancy. Dave has in-house training in bat ecology and bat survey and specialist training in sound analysis and species identification, mitigation and compensation; Bat Tree Habitat Key Tree-roost and Woodland Bat Survey; and Lantra Tree Climbing and Arial Rescue. Dave is a protected species licence holder, a former member of the Northern Ireland Bat Group (NIBG) and a former volunteer bat rescuer with bat handling experience. Dave is an associate member of the CIEEM.

The reviewer, Suzanne Lowry, is a Senior Associate of Ecology within RPS and holds a BSc (Hons) in Biological Sciences, a MSc in Environmental Management and has over 19 years of experience in the field of ecology and environmental consultancy. Suzanne is an experienced bat surveyor with specialist training in bat ecology, bat survey, sound analysis and species identification, mitigation and compensation. She is also responsible for in-house bat training. Suzanne is a protected species license holder and a former member and committee member of the Northern Ireland Bat Group (NIBG). Suzanne is an associate member of the CIEEM.

The information prepared and provided is true and accurate at the time of issue of this report and has been prepared and provided in accordance with the CIEEM Code of Professional Conduct (CIEEM 2019). We confirm that the professional judgement expressed herein is the true and bona fide opinion of our professional ecologists.

2.2 Preliminary Ecological Appraisal for Bats

A Preliminary Ecological Appraisal for Bats (PEAB) comprising of a desk study and site walkover has been completed for the proposed development.

Information from the National Biodiversity Data Centre (NBDC) was downloaded from Biodiversity Maps in October 2022. A species list of historical records was generated from a customised polygon within 1 km^2 of the site of the proposed development. The information gathered during the desk study is third party controlled data. RPS cannot guarantee its accuracy and cannot be held liable for any inaccuracies.

The aim of the site walkover was to observe, assess and record the potential suitability of the site of the proposed development to support bat roosting habitat, commuting habitat and/or foraging habitat. Habitat features were classified as negligible, low, moderate or high in accordance with Bat Conservation Trust (BCT) Good Practice Guidelines (Collins 2016).

2.3 Preliminary Roost Assessment of Structures

A Preliminary Roost Assessment (PRA) of structures within the site was carried out during daylight hours in October 2022 in accordance with Collins (2016). An external inspection survey of structures was undertaken from ground level to look for potential and actual bat entry/exit points, evidence of bat roosts and signs of bat related activity in order to determine the presence of bats or likely presence of bats.

2.4 Preliminary Roost Assessment of Trees

A Preliminary Roost Assessment (PRA) of trees was carried out during daylight hours in October 2022. A detailed external inspection of trees was undertaken from ground level to identify Potential Roost Features (PRFs) that could be used by roosting bats. Bats rely on the presence of disease and decay; damage; and associations in trees to provide suitable roosting habitat. These three forms of PRF result in the development of a variety of different features that can provide preferred roost sites for bat species (Andrews 2018 and Collins 2016).

- Disease and decay PRFs include woodpecker holes, squirrel holes, knot holes, pruning cuts, tear outs, wounds, cankers, compression forks and butt rots.
- Damage PRFs include lighting strikes, hazard beams, subsidence cracks, shearing cracks, transverse snaps, welds, lifting bark, desiccation fissures and frost cracks.
- Association PRFs include fluting and ivy with stem diameters in excess of 50 mm.

Trees were classified as having negligible, low, moderate or high suitability for roosting bats in accordance with the Bat Conservation Trust, Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition) (Collins 2016). The aim of the PRA is to determine if further Tree Climbing PRF Inspection Surveys are required.

2.5 Tree Climbing PRF Inspection Survey

A Tree Climbing PRF Inspection Survey was carried out by two suitability qualified bat surveyors using tree-climbing equipment, ladders, a torch and endoscope in May and July 2023. The aim of the survey was to allow closer inspection of PRFs identified during the ground level PRA of trees. The survey aims to look for evidence of bats including live or dead bats, droppings, staining, odour and/or other physical characteristics and where necessary to reclassify PRFs in accordance with Collins (2016). Survey results were compared with information and records from the *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals* (Andrews 2018) to aid in the classification and identification of PRFs.

2.6 Emergence/Re-Entry Surveys of Structures

Emergence/re-entry surveys of structures and trees were carried out to watch, listen and records bats exiting or entering potential roosts. The surveys were carried out by two surveyors between June and August 2023. The surveys were carried out when weather conditions were forecast to consist of temperatures >10 °C with little or no wind or precipitation. The dates, times & meteorological conditions of emergence/re-entry surveys of structures can be found below in Table 2.6.1.

Table 2.6.1: Dates, Times & Metrological Conditions of Emergence/Re-Entry Survey

Date	Structure Ref.	Sunset	Sunrise	Start Time	Finish Time	Temperature	Weather Conditions
12/06/23	S3 & S4	21:53	-	21:42	23:52	20-18°C	Light breeze, patchy cloud, dry
13/06/23	S1, S5 & S6	21:54	-	21:35	23:45	17-13°C	Calm, clear skies, dry
29/06.23	S3 & S4	21:57	-	21.55	23. 43	15-14°C	Calm, clear skies, dry
03/08/23	S2, T8, & T15	21.18	-	20.58	23.18	14-16°C	Light breeze, patchy cloud, dry
04/08/23	S1, S5 & S6	-	05.48	03.35	06.03	12-13°C	Light breeze, patchy cloud, occasional light rainfall

Night Vision Aids (NVAs) including Canon XA11 Compact Full HD Camcorders aided by two Nightfox XB5 850NM Infrared LED Flashlights per camcorder were used to record bats. Elekon Batlogger M bat detectors with real time full spectrum recording, an integrated Global Positioning System (GPS) and temperature logger were paired with each camcorder and used to record bat echolocation calls. A Pulsar Axion XM30S handheld thermal imaging monocular was also used by the bat surveyor as a complementary survey aid to provide additional data to the video and acoustic data. The NVA equipment was deployed and monitored by two surveyors during the course of the survey.

2.7 Bat Activity Surveys

Bat Activity Surveys were carried out to determine the assemblage of bat species within the site; the nature of bat behaviour; and the spatial distribution of bat activity within the site. Walked transects were surveyed to record and determine the level of bat activity within the site of the proposed development. The location of transects was determined by site access, health and safety considerations and suitable habitat features for bats. The surveys were carried out when weather conditions were forecast to consist of sunset temperatures of 10 °C or above with little or no wind or precipitation. The dates, times & meteorological conditions of bat surveys can be found below in Table 2.7.1

Table 2.7.1: Dates, Times & Metrological Conditions of Bat Activity Surveys

Date	Sunset	Sunrise	Start Time	Finish Time	Temperature	Weather Conditions
16/05/23	21:20	-	21.29	22.59	16-13°C	Calm, patchy cloud, dry
12/06//23	21:53	-	21.42	23.41	20-18°C	Light breeze, patchy cloud, dry
29/06/23	21:57	-	21.55	23. 43	15-14°C	Calm, clear skies, dry
03/08/23	21.18	-	21.13	23.10	14-16°C	Light breeze, patchy cloud, dry

Elekon Batlogger M bat detectors with real time full spectrum recording, an integrated Global Positioning System (GPS) and temperature logger were used to record bat echolocation calls for later sound analysis using Bat Explorer Software. The number of bats, bat species, bat behaviour and the direction of flight of each bat was also recorded where possible.

In order to undertake analysis of data collected during bat activity surveys, bat echolocation calls were transformed into a Bat Activity Index (BAI) providing an indicator of the overall bat activity at the site. The BAI is expressed as the number of bat passes per unit of time. A single bat pass is defined as 'one ten second recording file which contains at least one bat call'. The BAI standardizes the relative bat activity despite variation in the length of recording each night, bat behaviour or individual bat abundance. The BAI therefore enables determination of temporal, spatial and species-specific patterns of bat activity within the site. It is not possible however to accurately determine the number of individual bats recorded in order to estimate the abundance of bats as it is difficult to distinguish between multiple passes of a single bat and single passes of multiple bats.

3 RESULTS

3.1 Preliminary Ecological Appraisal for Bats

Information from the NBDC downloaded from Biodiversity Maps in October 2022 identified a total of 41 No. bat records of the following species within approximately 1 km of the site of the proposed development; Dabenton's bat *Myotis* daubentoniid (29 No.); common pipistrelle *Pipistrellus pipistrellus* (5 No.); soprano pipistrelle *Pipistrellus pygmaeus* (2 No.); Leisler's bat *Nyctalus leisleri* (3 No.); Natterer's bat *Myotis nattereri* (1 No.) and brown long-eared bat *Plecotus auristus* (1 No.).

The potential suitability of the site to provide habitat for foraging and commuting bats is considered moderate. The site itself consists of agricultural grassland with interconnecting hedgerows which could be used by commuting and foraging bats. Foraging opportunities within 250 m consist of similar agricultural landscape in addition to areas unfavourable for foraging including the M7 Road, and various industrial and commercial premises. Potential foraging opportunities in the wider area include the River Liffey approx. 0.7km to the west and the Grand Canal 0.7km to the southeast on the other side of the M7 motorway. These habitats provide suitable commuting routes linking the site to the wider landscape together with suitable foraging habitat for bats.

3.2 Preliminary Roost Assessment of Trees

Trees within the site were subject to ground level PRA to identify PRFs that could provide roosting habitat for bats. There was a total of 20 trees with PRFs identified that could provide suitable habitat for bats. A total of 19 trees were classified as having Moderate suitability and a single tree was classified as having Low suitability; The remaining trees onsite considered to have Negligible suitability to provide roosting habitat for bats. Full details of the PRA can be found in **Appendix I**. The location of the trees can be found in **Figure 1.0: Trees and Structures with Roosting Bat Potential**.

3.3 Tree Climbing PRF Inspection Survey

The 19 trees identified during the PRA identified as having moderate suitability to provide roosting habitat for bats were climbed using rope access techniques or ladders enabling a detailed search and inspection of PRFs using a torch and endoscope.

Following the tree climbing PRF inspection survey, a number of trees were downgraded or upgraded from Moderate bat roosting suitability:

- A total of six trees (T9, T10, T12, T14, T17, T18) were downgraded to Negligible bat roosting suitability due to a lack of cavity size and shelter.
- T7 & T13 were downgraded to Low bat roosting suitability due to a lack of cavity size and/or exposure.
- Two trees (T6 & T15) were upgraded to High bat roosting suitability due to them both supporting larger cavities with suitable characteristics to provide roosting habitat for a larger number of bats such as a maternity colony.
- The remaining 9 trees (T1-T5, T8, T11, T16, T19) remained as having Moderate bat roosting suitability.

No bats or evidence of roosting bats were recorded during the Tree Climbing PRF Inspection Survey.

The results of the Tree Climbing PRF Inspection Survey can be found in **Appendix I**.

3.4 Preliminary Roost Assessment of Structures

There are 13 structures on site that will be demolished in order to accommodate the proposed development.

A total of six of these structures have potential suitability to provide roosting habitat for bats. There were no signs of bat related activity recorded at any of these six structures during initial surveys. A map illustrating the location of structures surveyed during the PRA can be found in **Figure** 1.0 **Trees and Structures with Bat Roost Potential**. The PRA for each structure can be found in **Appendix I**. The six structures identified with potential suitability to provide roosting habitat for bats were subject to further Emergence/Re-entry Surveys as set out below in Section 3.5.

3.5 Emergence/Re-Entry Surveys of Structures and Trees

The PRA identified a total of six structures with potential suitability to provide roosting habitat for bats. These structures were subject to emergence/re-entry surveys in accordance with *BCT best practice Guidelines* (Collins, 2016) and *NPWS Bat mitigation guidelines for Ireland* (Marnell, F, et al. 2022).

Two trees (T8 & T15) were subject to emergence surveys. Tree T8 (mature aspen) was only partially surveyed during tree climbing PRF survey, given that a jackdaw nest was discovered. Given that this tree had potential to support moderate bat roosting suitability, a second survey was required. An emergence survey was chosen given the potential presence of nesting birds. T15 (mature crack willow) was considered to support high bat roosting suitability, and therefore in line with Collins (2016), it required a total of three surveys. It had previously been subjected to two climbing close inspection surveys; the third survey comprised an emergence survey.

Surveys identified the presence of one confirmed bat roosts on site (Structure 1). A map illustrating the location of structures and trees surveyed during the PRA can be found in **Figure 2.0: Buildings and Trees subject to Emergence/Re-entry Surveys**.

Table 3.5.1: Bat Emergence Surveys of Structures and Trees

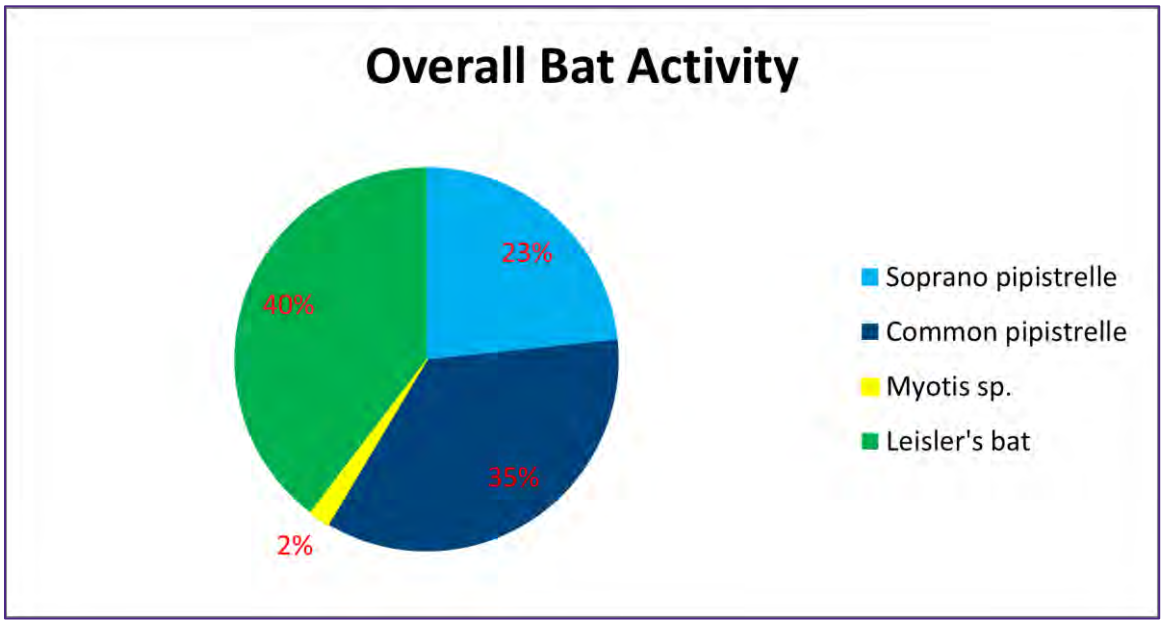
Structure No.	Bat Suitability	Date	Survey Type	Notes
S1 Former Garage/Store	Low/Moderate	13/06/23	Dusk	At 22.43 (approx. 55 minutes after sunset) a single *Myotis* sp., likely a Daubenton's bat was observed emerging from the structure (doorway), and then re-enters via a different doorway seconds later. It continues this behaviour several times before leaving the yard. This is a confirmed bat roost.
		04/08/23	Dawn	At 03.39 a single *Myotis* sp. bat, likely a Daubenton's bat was observed flying into structure via a large open garage type doorway to briefly forage in flight within the interior of the building, before leaving the room approx. 30 seconds later. The bat was observed to continue this behaviour regularly throughout the survey. Another *Myotis* sp. bat was observed to display the same foraging behaviour towards the latter part of the survey. At approx. 04.26, one of the bats leaves the yard. At 04.30, the remaining bat enters under an end roof slate (Plate 2). This is a confirmed bat roost.

S2 Former Stables	Low	03/08/23	Dusk	At 21.47 a single Common Pipistrelle Bat, was observed to fly through an open doorway and fly around inside for approx 50 seconds, likely foraging before leaving through an adjacent doorway. At 22.46 a Myotis sp., likley a Daubenton's Bat displays similar foraging behaviour, leaving approx 2 minutes later. This is not a confirmed bat roost.
S3 Derelict House	Moderate	12/06/23	Dusk	No bats were observed emerging from or entering the structure.
		29/06/23	Dusk	No bats were observed emerging from or entering from the structure.
S4 Thatched/Tin Roof	Moderate	12/06/23	Dusk	A single Brown Long-eared bat silently entered a large ground level window/opening into room at 23.29 (approx. 1h 36 minutes after sunset). The bat then disappeared out of view for 12 seconds and was then observed briefly flying around inside the room, likley foraging before emerging and leaving the yard. This is not a confirmed bat roost.
		29/06/23	Dusk	No bats were observed emerging from or entering from the structure.
S5 Garage	Moderate	13/06/23	Dusk	No bats were observed emerging from or entering the structure.
		04/08/23	Dawn	No bats were observed emerging from or entering the structure.
S6 Unoccupied House	Moderate	13/06/23	Dusk	No bats were observed emerging from or entering the structure.
		04/08/23	Dawn	No bats were observed emerging from or entering the structure.
Tree T8 Mature Aspen	Moderate	03/08/23	Dusk	No bats were observed emerging from or entering the tree.
Tree T15 Mature Crack Willow	High	03/08/23	Dusk	No bats were observed emerging from or entering the tree.

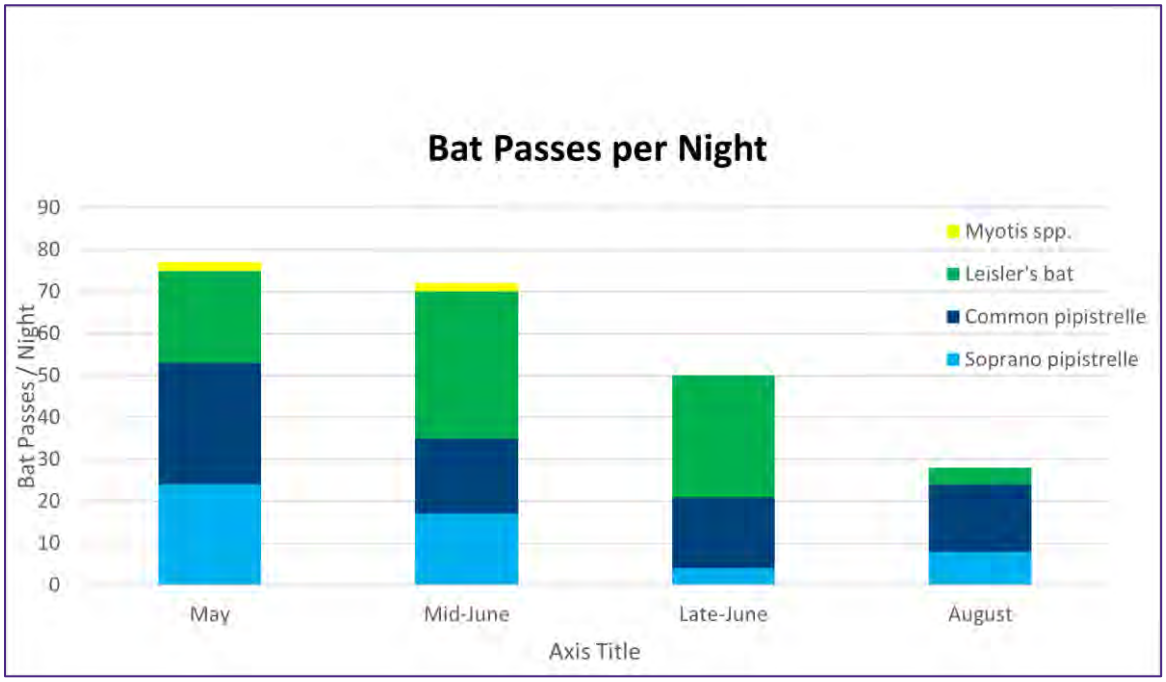
3.6 Bat Activity Surveys

Three bat species were identified to species level, these include: Common Pipistrelle, Soprano Pipistrelle, Leisler's Bat. A total of 4 *Myotis* sp. calls were recorded during the course of bat activity surveys. These calls were not identified to species level as it is often difficult to accurately identify to species level, given that their call characteristics often overlap can be significantly similar in structure. Small numbers of *Myotis* sp. bats and numerous *Myotis sp.* bat calls were recorded within the farmyard during emergence and re-entry surveys. A single Brown Long-Eared Bat was recorded on one occasion during a dusk emergence survey (see Section 4 below).

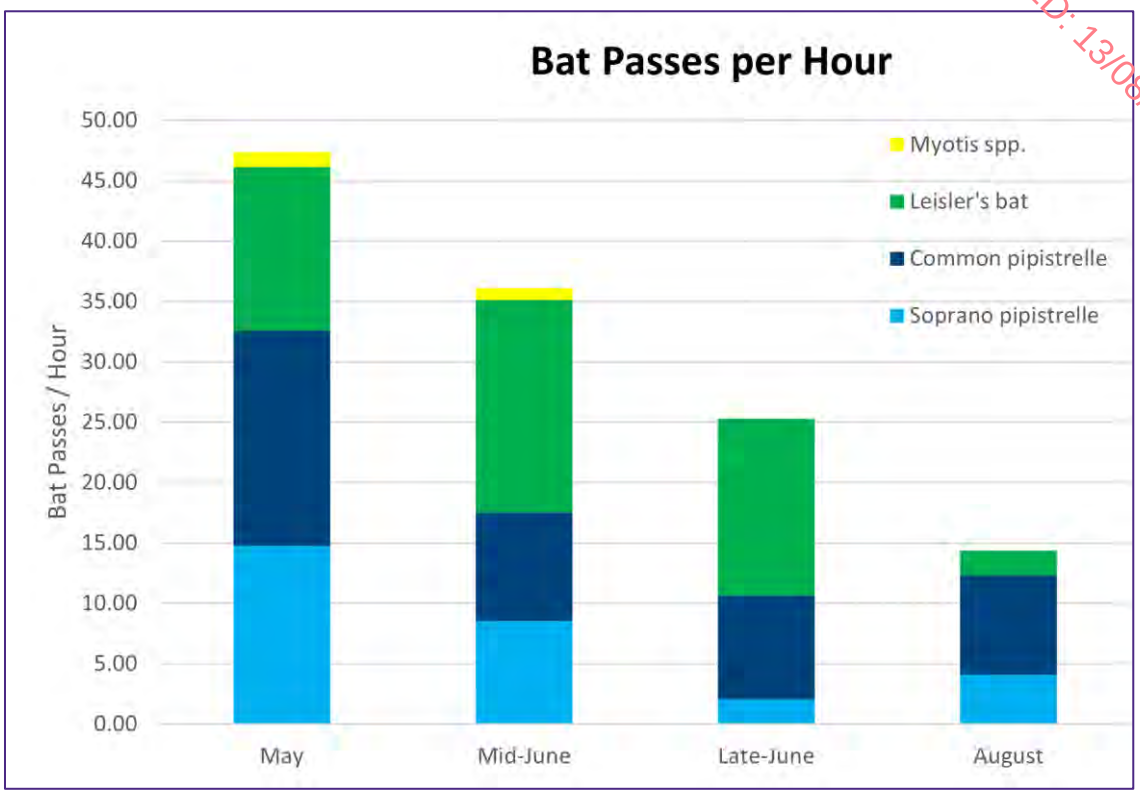
Bat activity levels on site are illustrated on Graphs 1 -3. Maps illustrating the spatial distribution of bat species recorded each survey can be found in **Figures 3.0 – 6.0 Bat Activity Surveys.**



Graph 1: Showing the overall bat activity recorded from May to August 2023.



Graph 2: Showing the total number of bat passes recorded per survey night.



Graph 3: Showing the total number of bat basses recorded per hour.

4 DISCUSSION & ANALYSIS OF RESULTS

Information obtained from the NBDC identified bat records of the following species Common Pipistrelle, Soprano Pipistrelle, Daubenton's Bat, Natterer's bat, Brown Long-eared Bat and Leisler's Bat. All but one of these species, Natterer's Bat, were confirmed on site during the course of bat surveys. *Myotis* sp. bat calls were recorded infrequently during the activity surveys, with only 4 calls over the course of the bat activity surveys. Due to the similarities and overlap between the characteristics of Irish *Myotis* sp. echolocation calls, it is often difficult to accurately identify *Myotis* sp. bats to species level using echolocation calls alone. *Myotis* sp. bats were recorded during a dusk emergence survey (see below) with calls which most closely resemble those of Daubenton's Bat. The Myotis sp. calls recorded infrequently during the bat activity surveys have not been identified to species level, and therefore, could potentially be both or either Natterer's Bat or Daubenton's Bats. However, even in the absence of historic records of Whiskered Bat *Myotis mystacinus*, the presence of this species cannot be excluded.

Leisler's bat contributed to the highest proportion of bat activity on site with 40% of overall bat calls recorded (see Graph 1). This species was observed foraging along tree tops and out in the open at height, however most activity was not visually observed due to the bat species fast flight and brief overhead passes at height.

Common Pipistrelle contributed to 35% of overall bat calls recorded, followed by Soprano Pipistrelle with 26% of overall calls recorded. Both species were observed foraging at a range of heights, often as low as 2m above ground along hedgerows. Type D antagonistic social calls were occasional heard on all survey nights. These calls are usually produced in flight and are thought to be related to territorial behaviour (Middleton, et al. 2014).

Only 2% of bat calls recorded during the four bat activity surveys came from *Myotis* sp. bats. This may be in part due to Myotis spp. typically emitting relatively quiet calls which can be difficult to record. This is likely also the case for Brown Long-eared bats on site.

Bat activity levels was highest during the first survey in May (See Graphs 2 & 3) and were found to decline on each consecutive survey visit. The level of bat activity recorded was lower than expected given the quality/size of vegetated field boundaries, with a relatively low number of individual bats seen during the early portion of each activity survey.

The removal of a significant proportion of linear features including hedgerows and treelines in addition to grazed grasslands will reduce foraging opportunities for the immediate local bat population. The site is bounded to the north and south by industrial developments, and the high traffic M7 Motorway to the east. It is highly likely that the local bat population utilise the vegetated linear features, namely hedgerows and treelines to the west, in the lands adjacent to the site as commuting corridors to River Liffey. Given that the site is located at the periphery of typically suboptimal habitats, namely industrial and commercial and a motorway, the loss of linear features within the site is considered unlikely to cause significant severance or fragmentation impacts of the wider landscape. Impacts to foraging and commuting bat populations are considered to be fairly localised.

A total of 19 trees were assessed to have Moderate bat roosting suitability during the ground level PRA with a further one assessed as low. Six of these trees were downgraded to Negligible bat roosting suitability due to the trees either having superficial cavities or cavities which lack sufficient size and shelter to support roosting bats, even for short term use. Two trees were downgraded to Low bat roosting suitability due to the presence of shallow cavities with inadequate shelter and limited roosting suitability. Two trees were upgraded to High bat roosting suitability due to the trees supporting cavities of sufficient size and

characteristics to potentially support a larger number of bats such as a maternity colony. Nine trees remained as having moderate bat roosting suitability. No bats or evidence of bat roosting was recorded during the two Tree Climbing PRF Inspection Surveys and dusk emergence survey (Trees T8 & T15). The other tree identified to support high bat roost potential (T6) which was not subject to emergence survey, is to be retained within the proposed development.

Surveying trees for bat roosts can be more challenging than surveying buildings because many species that use trees for roosts are known to frequently exhibit roost switching behaviour (Andrews, H, 2008, Harris and Yalden, 2008, Dietz et al., 2011), and therefore the probability of finding an occupied bat roost is low. It is possible that any of the trees located within the Application Site Boundary which have been confirmed to have bat roosting suitability could be used for roosting purposes at other times throughout the year. For this reason, they must be considered as a potential roosting resource. Section 5 outlines PRF mitigation and proposed compensation measures.

A total of two confirmed bat roosting sites were recorded within the Application Site Boundary, both of which are located in Structure 1. On the 13th of June 2023, at 22.43 (approx. 55 minutes after sunset), a single *Myotis* sp. bat, likely a Daubenton's bat was observed emerging from the structure (open doorway), it then re-entered via a different doorway seconds later. It continued this behaviour several times before leaving the yard. The echolocation calls most closely resembles a Daubenton's bat *Myotis Daubentonii*, however due to the similarities in call structure and frequency ranges between the three *Myotis* sp. present in Ireland, it is often difficult to identify to species level using echolocation calls alone. However, given that there are total of 29 records of Daubenton's Bat (2013) within approximately 1 km of the Application Site Boundary, and that the roost on site (Structure 1) is linked to the River Liffey (0.7km) and partially connected to the Grand Canal via linear hedgerows and tree lines (habitat linkage to Grand Canal is dissected by M7 motorway), approx. 0.7km away, it increases the likelihood the bat roosting on site is a Daubenton's Bat.

On the 4th of August at 03.39 a single *Myotis* sp. bat, likely a Daubenton's bat was observed flying into Structure 1 via a large open garage type doorway to briefly forage in flight, likely travelling the span of the buildings open roof structure (there are two interior dividing walls which stop at the bottom of the roof level, leaving the interior roof structure open along the span of the building), before leaving the room approx. 30 seconds later. The bat was observed to continue this behaviour regularly throughout the survey. A second Daubenton's bat arrived during the latter part of the survey and displayed a similar behaviour, foraging within the structure. At approx. 1 hr 22 before sunrise, one of the bats left the yard. Minutes later, the remaining bat entered under an edge roof slate (Plate 2).

Given that only individual bats were recorded roosting in Structure 1 during the typical maternity period, it is considered that both roost sites (interior of structure and end roof slate) are used on an occasional basis as day roosts. According to BCT Guidelines (Collins 2016) a day roost is "*A place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in summe*r".

On the 3rd of August at approximately 30 minutes after sunset, a single Common Pipistrelle bat was observed flying through an open doorway into Structure 2. The bat was observed flying around inside, likely searching for insects for approx. 50 seconds before emerging through a different doorway. Approximately 1 hr later, a single Myotis sp. bat, likely a Daubenton's Bat was observed displaying similar foraging behaviour for 2 minutes before it left the structure.

On the 12th of June 2023, at 23.29 (approx. 1.36hr after sunset), a single Brown Long-eared Bat was observed on camera silently flying into Structure 4 (S4) through a large window/opening at approx. 1.5m high. The camera footage covers part of the internal room, however the bat quickly disappeared out of view, appearing to drop low. After 12 seconds, the bat was observed slowly flying around inside the room for a

few seconds, likely foraging before emerging and emitting a single echolocation call. The bat then flew away from the yard in a southerly direction. This very brief visit is not consistent with a typical night or feeding roost given that the bat was inside the room for no longer than 15 seconds. Brown Long-eared Bats often make no sound and use eyes or ears to hunt by gleaning, (Swift and Racey 2002), and can be difficult to detect when foraging in understorey or other cluttered environments. This is perhaps why only one echolocation call was recorded during the survey.

It is considered that this behaviour, and the behaviour recorded at Structure 2 where a single Common Pipistrelle and *Myotis* sp. Bat was observed briefly flying around within the structure, was brief opportunistic foraging behaviour, and therefore there is no conclusive evidence to suggest that Structures 2 or 4 are bat roosts.

It is noted that surveys were slightly constrained by the presence of dense vegetation to the rear of structures S3 and S4 which prevented the use of cameras at these locations. It is noted however that the majority of access points to both of these structures were located along the open, surveyed aspects of the buildings.

The exclusion and subsequent loss of two Daubenton's bat day roost sites within Structure 2 will be required to facilitate the proposed development.

The loss of two Daubenton's bat day roost sites, and other roosting resources within proposed Application Site Boundary will be mitigated and compensated for with measures outlined below in Section 5. The implementation of such measures will ensure that there will be no significant adverse impact upon the local bat population resulting from the loss of roosting resources.

Proposed compensatory planting and SUDs features will provide significant resources for foraging bats within the operational phase of the proposed development, which will also incorporate a sensitive lighting strategy which will not give rise to adverse effects upon retained and proposed vegetation.

5 MITIGATION

All bat roosts are protected by law even when bats are not presently occupying a roost. A bat roost derogation licence must be obtained from the National Parks and Wildlife Service (NPWS), prior to demolition of any building with a bat roost, to permit otherwise illegal activities that will result in the destruction, damage and disturbance of known bat roosts. The licence will be issued to a suitably qualified bat ecologist who will supervise all licensed activities.

Demolition of any building with a known bat roost must take place between March - mid- May or September - October inclusive, of any given year, to avoid the bat maternity and hibernation seasons and minimise the impact on bats. A NPWS bat roost derogation/roost exclusion licence will be obtained prior to the commencement of demolition of Structure 1.

Prior to the demolition of the confirmed bat roost, Structure 1 (S1), and the other structures on site which have roosting suitability (S2-S6), the licenced ecologist will thoroughly search for the presence of roosting bats using an endoscope and torch. If bats are found to be present during demolition, species rescue and translocation will be carried out using gloves, and the bat(s) carefully transported to a nearby artificial bat roost. If a bat(s) is found roosting where it cannot be safely removed by hand, or where there are features with potential to conceal a roosting bat which cannot be sufficiently searched to confidently confirm that roosting bats are absent from the cavity, a bespoke designed bat exclusion device will be fitted around the roost entrance. Details of such measures will be included in the NPWS bat roost derogation licence method statement, as required.

All trees which have been confirmed to have Moderate or High bat roosting suitability will either have a dawn re-entry survey carried out or be inspected using an endoscope by a licenced ecologist immediately prior to felling. If any bats are found and cannot be safely removed by hand, the same measures stated above for structures will be applied.

4no. bat roost box locations are proposed within the site. These will comprise pole-mounted bat boxes, with two individual bat boxes proposed per location. Poles will be set in concrete or alternatively driven to a depth of at least 1m. Boxes themselves will be manufactured by Greenwood Ecohabitats[1] or similar, and will be erected, two per pole and fastened to the pole with metal straps or banding at a height of 3.5m or higher. These boxes are intended to compensate for the loss of numerous trees with bat roost potential which were not recorded to support bat roosts and to provide additional roosting resources for the local bat population. Greenwood Eco-Habitat artificial bat roost boxes are constructed from Ecostyrocrete and have a high bat uptake rate. The following boxes will be utilised, two per pole:

- ‘Half and Half bat box’ consist of a two-crevice design, and the other half of the box has the Small Hollow design, providing roosting opportunities for a wide range of bat species, or similar (Four no. total)
- Two crevice bat boxes, or similar. (Four no. total)

In addition to proposed bat box locations the proposals will incorporate three bat house structures. The exact design of these structures is yet to be finalised however it is proposed that one will be a blockwork structure with floor dimensions of three-by-three metres, with a pitched slate/slate tile roof with 1F felt underlay, bat-access slates and gaps in soffits and facia to facilitate access. The interior of this structure will include layers of spaced plywood or OSB between rafters to provide interior crevices (“squeeze boxes”)

[1] https://www.greenwoodsecohabitats.co.uk/shop

which will ensure that the structure is suitable for a variety of bat species. A door into this structure will be provided to facilitate access for monitoring and maintenance, as required.

The remaining two bat house structures will be constructed using a timber A-frame design utilising four square wooden corner posts set in concrete approximately 2.5m apart, raising the structure off the ground by approximately 1.8 or higher. The structures will have a pitched A-frame roof, constructed from sheet-metal, lined with OSB, gable walls constructed from wooden cladding, incorporating interior “squeeze box” features and no floor, allowing access from below.

An ECoW will provide advice on the exact design and location of artificial bat roosts however the initially proposed locations are shown on the project Landscape Masterplan (BSM-ZZ-ZZ-DR-L-0301) which accompanies the EIAR submissions. Proposed artificial bat roost boxes and bat houses are to be located along the southern site boundary to utilise the connectivity of the bluebell stream to the River Liffey, in addition to providing close access to proposed mitigation planting and SUDs features for foraging.

The Lighting Strategy for the proposed development has been designed in accordance with the Institution of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light (ILP 2011) and Bats and Artificial Lighting in the UK (ILP 2018).

Artificial lighting will only be installed where and when necessary, i.e. when it is needed for safety reasons or to comply with statutory guidelines. There will be no direct illumination of any artificial bat roosts. Lighting will be avoided in areas where existing trees are to be retained and in areas proposed for native woodland buffer planting. Lighting design will aim to use narrow spectrum lights with no UV content; directional downlights illuminating below the horizontal plane; bollard or low level downward directional luminaries; external security lighting should be set on motion-sensors and short (1 minute) timers; and use accessories such as baffles, shields, louvres or adjusting the angle of the lamp where necessary (ILP 2018).

Proposed bat box and house locations will be located within areas of the site which will not be subject to lighting levels greater than 0.1lux associated with the proposed development. Proposed mitigation planting will in the medium term, provide further attenuation of artificial lighting from off-site sources.

It is considered that the provision of these mitigation features will fully mitigate for the loss of roosts and potential roosts which will occur as a result of the proposed development. Furthermore these proposals will represent a significant enhancement of the site for roosting bats and will provide opportunities for maternity colonies and individual roosting bats which are not currently supported on the site.

6 CONCLUSION

The site, despite supporting a range of features with potential to support high levels of bat activity and roosts, was recorded to support relatively limited bat activity, of a low number of common and widespread bat species and only a single structure supporting two day-roost features utilised by a single probable Daubenton's bat, respectively.

The proposed development will involve the loss of areas of habitat of value for relatively low populations of foraging and commuting bats, a single confirmed roost and a range of features which have potential to support roosting bats.

With the implementation of mitigation and compensation measures outlined in Section 5, there will be no significant adverse impacts upon the local bat populations resulting from the proposed scheme. Furthermore it is considered that the proposals will deliver a significant enhancement for this group post-development.

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Plates

Plate 1: looking North at Structure (S1) at beginning of survey.

Plate 2: Looking North at Structure 1 (S1) during darkest part of survey. Red arrow shows the location of a confirmed bat roost access point under an end slate.

Plate 3: Looking Southwest at Structure 1 (S1) at beginning of survey.

Plate 4: Looking Southwest at Structure 1 (S1) during darkest part of survey.

Plate 5: Looking Southwest at Structure 2 (S2) at beginning of survey.

Plate 6: Looking Southwest at Structure 2 (S2) during darkest part of survey.

Plate 7: Looking West at Structure 2 (S2).

Plate 8: Looking East at Structure 2 (S2) at beginning of survey.

Plate 9: Looking east at Structure 2 (S2) during darkest part of survey.

Plate 10: Looking South towards Structure 3 (S3) at beginning of survey.

Plate 11: Looking South towards Structure 3 (S3) during darkest part of survey.

Plate 12: Looking West towards Structure 3 (S3) at beginning of survey.

Plate 13: Looking West towards Structure 3 (S3) during darkest part of survey.

Plate 14: Looking West towards Structure 4 (S4) at the beginning of the survey.

Plate 15: Looking West towards Structure 4 (S4) during the darkest part of the survey.

Plate 16: Looking Northeast towards Structure 4 (S4) at the beginning of the survey.

Plate 17: Looking Northeast towards Structure 4 (S4) during the darkest part of the survey.

Plate 18: Looking North at Structure 5 (S5) at beginning of survey.

Plate 19: Looking North at Structure 5 (S5) during the darkest part of the survey.

Plate 20: Looking West at Structure 6 (S6) at the beginning of the survey.

Plate 21: Looking West at Structure 6 (S6) during the darkest part of the survey.

Figures

Legend

- Site Boundary
- Low Bat Roost Potential
- Moderate Bat Roost Potential
- Broadleaved Scattered Tree

Buildings with Bat Roost Potential

- Low Bat Roost Potential
- Moderate Bat Roost Potential

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Client: Herbata Green Energy Data

Project: Herbata Data Centre Campus

Title: Trees and Structures with Roosting Bat Potential

Figure No. 1.0

Project No.	Date	Revision
NI2615	10.08.2023	D01

Legend

- Site Boundary
- T15
- T8

Buildings subject to Emergence/ Re-entry Survey

- Low Bat Roost Potential
- Moderate Bat Roost Potential

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Project: Herbata Data Centre Campus

Title: Trees and Structures Subect to Emergence/Re-entry Surveys

Figure No. 2.0

Project No.	Date	Revision
NI2615	10.08.2023	D01

Legend

- Site Boundary

Locations of Recorded Bat Passes

- Leisler's Bat
- Common Pipistrelle
- Soprano Pipistrelle
- Myotis species

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Title: Activity Survey Results: 16.05.23

Figure No. 3.0

Project No.	Date	Revision
NI2615	10.08.2023	D01

Legend

- Site Boundary

Locations of Recorded Bat Passes

- Leisler's Bat
- Common Pipistrelle
- Soprano Pipistrelle
- Myotis spec.

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Project: Herbata Data Centre Campus

Title: Activity Survey Results: 12.06.23

Figure No. 4.0

Project No.	Date	Revision
NI2615	10.08.2023	D01

Legend

- Site Boundary

Locations of Recorded Bat Passes

- Leisler's Bat
- Common Pipistrelle
- Soprano Pipistrelle

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Project: Herbata Data Centre Campus

Title: Activity Survey Results: 29.06.23

Figure No. 5.0

Project No.	Date	Revision
NI2615	10.08.2023	D01

Legend

- Site Boundary

Locations of Recorded Bat Passes

- Leisler's Bat
- Common Pipistrelle
- Soprano Pipistrelle

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Client: Herbata Green Energy Data

Project: Herbata Data Centre Campus

Title: Activity Survey Results: 03.08.23

Figure No. 6.0

Project No.	Date	Revision
NI2615	10.08.2023	D01

Appendix I

Preliminary Roost Assessment of Structures

Preliminary Roost Assessment of Trees & Tree Climbing PRF Inspection Survey

Table A1.1: Preliminary Roost Assessment of Structures

Structure No.	Date	Photo	Description	Evidence of Bats	Bat Suitability
S1 Former Garage/ Store	06.10.22		Agricultural building, 1-storey, partially rendered stone, pitched slate/asbestos cement slate roof, no felt or roof lining. Several interior gaps in stonework. Gaps in slates along southern wall plate. Relatively tight along the northern pitch with no visible gaps. Used by nesting swallows.	No	**Low/ Moderate**
S2 Former Stables	06.10.22		Agricultural building, 1-storey, rendered stone walls, pitched asbestos cement slate roof, no felt or roof lining, dense Ivy on parts of the roof. Interior is open with no cavities in stonework noted and limited gaps in interior timber offering potential roost opportunities. Interior is divided into several separate segments. Used by nesting swallows.	No	**Low**
S3 Derelict House	06.10.22		Two-storey former dwelling, largely lime-rendered stone. Pitched slate roof partially collapsed. Interior ceilings partially intact with gaps between ceiling and floorboards above. Chimney stacks have several gaps in brickworks, several gaps in slates along eastern aspect and at northern gable. Used by nesting swallows.	No	**Moderate**
S4 Thatched/ Tin Roof	06.10.22		Former thatched dwelling adjacent to S3. Tin has been laid over thatch and the whole roof has subsequently collapsed. Walls are constructed from stone and rubble. Remains of a former chimney stack have gaps in stonework.	No	**Moderate**

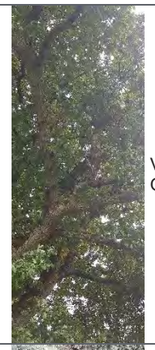
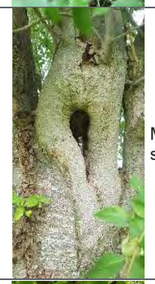
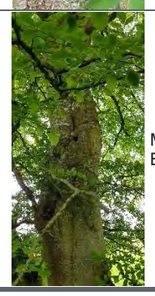
S5 Residential Garage	06.10.22		Single-storey garage structure, rendered blockwork walls, pitched tile roof, wooden facia, soffits and bargeboards. Cement under-cloaking at southern gable supports a large gap accessing between battens. No other gaps or other potential roost features noted.	No	**Low/ Moderate**
S6 Unoccupied House	06.10.22		Unoccupied bungalow. Rendered blockwork walls, pitched tile roof, wood facia and bargeboards with plywood soffits. Largely free of gaps, however eastern gable supports gaps in the end of the facia at the south-east corner and several gaps in cement under-cloak near the ridge. A hole is present in the eastern gable window, Appears to be used by nesting jackdaws.	No	**Low/ Moderate**
S7 Former outhouse close to S3	06.10.22		Small former outhouse. Single storey. Blockwork walls, pitched asbestos cement slate roof, no felt or roof lining. No gaps, cavities or other features offering bat roost potential noted.	No	**Negligible**
S8 Derelict former agricultural structure	06.10.22		Small former agricultural building which is derelict with no roof and is constructed from blockwork and stone and heavily colonised by brambles and ivy. No gaps or other features offering bat roost potential were noted to be present.	No	**Negligible**
S9 Derelict former agricultural structure	06.10.22		Former agricultural building. Roof largely collapsed, pitched corrugated metal. No roof lining or timber cavities with potential for roosting bats. Block and stone walls, no gaps or other features with bat roost potential noted.	No	**Negligible**

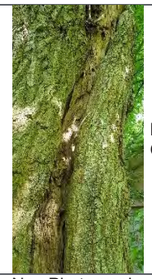
S10 Derelict former agricultural structure	06.10.22			Steel-framed barn. Corrugated sheet metal walls and roof. Open. No bat potential.	No	**Negligible**
S11 Recently constructed dwelling	06.10.22		No photograph available	Large two-storey dwelling along the northern boundary of the site constructed fairly recently from rendered block. Pitched tile roof with several dormer windows. PVC facia and soffits. All tightly finished. No bat potential.	No	**Negligible**
S12 Recently constructed garage.	06.10.22		No photograph available	1-storey garage, adjacent to S11 constructed fairly recently from rendered block. Pitched tile roof with PVC facia and soffits. All tightly finished. No bat potential.	No	**Negligible**
S13 Occupied dwelling	06.10.22		No photograph available	An occupied dwelling. 1-storey bungalow, constructed from rendered block, pitched and hipped tile roof. PVC and wood facia, soffits and bargeboards. Tightly finished. No bat potential.	No	**Negligible**

Table A1.2: Preliminary Roost Assessment of Trees & Tree Climbing PRF Inspections Surveys

Tree No.	PRF Inspection Date	Photo	Tree Species	Ground Level Description	Close Inspection Description	Evidence of Bats	Ground Level PRF Suitability	Tree Climbing PRF Suitability
T1	15/05/23 & 04/07/23		Mature Oak	• Hazard beams near top ground level PRF moderate BRS	• Three top transverse snap PRFs negligible BRS. • Slightly lower large limb break With tansverse snaps with gaps PRF moderate BRS	No	**MODERATE**	**MODERATE**
T2	“	No Photograph Available	Ash	• Basal rot hollow trunk, PRF moderate	• 15cm x 5cm, debris, moderate BRS.	No	**MODERATE**	**MODERATE**
T3	“	No Photograph Available	Ash	• Knot hole at 1m ground level PRF moderate	• Multi chambered, 8cm x11cm, PRF moderate	No	**MODERATE**	**MODERATE**
T4	“		Ash	• Basal rot, several cavities, ground level PRF moderate	• Entrance 45cm x 30cm, max depth 38cm up into cavaity, significantly narrower than external entrance, PRF moderate	No	**MODERATE**	**MODERATE**
T5	“	No Photograph Available	Ash	• Hazard beam at 4.5m PRF moderate	• Branch blown down PRF now negligible	No	**MODERATE**	**NEGLIGIBLE**

T6	“		Mature Beech	• Basal rot with hollows,,PRF moderate BRS	• Basal feature very large, >60cm up interior trunk. Could not be fully surveyed – high BRS. • Thick ivy PRF low.	No	**MODERATE**	**HIGH**
T7	“		Mature Beech	• Several knot holes on northern aspect PRF moderate •	• Knot hole on eastern aspect open, PRF neglible. • Knot hole on northern aspect shallow 6cm depth PRF low		**MODERATE**	**LOW**
T8	“		Mature Aspen	• Basal rot hollow trunk PRF moderate	• Only partially surveyed due to the discovery of breeding birds	No	**MODERATE**	**MODERATE**
T9	“		Multi-stem Ash	• Low transverse snaps and canker at 6m, PRF moderate	• Low trasverse snap very narrow exposed cavities and canker aerial PRF negligible	No	**MODERATE**	**NEGLIGIBLE**

T10	“		Veteran Oak	• Hollow broken branch at 4m, PRF moderate	• Open branch break aerial PRF negligible	No	**MODERATE**	**NEGLIGIBLE**
T11	“		Multi-stem Ash	• Knot hole at 2m S, and basal rot cavity PRF, moderate •	• Tear out 9cm x 6cm PRF moderate • Basal rot PRF moderate • New know hole on northern aspect 8cm x 8cm, PRF moderate	No	**MODERATE**	**MODERATE**
T12	“		Multi-stem Ash	• Knot hole at 3m on soutern aspect, PRF moderate	• Entrance wide 8cm x 8cm, interior wet PRF negligible	No	**MODERATE**	**NEGLIGIBLE**
T13	“		Mature Beech	• Knot hole at 3m on western aspect, PRF moderate	• Knot hole shallow max 6cm depth lots of slugs ,PRF low	No	**MODERATE**	**LOW**

T14	“		Mature Oak	• Bark and rotten limbs ground level PRF moderate	• Shallow features aerial PRF negliblie	No	**MODERATE**	**NEGLIGIBLE**
T15	“	No Photograph Available (see emergence survey footage stills, above).	Mature Crack Willow	• Basal rot hollow trunk ,PRF moderate	• Basal rot has two large cavities, one lateral and one vertical, 60cm x ≥10cm, low to ground. PRF High.	No	**MODERATE**	**HIGH**
T16	“	No Photograph Available	Mature Crack Willow	• Basal rot ,PRF moderate	• All cavities subject to endoscope. Some cavities 40cm x 3cm. Other cavities shallow. PRF moderate.	No	**MODERATE**	**MODERATE**
T17	“	No Photograph Available	Mature Beech	• Knot hole at 4.5m, PRF moderate	• Shallow feature no cavity, PRF neglibile	No	**MODERATE**	**NEGLIGIBLE**
T18	“	No Photograph Available	Mature Beech	• Knot hole at 3m and basal cavity, PRF moderate	• Superficial features, PRF negligible	No	**MODERATE**	**NEGLIGIBLE**
T19	“		Mature dying Aspen	• Dying aspen knot holes 3m and 4m N, moderate	• Features at 4m and above unsuitable. Knot hole at 3m int 28cm x 8. Domed apex. Spiders present. Moderate BRS.	No	**MODERATE**	**MODERATE**
T20	“		Middle-age Ash	• Small knot hole, 1,8m E aspect, 6cm x 6cm. Low	• All cavities subject to endoscope. Spired apex.	No	**LOW**	**LOW**

Appendix 5.3
Appropriate Assessment Screening Report

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HERBATA DATA CENTRE, NAAS

Screening for Appropriate Assessment

NI2615 Herbata Data Centre, Naas
Stage 1: Screening for Appropriate Assessment
F07
June 2024

rpsgroup.com

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F05	Issue	SOH	JMC	JMC	26/06/24

Approval for issue

James McCrory CEcol CEnv MCIEEM CBiol MRSB		26 June 2024

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Prepared for:

Herbata Ltd.

Contents

Figures

Appendices

1. HABITATS DIRECTIVE ASSESSMENT

1.1 Introduction

This report has been prepared by RPS on behalf of Herbata Ltd and contains information to assist the competent authority in carrying out a Screening for Appropriate Assessment for the Project.

This report has been prepared by RPS on behalf of Herbata Ltd and contains information to assist the competent authority in carrying out a Screening for Appropriate Assessment for a data centre development which, as described in section 3 of this report, comprises two main elements, namely:

a. The data centre, comprising 6 no. two storey data centre buildings, an administration/management building, car parking, landscaping, energy infrastructure and other associated works. These elements are the subject of the planning application submitted to KCC, and that application is referred to hereafter as "the Data Centre Application".

b. The substation, comprising a grid substation and 110kV transmission connection. These elements are subject of the SID application to An Bord Pleanála, and that application is referred to hereafter as "the Substation Application".

The Data Centre Application and the Substation Application together constitute the "Project" for the purposes of Appropriate Assessment and references to the "Project", should be read as references to those two applications taken together as one project.

An appropriate assessment screening and, if required, an appropriate assessment, is required under the Habitats Directive for any plan or project likely to have significant effect on a Natura 2000 site.

With the introduction of the Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora) came the obligation to establish the Natura 2000 network of Sites of Community Interest (SCIs), comprising a network of areas of highest biodiversity importance for rare and threatened habitats and species across the European Union (EU).

The Natura 2000 network of sites comprises Special Areas of Conservation (SACs, including candidate SACs) designated under legislation transposing the obligations under Directive 92/43/EEC, and Special Protection Areas (SPAs, including proposed SPAs) classified under the Birds Directive (Directive 2009/147/EC on the conservation of wild birds) and designated under Irish legislation. SACs and SPAs make up the pan-European network of Natura 2000 sites in Ireland and they are referred to as European sites.

SACs are designated for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are designated for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is designated correspond to the Qualifying Interests (QIs) of the sites in the case of SACs and Special Conservation Interests (SCIs) of the sites in the case of SPAs. From these qualifying features, the site-specific Conservation Objectives (SSCOs) of the site are derived.

1.2 Legislation and the HRA procedure

1.2.1 The Habitats Directive

Article 6(3) of the Habitats Directive requires that–

> "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's SSCOs. In the light of the conclusions of the assessment of the

implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and if appropriate, after having obtained the opinion of the general public."

Thus, Article 6(3) provides a two-stage process:

- The first stage involves a screening for appropriate assessment; and
- The second stage arises where, having screened the Project, the competent authority determines that an appropriate assessment is required, in which case it must then carry out that appropriate assessment.

1.2.2 Irish Legislation

For the purposes of applications for planning permission, under section 34 of the Planning and Development Act 2000 (as amended) ("the PDA"), and applications for approval under Section 182A of the PDA, the obligations under Article 6(3) of the Habitats Directive have been transposed into Irish law by part XAB of the PDA. In relation to other consent regimes, the provisions of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended ("the 2011 Regulations"), transpose those obligations.

This report has been prepared to assist the Competent Authority in carrying out Screening for Appropriate Assessment in respect of the Project, which is the subject of (i) an application for planning permission under section 34 of the PDA and (ii) an application for approval under section 182A of the PDA, and as such the provisions of the PDA apply.

1.2.3 Screening for Appropriate Assessment

Section 177U of the PDA requires inter alia that a screening for appropriate assessment of an application for consent for Project shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Project, individually or in combination with other plans or projects is likely to have a significant effect on a European site.

While the provisions of section 177U adopt the terminology used in Article 6(3) of the Habitats Directive in terms of the test for screening, section 177U expands on this in light of the interpretation given in decisions of the Court of Justice of the European Union. Thus, section 177U gives effect to the requirement to screen an application for development consent for appropriate assessment by assessing whether the Project is likely to have a significant effect on a European site by considering whether such a significant effect can or cannot be excluded.

1.2.4 Appropriate Assessment (AA)

Where the result of the Screening for Appropriate Assessment under section 177U of the 2000 Act is that that likely significant effects on a European Site cannot be excluded, then an Appropriate Assessment must be carried out by the competent authority before development consent can be given.

1.2.5 Step-wise Procedure

According to European Commission guidance documents 'Assessment of plans and projects significantly affecting Natura 2000 sites' (EC, 2001) and the 'Managing Natura 2000 sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC' (EC, 2019), the obligations arising under Article 6 establish a step-wise procedure for Habitats Directive Assessment as follows, and as illustrated in Figure 1.1.

The first part of this procedure consists of a pre-assessment stage ('screening') to determine whether, firstly, a plan or project is directly connected with or necessary to the management of the site, and

secondly, whether it is likely to have a significant effect on the site either alone or in combination with other plans or projects; it is governed by the first sentence of Article 6(3).

The second part of the procedure, governed by the second sentence of Article 6(3), relates to the appropriate assessment and the decision of the competent national authorities.

A third part of the procedure (governed by Article 6(4)) comes into play if, despite a negative assessment, it is proposed not to reject a plan or project but to give it further consideration. In this case Article 6(4) allows for derogations from Article 6(3) under certain conditions.

The extent to which the sequential steps of Article 6(3) apply to a given plan or project depends on several factors, and in the sequence of steps, each step is influenced by the previous step. The order in which the steps are followed is therefore essential for the correct application of Article 6(3).

Each step determines whether a further step in the process is required. If, for example, the conclusion at the end of a Stage 1 screening assessment is that significant effects on European sites can be excluded, there is no requirement to proceed to the next step.

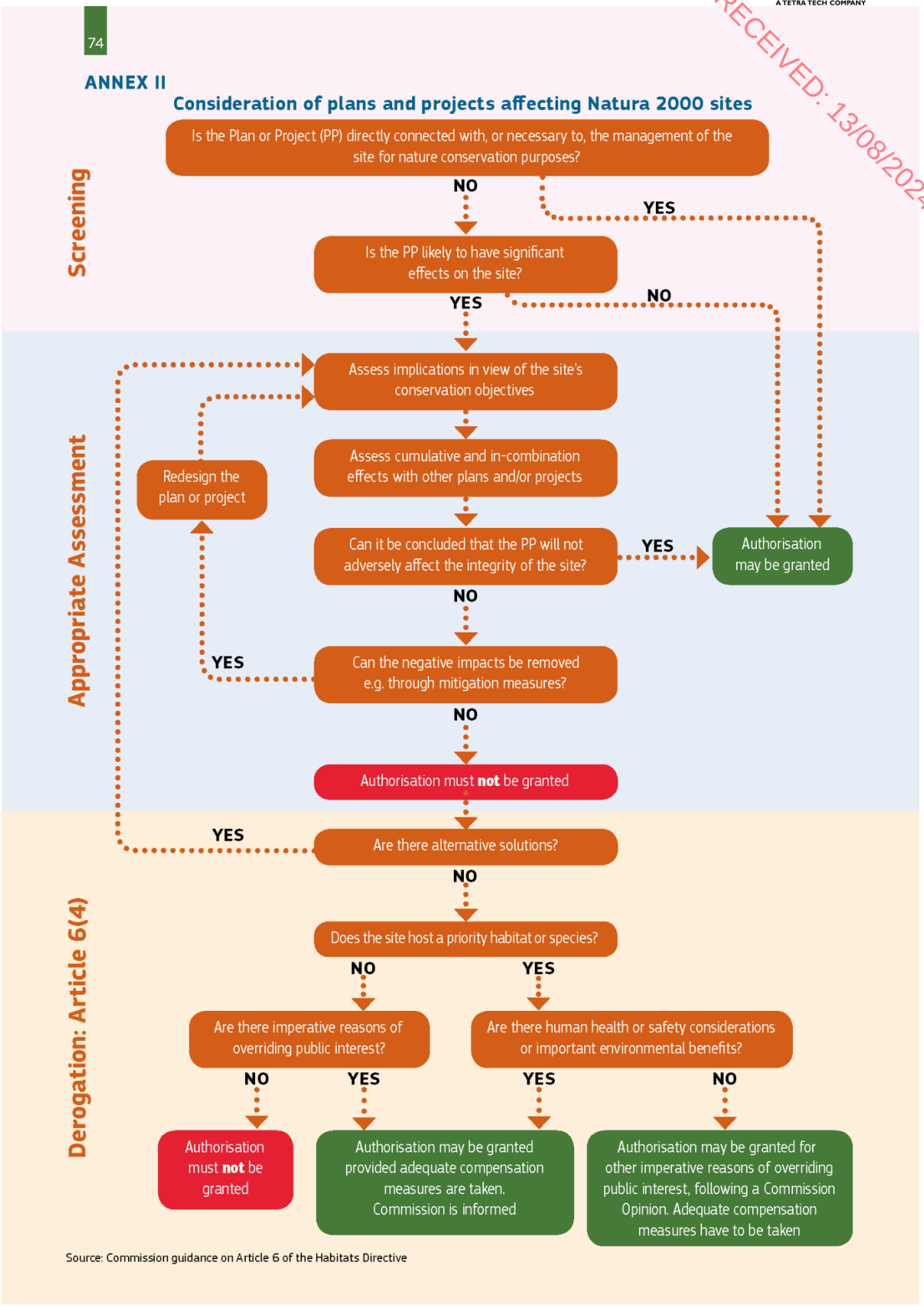

Figure 1.1: Step-wise procedure of Article 6 of the Habitats Directive (EC 2019)

1.3 Document Structure

This report is structured as follows:

- Section 2: Methodology and Guidance - This section sets out the methodology followed and guidance documents used in conducting an Appropriate Assessment Screening of the implications of the Project on European sites;
- Section 3: the Project - This section describes the Project, and is the basis of the subsequent Stage 1 Appropriate Assessment Screening that follows; and
- Section 4: Stage 1 Screening Assessment - This section contains an examination and analysis to understand whether or not the Project is likely to have a significant effect on any European site. This is the Stage 1 screening assessment. It has been undertaken in view of best scientific knowledge, in light of the SSCOs of the sites concerned and considers the Project individually and in combination with other plans and projects. Measures intended to avoid or reduce the harmful effects of the Project on European sites (i.e. “mitigation measures”) have not been taken into account in the screening stage assessment and should not be taken into account by the competent authority in conducting its screening exercise.

1.4 Details of Competent Experts

The author, Samuel O’Hara, is an Associate Ecologist with RPS and holds a BSc (Hons) in Ecology and has over nine years of experience in the field of ecology consultancy. Samuel has extensive experience of ecological field survey including habitat, mammal and bird survey and is a protected species license holder. Samuel has authored Appropriate Assessment documentation in support of a large number of schemes throughout Ireland. Samuel is a full member of the CIEEM.

James McCrory, who supervised preparation of this report, is a Technical Director of Ecology within RPS and holds a BA (Hons) in Natural Sciences (Mod) Botany and a MSc in Habitat Creation and Management. James is a Chartered Environmentalist (CEnv), a Chartered Ecologist (CEcol) and a Chartered Biologist (CBiol). James is part of the CIEEM Policy Review Group in Ireland and is a member of the CIEEM technical committee updating the seminal Guidelines for Ecological Impact Assessment in the United Kingdom.

The professional judgement expressed herein is the true and bona fide opinion of our professional ecologists. The information prepared and provided is accurate at the time of issue of this report and has been prepared and provided in accordance with the CIEEM Code of Professional Conduct (CIEEM 2022).

2. METHODOLOGY

2.1 Published Guidance on Appropriate Assessment

Appropriate Assessment Guidelines for Planning Authorities have been published by the Department of the Environment, Heritage and Local Government (DEHLG, 2010a). In addition to the advice available from the Department, the European Commission has published a number of documents which provide a significant body of guidance on the requirements of Appropriate Assessment, most notably including, 'Assessment of Plans and Projects Significantly Affecting Natura 2000 sites - Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021), which sets out the principles of how to approach decision making during the process.

These principal national and European guidelines have been followed in the preparation of this report. The following list identifies these and other pertinent guidance documents:

- Communication from the Commission on the Precautionary Principle., Office for Official Publications of the European Communities, Luxembourg (EC, 2000);
- Estuaries and Coastal Zones within the Context of the Birds and Habitats Directives - Technical Supporting Document on their Dual Roles as Natura 2000 Sites and as Waterways and Locations for Ports. European Commission (EC, 2009);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010a);
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities (DEHLG, 2010b);
- Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging. European Commission (EC, 2011a);
- European Commission Staff Working Document 'Integrating biodiversity and nature protection into port development' (EC, 2011b);
- European Commission Notice C(2018) 7621 'Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg (EC, 2019);
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2021).

2.2 Likely Significant Effect

The Commission's 2018 Notice (EC, 2019) advises that the appropriate assessment procedure under Article 6(3) is triggered not by the certainty but by the likelihood of significant effects, arising from plans or projects regardless of their location inside or outside a protected site. Such likelihood exists if significant effects on the site cannot be excluded. The significance of effects should be determined in relation to the specific features and environmental conditions of the site concerned by the plan or project, taking particular account of the site's SSCOs and ecological characteristics.

The requirement that the effect in question be 'significant' exists in order to lay down a *de minimis* threshold – thus, plans or projects that have no appreciable effect on the site are thereby excluded. A likely significant effect is triggered when:

- there is a probability or a risk of a plan or project having a significant effect on a European site; or

- a significant effect cannot be excluded on the basis of objective information.

EC (2021) advises that an assessment of significance must apply the principle of proportionality, be compatible with the precautionary principle and take into account:

- the nature, size and complexity of the plan or project;
- the expected effects, and
- the vulnerability and irreplaceability of the affected EU-protected habitats and species.

2.3 Mitigation Measures

In determining whether or not likely significant effects will occur or can be excluded in the Stage 1 assessment, measures intended to avoid or reduce the harmful effects of the Project on European sites, (i.e. "mitigation measures") have not been taken into account in this screening stage assessment. This approach is consistent with EU guidance and the case law of the Court of Justice of the European Union (CJEU):

EC (2001) states that "project and plan proponents are often encouraged to design mitigation measures into their proposals at the outset. However, it is important to recognise that the screening assessment should be carried out in the absence of any consideration of mitigation measures that form part of a project or plan and are designed to avoid or reduce the impact of a project or plan on a Natura 2000 site". This direction in the European Commission's guidance document is unambiguous in that it does not permit the inclusion of mitigation at screening stage.

In April 2018, the Court of Justice of the European Union issued a ruling in case C-323/17 People Over Wind & Peter Sweetman v Coillte Teoranta ("People Over Wind") that Article 6(3) of Directive 92/43/EEC must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.

In April 2018, the Court of Justice of the European Union issued a ruling in case C-323/17 that Article 6(3) of Directive 92/43/EEC must be interpreted as meaning that –

> *"in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site".*

Measures intended to avoid or reduce the harmful effects of the Project on European sites have not been proposed in respect of the Project. Design aspects of the Project such as an appropriate and site-specific drainage strategy, including SuDs features, is an integral part of the design of the project to deal with surface water and foul water. This does not comprise measures intended to avoid or reduce the harmful effects of the Project on any European site and is in accordance with the judgment of the CJEU in case C-323/17.

More recently, the decision of the CJEU in case C-721/21 (Eco Advocacy CLG v An Bord Pleanála), delivered in June 2023, found that Article 6(3) of Directive 92/43 must be interpreted as meaning that:

"*in order to determine whether it is necessary to carry out an appropriate assessment of the implications of a plan or project for a site, account may be taken of the features of that plan or project which involve the removal of contaminants and which therefore may have the effect of reducing the harmful effects of the plan or project on that site, where those features have been incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site."* (Para. 53(3) of the Judgement).

This recent judgement therefore clarifies that features which have been incorporated into a project as standard features, inherent in that project, and irrespective of any effect on any European site may be

taken into account for the purposes of a Stage 1 Screening for Appropriate Assessment under Article 6(3) of the directive.

Measures intended to avoid or reduce the harmful effects of the Project on European sites have not been proposed in respect of the Project. As set out in section 3.3 below, design aspects of the Project such as an appropriate and site-specific drainage strategy, including SuDs features, are an integral part of the design of the project to deal with surface water and foul water and have been incorporated into the Project as standard features, inherent in the Project, and irrespective of any effect on any European site."

2.4 Consideration of Ex-situ Effects

EC (2019) advises that Member States, both in their legislation and in their practice, allow for the Article 6(3) safeguards to be applied to any development pressures, including those which are external to European sites but which are likely to have significant effects on any of them.

The CJEU developed this point when it issued a ruling in case C-461/17 ("Brian Holohan and Others v An Bord Pleanála") that determined *inter alia* that Article 6(3) of Directive 92/43/EEC must be interpreted as meaning that an appropriate assessment must on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the SSCOs of the site.

In that regard, consideration has been given in this Habitats Directive assessment to implications for habitats and species located both inside and outside of the European sites considered in the screening assessment with reference to those sites' Conservation Objectives where effects upon those habitats and/or species are liable to affect the SSCOs of the sites concerned.

2.5 Conservation Objectives

The site-specific conservation objectives ("SSCOs") for each European site are to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the site has been selected.

The favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing;
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

The favourable conservation status (or condition, at a site level) of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The most up-to-date COs for the European sites being considered have been used in this assessment. Details in relation to the Qualifying Interests ("QIs") of SACs and SCI bird populations is based on publicly available data sourced from the National Parks and Wildlife Service (NPWS) website in October 2023.

2.6 In-combination Effects

Article 6(3) of the Habitats Directive requires that in-combination effects with other plans or projects are also considered. As set out in the Commission's 2018 Notice (EC, 2019), significance will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned.

In addition, other plans or projects which are completed, approved but uncompleted, or proposed have been considered. EC (2019) specifically advises that "as regards other proposed plans or projects (i.e. other projects not proposed by the Applicant), on grounds of legal certainty it would seem appropriate to restrict the in-combination provision to those which have been actually proposed, i.e. for which an application for approval or consent has been introduced".

This report also considers and assesses, as discussed in section 4.4 below, the potential for in combination effects with the future Gas Networks Ireland (GNI) infrastructure upgrade works required to construct a new high-pressure gas distribution pipeline from the existing GNI Above Ground Installation (AGI) at Glebe West, Co. Kildare to the proposed Herbata Data Centre development.

3. THE PROJECT

3.1 Summary of the Project

The overall data centre development includes two main elements, namely:

(a) The data centre, comprising 6 no. two storey data centre buildings, an administration/management building, car parking, landscaping, energy infrastructure and other associated works. These elements are the subject of the planning application submitted to KCC, and that application is referred to hereafter as "the Data Centre Application".

(b) The substation, comprising a grid substation and 110kV transmission connection. These elements are subject of the SID application to An Bord Pleanála, and that application is referred to hereafter as "the Substation Application".

There is a separate statutory development consent process for each of these elements, with which Herbata must comply. The data centre element requires planning permission pursuant to section 34 of the Planning and Development Act 2000 (as amended) (the "2000 Act"), while the substation element is "Strategic Infrastructure Development" within the meaning of the 2000 Act and requires approval from An Bord Pleanála under section 182A of the 2000 Act (instead of a regular planning permission under section 34 of the 2000 Act).

It is therefore necessary for Herbata Limited to make two distinct applications, one to Kildare County Council in respect of the data centre (i.e. the Data Centre Application) and one to the Board in respect of the substation (i.e. the Substation Application). This is not at all unusual and is in compliance with legislation.

The Data Centre Application and the Substation Application together constitute the "Project" for the purposes of Appropriate Assessment and references to the "Project", should be read as references to those two applications taken together as one project.

3.2 Site Location

The subject site of the Project is located south of the R409, on the western side of the M7 motorway, positioned between Junctions 9a and 10, approximately 2.5km west of the Naas.

The site area (of the planning boundary) of the Data Centre Application is 37.51 ha.

The site area (of the planning boundary) of the Substation Application is 3.15 ha.

It should be noted that the aforementioned application boundaries, have a partial overlap due primarily to the alignment of the proposed underground 110kV connection, because the existing overhead 110kV line (to be removed and replaced with an underground connection) runs above part of the area the subject of the Data Centre Application, and the proposed underground 110kV connection is to be provided in the substratum beneath part of the area the subject of the Data Centre Application.

The two application sites sit jointly on lands bound to the north by the R409 road. The subject site comprises predominantly of lands in agricultural grass and smaller elements of residential and agricultural buildings. The site location is illustrated on Figure 3.1.

The site is currently in agricultural use and comprises a number of fields which are bounded by hedgerows, mature and semi-mature trees. A watercourse, the Bluebell Stream, is located to the south of, and largely forms the southern boundary of, the site.

3.3 Overview of the Project

The Project comprises 6 no. two storey data centre buildings, an admin workshop building, car parking, landscaping, energy infrastructure and other associated works. Plate 1, below, illustrates the layout of the Project with corresponding planning boundaries for both the full planning application and SID application illustrated.

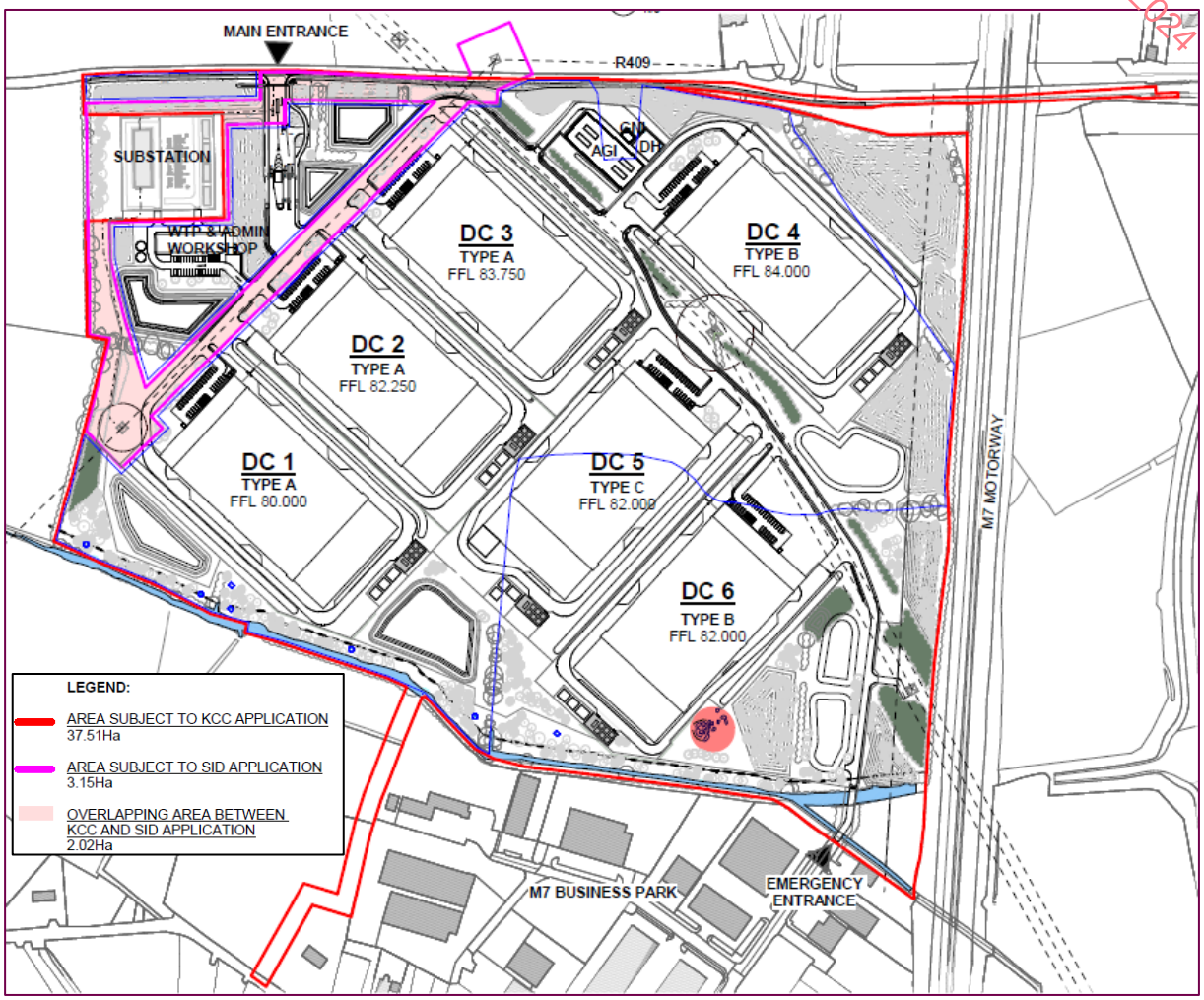

Plate 1: Project Layout

The key elements of the Project are set out below:

- Total site area of the subject site of the Project (comprising of *both* the Data Centre and Substation Applications) is 38.64 ha, comprising of the following:
  - Site area of planning application to KCC – 37.51 ha;
  - site area of the SID application to An Bord Pleanala - 3.15 ha.
- 6no. data centre buildings following a template design, each with a total internal area and height as follows:
  - Total gross floor area – 27,261m^2
  - Height to parapet – 18m
  - Height to flue – 19m
- Each data centre building will be c.19m in height;

- Admin workshop and Water Treatment Plant (WTP) of 818.9 m^2;
- Site security hut of 42.1m^2;
- District Heating (DH) building of 340.5m^2;
- Total of 210 no. car parking spaces comprising of 63 electric car charging spaces and 14 disabled car parking spaces;
- Of the 210 total, each of the 6 DC buildings will have 30 car parking spaces (total) and the administration building will also have 30 car parking spaces;
- Total number of 104 bicycle spaces (16 per each of the 6 DC buildings and 8 for the admin workshop)
- Demolition of 5 no. agricultural buildings to the centre of the site;
- Demolition of 3 no. dwellings along the northern boundary of the site, fronting onto R409 road;
- Provision of a rising main, extending from south from the site and connecting into the existing network at Newhall Road; and
- Removal of internal hedgerows and provision of site wide landscaping, including 30m mounded landscape buffer along M7.

The Project will involve the requirement for some limited works to a single minor watercourse, the Bluebell Stream, which forms the southern boundary of the Project site. These works are required in order to facilitate a proposed culvert for secondary site access to the south and the installation of proposed foul water and fibre connection along the central southern boundary of the site. It is proposed that this work will be undertaken in dry conditions and will utilising an open-cut methodology with temporary damming and fluming of the relevant lengths of watercourse.

Drainage

The operational phase of the Project will include the management of runoff from parking areas and other hard standing areas, which will be collected and discharged via a mixture of traditional and Sustainable Urban Drainage Systems (SuDS) via attenuation tanks with restricted flow to ensure greenfield run-off rates are achieved. The SuDS features include wetland habitats, soft landscaping, and retention ponds.

It is proposed to collect all surface water as far as practically possible at surface level with ponds and swales. Surface water will therefore be utilised at peak times, as well as hydrant and sprinkle back supply. The excess water will be discharged back into Bluebell river a tributary of the Liffey.

All storm water collected on site will be discharged into the current water course following treatment via SuDS measures which include green/blue roofs, permeable surfaces, grass lined bioswales, bioretention areas/ponds, bioretention tree pits and petrol interceptors.

These measures are proposed in order to ensure that the Project is in-keeping with the requirement of the Flood Directive (Directive 2007/60/EC) and associated domestic legislation and are standard measures for all developments which involve the creation of areas of hardstanding and other impermeable surfaces with potential to increase the site run-off rate and represent measures implemented as part of industry standards and best practice. Such measures have therefore been incorporated into the Project as standard features, inherent in the Project, and irrespective of any effect on any European site and are not incorporated into the proposal for the purposes of mitigation.

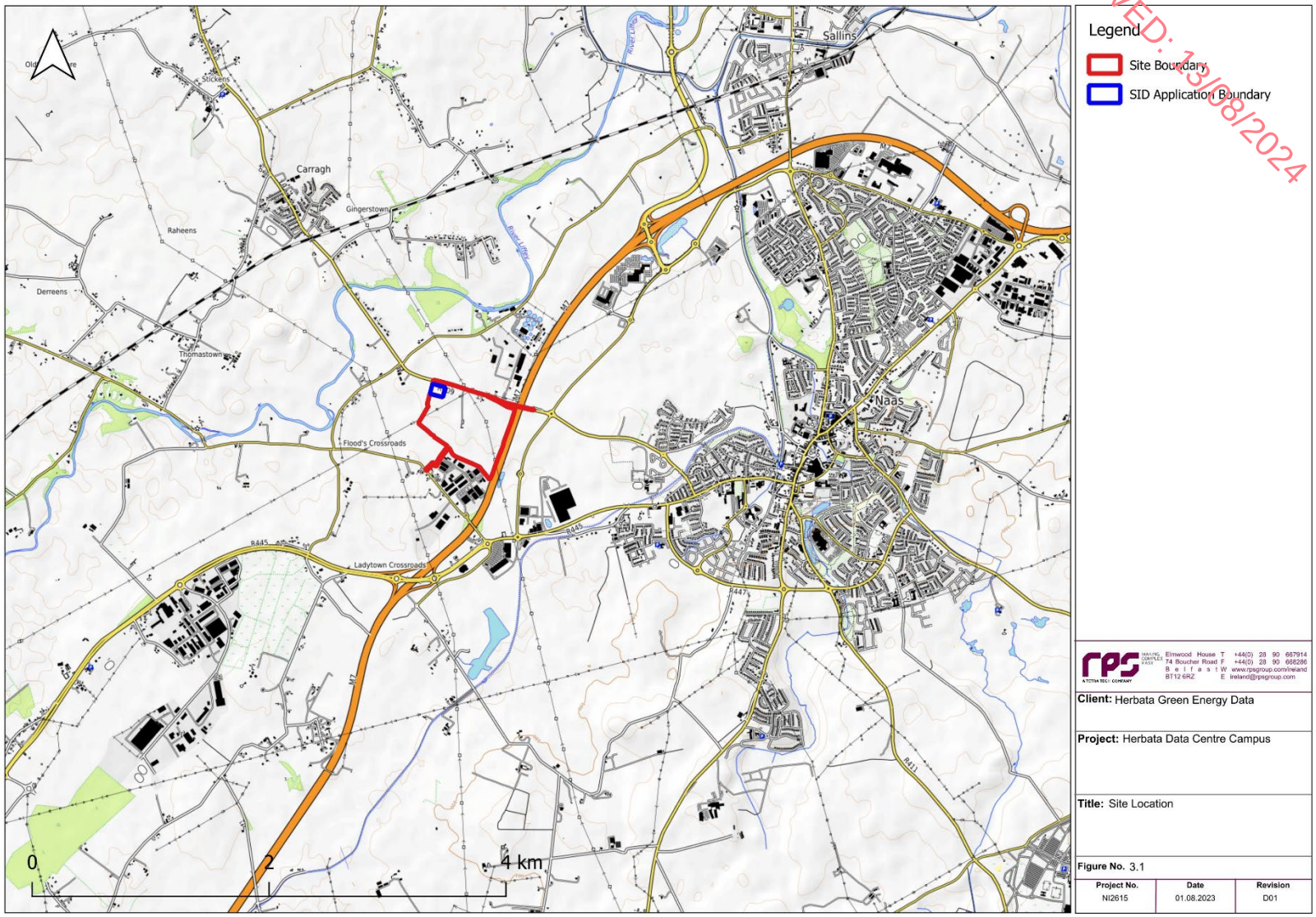

Figure 3.1: Site Location

4. STAGE 1 SCREENING ASSESSMENT

4.1 Directly connected with or necessary to the management of the site

The proposals are for the development of a new data centre campus. The project is therefore not directly connected with or necessary to the management of any European Site and is subject to the provisions of the Article 6(3) procedure laid down by the Habitats Directive and its national implementing legislation.

4.2 European Sites

A Stage 1 screening assessment must be undertaken by the competent authority to determine whether, firstly, the proposed works are directly connected with or necessary to the management of the site, and secondly, whether it is likely to have a significant effect on the site.

In addition, the provisions of national legislation make clear that a Stage 1 screening for appropriate assessment shall be carried out to assess, in view of best scientific knowledge, if the proposed works, individually or in combination with other plans or projects are likely to have a significant effect on a European site.

Given the location and nature of the project, a distance of 15 km radius has been selected to ensure that features of European sites that can potentially be affected at this distance are not automatically excluded by selecting a narrower range of sites to scope. The radius of 15 km is the distance currently recommended in NPWS guidance (NPWS, 2010). In addition sites which are otherwise linked to the Project such as those hydrologically linked to the site boundary but located at distances greater than 15km from the site, are included.

In total, six European sites, five SACs and one SPA were located within 15km of the Project, in addition to a further two SACs and three SPAs within Dublin Bay which are hydrologically linked to the Project. European Sites within the 15km potential zone of influence are illustrated at Figures 4.1 and 4.2 European Sites.

Having firstly determined that the Project is not directly connected with or necessary to the management of any European sites (refer to section 4.1 above), the identified European sites will be screened against the activities of the proposed works in order to appraise whether or not its construction, operation or decommissioning is likely to have a significant effect on any of those European sites.

Details in relation to the QIs and SCIs of these European sites and their SSCOs are provided in Table 4.1.

The information contained in these tables is based on publicly available data on these European sites, which along with the most up-to-date COs for the European sites under consideration, have been sourced from the NPWS website in October 2023.

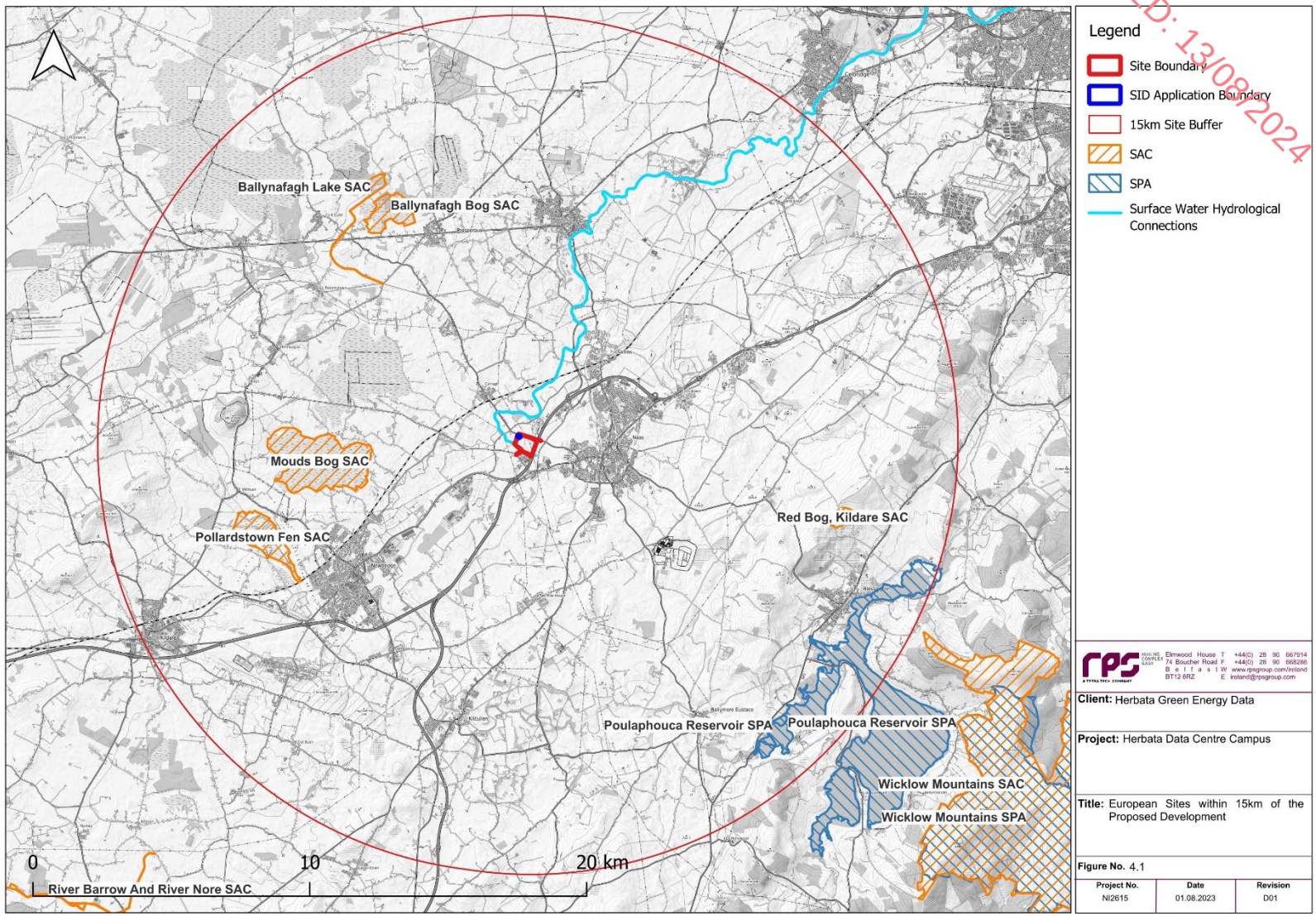

Figure 4.1: European Sites within the anticipated 15km Zone of Influence of the Project

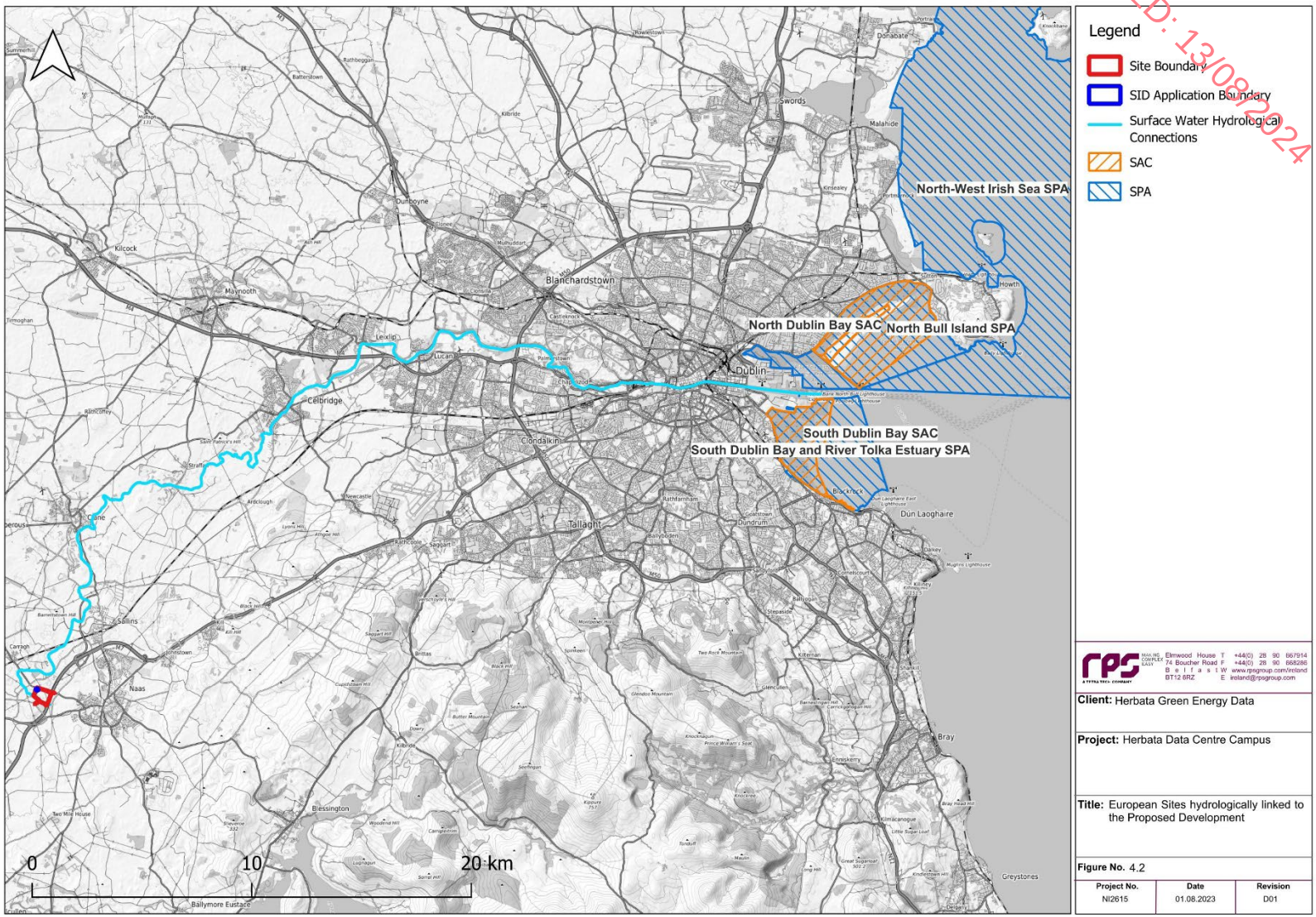

Figure 4.2: European Sites hydrologically linked to the Project

Table 4-1: Natura 2000 sites within the anticipated Zone of Influence of the Proposed Works

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
SACs			
Mouds Bog SAC [IE002331]	• [7110] Active raised bogs • [7120] Degraded raised bogs still capable of natural regeneration • [7150] Depressions on peat substrates of the Rhynchosporion	Conservation Objectives Specific Version 1.0 (20/11/15) To restore the favourable conservation condition of the supported Active raised bog in Mouds Bog SAC as defined by a range of attributes and targets: • **Habitat area**: Restore area of active raised bog to 105.8ha, subject to natural processes; • **Habitat distribution**: Restore the distribution and variability of active raised bog across the SAC; • **High bog area**: No decline in extent of high bog necessary to support the development and maintenance of active raised bog; • **Hydrological regime: water levels**: Restore appropriate water levels throughout the site; • **Hydrological regime: flow patterns**: Restore, where possible, appropriate high bog topography, flow directions and slopes; • **Transitional areas between high bog and adjacent mineral soils (including cutover areas):** Restore adequate transitional areas to support/protect active raised bog and the services it provides; • **Vegetation quality: central ecotope, active flush, soaks, bog woodland**: Restore 52.9ha of central ecotope/active flush/soaks/bog woodland as appropriate; • **Vegetation quality: microtopographical features**: Restore adequate cover of high quality microtopographical features; • **Vegetation quality: bog moss (Sphagnum)** species: Restore adequate cover of bog moss (Sphagnum) species to ensure peat-forming capacity; • **Typical ARB species: flora**: Restore, where appropriate, typical active raised bog flora; • **Typical ARB species: fauna**: Restore, where appropriate, typical active raised bog fauna; • **Elements of local distinctiveness**: Maintain features of local distinctiveness, subject to natural processes; • **Negative physical indicators**: Negative physical features absent or insignificant; • **Vegetation composition: native negative indicator species:** Native negative indicator species at insignificant levels; • **Vegetation composition: non-native invasive species:** Non-native invasive species at insignificant levels and not more than 1% cover;	5.1km W

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Air quality: nitrogen deposition**: Air quality surrounding bog close to natural reference conditions. The total N deposition should not exceed 5kg N/ha/yr; • **Water quality**: Water quality on the high bog and in transitional areas close to natural reference conditions. The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Mouds Bog SAC. Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Mouds Bog SAC.	
Ballynafagh Lake SAC [IE001387]	• [7230] Alkaline fens • [1016] Vertigo moulinsiana (Desmoulin's Whorl Snail) • [1065] Euphydryas aurinia (Marsh Fritillary)	Conservation Objectives Specific Version 1.0 (10/12/21) To restore the favourable conservation condition of the Alkaline fens in Pollardstown Fen SAC as defined by a range of attributes and targets: • **Habitat area**: Area stable or increasing, subject to natural processes; • **Habitat distribution**: No decline, subject to natural processes; • Ecosystem function: soil nutrients: Maintain soil pH and nutrient status within natural ranges; • **Ecosystem function: peat formation**: Maintain active peat formation, where appropriate; • **Ecosystem function: hydrology - groundwater levels**: Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat; • **Ecosystem function: hydrology - surface water flow:** Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage conditions; • **Ecosystem function: water quality**: Maintain, or where necessary restore, appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat; • **Vegetation composition: community diversity**: Maintain variety of vegetation communities, subject to natural processes; • **Vegetation composition: typical brown mosses**; Maintain adequate cover of typical brown moss species; • **Vegetation composition: typical vascular plants**: Maintain adequate cover of typical vascular plant species;	7.3 km NW

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Vegetation composition: native negative indicator species:** Cover of native negative indicator species at insignificant levels; • **Vegetation composition: non-native species**: Cover of non-native species less than 1%; • **Vegetation composition: native trees and shrubs:** Cover of scattered native trees and shrubs less than 10%; • **Vegetation composition: algal cover**: Cover of algae less than 2%; • **Vegetation structure: vegetation height**: At least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm above ground surface depending on community type; • **Physical structure: disturbed bare ground:** Cover of disturbed bare ground not more than 10%; • **Physical structure: tufa formations**: Disturbed proportion of vegetation cover where tufa is present is less than 1%; • **Indicators of local distinctiveness**: No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes; • **Transitional areas between fen and adjacent habitats**: Restore adequate transitional areas to support/protect the alkaline fen habitat and the services it provides. To maintain the favourable conservation condition of Desmoulin's Whorl Snail (Vertigo moulinsiana) in Ballynafagh Lake SAC as defined by a range of attributes and targets: • **Distribution**: No decline, subject to natural processes. There is one known site for this species in the SAC within the 1km grid squares N8125, N8025, N7927, N8027, N8028, N8128 and N8129; • **Occurrence in suitable habitat**: No decline, subject to natural processes. A baseline figure of 50% positive samples is set; • **Habitat area**: Area of suitable habitat stable or increasing, subject to natural processes; no less than 10ha of at least suboptimal habitat; • **Habitat quality: occupied patches in at least sub-optimal condition**: No decline, subject to natural processes. A baseline of 50% is set; • **Habitat quality: soil wetness**: No decline, subject to natural processes. To maintain the favourable conservation condition of Marsh Fritillary (Euphydryas aurinia) in Ballynafagh Lake SAC as defined by a range of attributes and targets: • **Distribution: occupied 1km grid squares**: No decline, subject to natural processes; • **Proof of breeding: larval webs**: Proof of breeding, confirmed by detection of webs;	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Potential habitat: area**: Area of potential habitat, stable or increasing, subject to natural processes.	
Ballynafagh Bog SAC [IE000391]	• [7110] Active raised bogs • [7120] Degraded raised bogs still capable of natural regeneration • [7150] Depressions on peat substrates of the Rhynchosporion	Conservation Objectives Specific Version 1.0 (10/11/15) To restore the favourable conservation condition of the supported Active raised bog in Ballynafagh Bog SAC as defined by a range of attributes and targets: • **Habitat area**: Restore area of active raised bog to 26.6ha, subject to natural processes; • **Habitat distribution**: Restore the distribution and variability of active raised bog across the SAC; • **High bog area**: No decline in extent of high bog necessary to support the development and maintenance of active raised bog; • **Hydrological regime: water levels**: Restore appropriate water levels throughout the site; • **Hydrological regime: flow patterns**: Restore, where possible, appropriate high bog topography, flow directions and slopes; • **Transitional areas between high bog and adjacent mineral soils (including cutover areas):** Restore adequate transitional areas to support/protect active raised bog and the services it provides; • **Vegetation quality: central ecotope, active flush, soaks, bog woodland**: Restore 13.3ha of central ecotope/active flush/soaks/bog woodland as appropriate; • **Vegetation quality: microtopographical features**: Restore adequate cover of high quality microtopographical features; • **Vegetation quality: bog moss (Sphagnum)** species: Restore adequate cover of bog moss (Sphagnum) species to ensure peat-forming capacity; • **Typical ARB species: flora**: Restore, where appropriate, typical active raised bog flora; • **Typical ARB species: fauna**: Restore, where appropriate, typical active raised bog fauna; • **Elements of local distinctiveness**: Maintain features of local distinctiveness, subject to natural processes; • **Negative physical indicators**: Negative physical features absent or insignificant; • **Vegetation composition: native negative indicator species:** Native negative indicator species at insignificant levels; • **Vegetation composition: non-native invasive species:** Non-native invasive species at insignificant levels and not more than 1% cover; • **Air quality: nitrogen deposition**: Air quality surrounding bog close to natural reference conditions. The total N deposition should not exceed 5kg N/ha/yr;	8.5km NW

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Water quality**: Water quality on the high bog and in transitional areas close to natural reference conditions. The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Ballynafagh Bog SAC. Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Ballynafagh Bog SAC.	
Pollardstown Fen SAC [IE000396]	• [7210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae • [7220] Petrifying springs with tufa formation (Cratoneurion) • [7230] Alkaline fens • [1013] Vertigo geyeri (Geyer's Whorl Snail) • [1014] Vertigo angustior (Narrow-mouthed Whorl Snail) • [1016] Vertigo moulinsiana (Desmoulin's Whorl Snail)	Conservation Objectives Specific Version 1.0 (14/01/22) To restore the favourable conservation condition of the supported Calcareous fens with Cladium mariscus and species of the Caricion davallianae* in Pollardstown Fen SAC as defined by a range of attributes and targets: • **Habitat area**: Area stable or increasing, subject to natural processes; • **Habitat distribution**: No decline, subject to natural processes; • **Ecosystem function: soil nutrients**: Maintain soil pH and nutrient status within natural ranges; • **Ecosystem function: peat formation**: Maintain active peat formation, where appropriate; • **Ecosystem function: hydrology - groundwater levels**: Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat; • **Ecosystem function: hydrology - surface water flow**: Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage conditions; • **Ecosystem function: water quality**: Maintain, or where necessary restore, appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat; • **Vegetation composition: cover of Cladium mariscus**: Cover of Cladium mariscus at least 25%; • **Vegetation composition: typical vascular plants**: Maintain adequate cover of typical vascular plant species; • **Vegetation composition: native negative indicator species:** Cover of native negative indicator species at insignificant levels; • **Vegetation composition: non-native species**: Cover of non-native species less than 1%;	8.9km SW

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Vegetation composition: native trees and shrubs**: Cover of scattered native trees and shrubs less than 10%; • **Vegetation composition: algal cover**: Cover of algae less than 2%; • **Vegetation structure: vegetation height**: At least 10% of live shoots more than 1m high; • **Physical structure: disturbed bare ground**: Cover of disturbed bare ground not more than 10%; • **Physical structure: tufa formations**: Disturbed proportion of vegetation cover where tufa is present is less than 1%; • **Indicators of local distinctiveness**: No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes; • **Transitional areas between fen and adjacent habitats**: Maintain/restore adequate transitional areas to support/protect the Cladium fen habitat and the services it provides. To restore the favourable conservation condition of the supported Petrifying springs with tufa formation (Cratoneurion)* in Pollardstown Fen SAC as defined by a range of attributes and targets: • **Habitat area**: Area stable or increasing, subject to natural processes; • **Habitat distribution**: No decline, subject to natural processes; • **Hydrological regime: height of water table**; water flow: Maintain appropriate hydrological regimes; • **Physical structure: tufa formations**: Maintain appropriate levels of tufa formation; • **Ecosystem function: water quality - nitrate level**: Maintain/restore nitrate levels to less than 10mg/l; • **Ecosystem function: water quality - phosphate level**: Maintain/restore phosphate levels to less than 15µg/l; • **Vegetation composition: community diversity**: Maintain/restore variety of vegetation communities, subject to natural processes; • **Vegetation composition: positive indicator species**: At least three positive/high quality indicator species as listed in Lyons and Kelly (2016) and no loss from baseline number; • **Vegetation composition: negative indicator species**: Potentially negative indicator species should not be Dominant or Abundant; woody species should be absent in unwooded springs; invasive species should be absent; • **Vegetation composition: algal cover**: Cover of algae less than 2%;	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Vegetation structure: sward height**: Field layer height between 10cm and 50cm (except for bryophyte-dominated ground <10cm); • Physical structure: trampling/dung: Cover should not be Dominant or Abundant; • **Indicators of local distinctiveness**: No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes. To restore the favourable conservation condition of the Alkaline fens in Pollardstown Fen SAC as defined by a range of attributes and targets: • **Habitat area**: Area stable or increasing, subject to natural processes; • **Habitat distribution**: No decline, subject to natural processes; • Ecosystem function: soil nutrients: Maintain soil pH and nutrient status within natural ranges; • **Ecosystem function: peat formation**: Maintain active peat formation, where appropriate; • **Ecosystem function: hydrology - groundwater levels**: Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat; • **Ecosystem function: hydrology - surface water flow:** Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage conditions; • **Ecosystem function: water quality**: Maintain, or where necessary restore, appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat; • **Vegetation composition: community diversity**: Maintain variety of vegetation communities, subject to natural processes; • **Vegetation composition: typical brown mosses**; Maintain adequate cover of typical brown moss species; • **Vegetation composition: typical vascular plants**: Maintain adequate cover of typical vascular plant species; • **Vegetation composition: native negative indicator species:** Cover of native negative indicator species at insignificant levels; • **Vegetation composition: non-native species**: Cover of non-native species less than 1%; • **Vegetation composition: native trees and shrubs:** Cover of scattered native trees and shrubs less than 10%; • **Vegetation composition: algal cover**: Cover of algae less than 2%;	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works

- **Vegetation structure: vegetation height**: At least 50% of the live leaves/flowering shoots are more than either 5cm or 15cm above ground surface depending on community type;
- **Physical structure: disturbed bare ground:** Cover of disturbed bare ground not more than 10%;
- **Physical structure: tufa formations**: Disturbed proportion of vegetation cover where tufa is present is less than 1%;
- **Indicators of local distinctiveness**: No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes;
- **Transitional areas between fen and adjacent habitats**: Restore adequate transitional areas to support/protect the alkaline fen habitat and the services it provides.

To maintain the favourable conservation condition of Geyer's Whorl Snail (Vertigo geyeri) in Pollardstown Fen SAC as defined by a range of attributes and targets:

- **Distributio**n: No decline, subject to natural processes. There is one known site for this species in the SAC within the 1km grid squares N7615, N7616, N7715, and N7716;
- **Occurrence in suitable habitat**: No decline, subject to natural processes. A baseline figure of 50% positive samples is set;
- **Habitat area**: Area of suitable habitat stable or increasing, subject to natural processes; no less than 2ha of at least suboptimal habitat, with at least 50% in optimal condition;
- **Habitat quality**: No decline, subject to natural processes;
- **Habitat quality:** soil wetness: No decline, subject to natural processes.

To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail (Vertigo angustior) in Pollardstown Fen SAC as defined by a range of attributes and targets:

- **Distribution**: No decline, subject to natural processes. There is one known site for this species in the SAC within the 1km grid squares N7615 and N7715;
- **Occurrence in suitable habitat**: No decline, subject to natural processes. A baseline figure of 50% positive samples is set;
- **Habitat area**: Area of suitable habitat stable or increasing, subject to natural processes; no less than 2ha of optimal habitat;
- **Habitat quality: soil wetness**: No decline, subject to natural processes.
-

To maintain the favourable conservation condition of Desmoulin's Whorl Snail (Vertigo moulinsiana) in Pollardstown Fen SAC as defined by a range of attributes and targets:

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Distribution**: No decline, subject to natural processes. There is one known site for this species in the SAC within the 1km grid squares N7615, N7616, N7715 and N7716; • **Occurrence in suitable habitat**: No decline, subject to natural processes. A baseline figure of 75% positive samples is set; • **Density within habitat**: No decline, subject to natural processes; at least 50% of samples should have at least 20 individuals; • **Habitat area**: Area of suitable habitat stable or increasing, subject to natural processes; no less than 10ha of at least suboptimal habitat; • **Habitat quality**: No decline, subject to natural processes; • **Habitat quality: soil wetness**: No decline, subject to natural processes.	
Red Bog, Kildare SAC [IE000397]	• [7140] Transition mires and quaking bogs	Conservation Objectives Specific Version 1.0 (17/07/19) To maintain the favourable conservation condition of Transition mires and quaking bogs in Red Bog, Kildare SAC, as defined by the following list of attributes and targets: • **Habitat area**: Area stable or increasing, subject to natural processes; • **Habitat distribution**: No decline, subject to natural processes; • **Ecosystem function: soil nutrients**: Maintain soil pH and nutrient status within natural ranges; • **Ecosystem function: peat formation**: Maintain active peat formation, where appropriate; • **Ecosystem function: hydrology - water levels:** Maintain appropriate water levels necessary to support the natural structure and functioning of the habitat; • **Ecosystem function: hydrology - flow patterns:** Maintain appropriate topography and water movement regime necessary to support the natural structure and functioning of the habitat; • **Ecosystem function: water quality**: Maintain appropriate water quality to support the natural structure and functioning of the habitat; • **Community diversity:** Maintain variety of vegetation communities, subject to natural processes; • **Vegetation composition: typical vascular plants and bryophytes**: Maintain adequate cover of typical vascular plant and bryophyte species; • **Vegetation composition: native negative indicator species:** Native negative indicator species at insignificant levels; • **Vegetation composition: non-native species**: Cover of non-native species less than 1%; • **Physical structure: drainage**: Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%;	10.9km E

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Physical structure: disturbed bare ground:** Cover of disturbed bare ground less than 10%; • **Indicators of local distinctiveness:** No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes.	
South Dublin Bay SAC [IE000210]	• [1140] Mudflats and sandflats not covered by seawater at low tide • [1210] Annual vegetation of drift lines • [1310] Salicornia and other annuals colonising mud and sand • [2110] Embryonic shifting dunes	Conservation Objectives Specific Version 1.0 (22/08/13) To maintain the favourable conservation condition of the supported Mudflats and sandflats not covered by seawater at low tide of the North Dublin Bay SAC, as defined by a range of attributes and targets: • **Habitat area**: The permanent habitat area is stable or increasing, subject to natural processes; • **Community extent**: Maintain the extent of the Zostera-dominated community, subject to natural processes; • **Community structure: Zostera density: C**onserve the high quality of the Zostera-dominated community, subject to natural processes; • **Community distribution**: Conserve the following community types in a natural condition: Fine sands with Angulus tenuis community complex.	34.7km NE 58km by hydrological connection
North Dublin Bay SAC [IE000206]	• [1140] Mudflats and sandflats not covered by seawater at low tide • [1210] Annual vegetation of drift lines • [1310] Salicornia and other annuals colonising mud and sand • [1330] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • [1410] Mediterranean salt meadows (*Juncetalia maritimi*) • [2110] Embryonic shifting dunes • [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) • [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes)	Conservation Objectives Specific Version 1.0 (06/11/13) To maintain the favourable conservation condition of the supported Mudflats and sandflats not covered by seawater at low tide of the North Dublin Bay SAC, as defined by a range of attributes and targets: • **Habitat area**: The permanent habitat area is stable or increasing, subject to natural processes; • **Community extent**: Maintain the extent of the Mytilus edulis-dominated community, subject to natural processes; • **Community structure: Mytilus edulis density: C**onserve the high quality of the Mytilus edulis-dominated community, subject to natural processes; • **Community distribution**: Conserve the following community types in a natural condition: Fine sand to sandy mud with Pygospio elegans and Crangon crangon community complex; Fine sand with Spio martinensis community complex. To restore the favourable conservation condition of the supported Annual vegetation of drift lines of the North Dublin Bay SAC, as defined by a range of attributes and targets:	34.8km NE 58.5km by hydrological connection

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
	• [2190] Humid dune slacks • [1395] Petalophyllum ralfsii (Petalwort)	• **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes; • **Physical structure: functionality and sediment supply**: Maintain the natural circulation of sediment and organic matter, without any physical obstructions; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; • **Vegetation composition: typical species and sub-communities:** Maintain the presence of species-poor communities with typical species: sea rocket (Cakile maritima), sea sandwort (Honckenya peploides), prickly saltwort (Salsola kali) and oraches (Atriplex spp.); • **Vegetation composition: negative indicator species:** Negative indicator species (including non-natives) to represent less than 5% cover. To restore the favourable conservation condition of the supported Salicornia and other annuals colonising mud and sand of the North Dublin Bay SAC, as defined by a range of attributes and targets: • **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes; • **Physical structure: sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions; • **Physical structure: creeks and pans**: Maintain creek and pan structure, subject to natural processes, including erosion and succession; • **Physical structure: flooding regime**: Maintain natural tidal regime; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; • **Vegetation structure: vegetation height:** Maintain structural variation within sward; • **Vegetation structure: vegetation cover**: Maintain more than 90% of area outside creeks vegetated; • **Vegetation composition: typical species and sub-communities:** Maintain the presence of species-poor communities listed in SMP (McCorry and Ryle, 2009); • **Vegetation structure: negative indicator species** - Spartina anglica: No significant expansion of common cordgrass (Spartina anglica), with an annual spread of less than 1%.	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		To maintain the favourable conservation condition of the supported Atlantic salt meadows (Glauco-Puccinellietalia maritimae) of the North Dublin Bay SAC, as defined by a range of attributes and targets: • **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes; • **Physical structure: sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions; • **Physical structure: creeks and pans**: Maintain creek and pan structure, subject to natural processes, including erosion and succession; • **Physical structure: flooding regime**: Maintain natural tidal regime; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; • **Vegetation structure: vegetation height:** Maintain structural variation within sward; • **Vegetation structure: vegetation cover**: Maintain more than 90% of area outside creeks vegetated; • **Vegetation composition: typical species and sub-communities:** sub-communities with typical species listed in SMP (McCorry and Ryle, 2009); • **Vegetation structure: negative indicator species - Spartina anglica**: No significant expansion of common cordgrass (Spartina anglica), with an annual spread of less than 1%. To maintain the favourable conservation condition of the supported Mediterranean salt meadows (Juncetalia maritimi) of the North Dublin Bay SAC, as defined by a range of attributes and targets: • **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes; • **Physical structure: sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions; • **Physical structure: creeks and pans**: Maintain creek and pan structure, subject to natural processes, including erosion and succession; • **Physical structure: flooding regime**: Maintain natural tidal regime; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession;	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Vegetation structure: vegetation height:** Maintain structural variation within sward; • **Vegetation structure: vegetation cover**: Maintain more than 90% of area outside creeks vegetated; • **Vegetation composition: typical species and sub-communities:** sub-communities with typical species listed in SMP (McCorry and Ryle, 2009); • **Vegetation structure: negative indicator species** - Spartina anglica: No significant expansion of common cordgrass (Spartina anglica), with an annual spread of less than 1%. To restore the favourable conservation condition of the supported Embryonic shifting dunes of the North Dublin Bay SAC, as defined by a range of attributes and targets**:** • **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes; • **Physical structure: functionality and sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; • **Vegetation composition: plant health of foredune grasses**: More than 95% of sand couch (Elytrigia juncea) and/or lyme-grass (Leymus arenarius) should be healthy (i.e. green plant parts above ground and flowering heads present; • **Vegetation composition: typical species and sub-communities**: Maintain the presence of species-poor communities with typical species: sand couch (Elytrigia juncea) and/or lyme-grass (Leymus arenarius) • **Vegetation composition: negative indicator species**: Negative indicator species (including non-native species) to represent less than 5% cover. To restore the favourable conservation condition of the supported Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) of the North Dublin Bay SAC, as defined by a range of attributes and targets**:** • **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes;	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Physical structure: functionality and sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; • **Vegetation composition: plant health of dune grasses**: 95% of marram grass (Ammophila arenaria) and/or lyme-grass (Leymus arenarius) should be healthy (i.e. green plant parts above ground and flowering heads present); • **Vegetation composition: typical species and sub-communities:** Maintain the presence of species-poor communities dominated by marram grass (Ammophila arenaria) and/or lyme-grass (Leymus arenarius); • **Vegetation composition: negative indicator species:** Negative indicator species (including non-natives) to represent less than 5% cover. To restore the favourable conservation condition of the supported Fixed coastal dunes with herbaceous vegetation (grey dunes) of the North Dublin Bay SAC, as defined by a range of attributes and targets**:** • **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession; • **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes; • **Physical structure: functionality and sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions; • **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; • **Vegetation structure: bare ground**: Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes; • **Vegetation structure: sward height**: Maintain structural variation within sward; • **Vegetation composition: typical species and sub-communities:** Maintain range of sub-communities with typical species listed in Delaney et al. (2013); • **Vegetation composition: negative indicator species (including Hippophae rhamnoides):** Negative indicator species (including non-natives) to represent less than 5% cover; • **Vegetation composition: scrub/trees**: No more than 5% cover or under control. To restore the favourable conservation condition of the supported Humid dune slacks of the North Dublin Bay SAC, as defined by a range of attributes and targets**:**	

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works

- **Habitat area**: The permanent habitat area increasing, subject to natural processes including erosion and succession;
- **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes;
- **Physical structure: functionality and sediment supply**: Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions;
- **Physical structure: hydrological and flooding** regime: Maintain natural hydrological regime;
- **Vegetation structure: zonation**: Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession;
- **Vegetation structure: bare ground**: Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground;
- **Vegetation structure: Vegetation height**: Maintain structural variation within sward;
- **Vegetation composition: typical species and sub-communities:** Maintain range of sub-communities with typical species listed in Delaney et al. (2013);
- **Vegetation composition: cover of Salix repens**: Maintain less than 40% cover of creeping willow (Salix repens);
- **Vegetation composition: negative indicator species**: Negative indicator species (including non-natives) to represent less than 5% cover;
- **Vegetation composition: scrub/trees**: No more than 5% cover or under control.

To maintain the favourable conservation condition of the supported Petalwort *Petalophyllum ralfsii* of the North Dublin Bay SAC, as defined by a range of attributes and targets:

- **Distribution of populations**: No decline;
- **Population size:** No decline. Population at Bull Island estimated at a maximum of 5,824 thalli. Actual population is more likely to be 5% of this, or c. 300 thalli;
- **Area of suitable habitat**: No decline. Area of suitable habitat at Bull Island is estimated at c. 0.04ha ;
- **Hydrological conditions: soil moisture**: Maintain hydrological conditions so that substrate is kept moist and damp throughout the year, but not subject to prolonged inundation by flooding in winter;
- **Vegetation structure: height and cover:** Maintain open, low vegetation with a high percentage of bryophytes (small acrocarps and liverwort turf) and bare ground.

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
SPA			
Poulaphouca Reservoir SPA [IE004063]	• Greylag Goose (*Anser anser*) [A043] • Lesser Black-backed Gull (*Larus fuscus*) [A183]	First Order Site-specific Conservation Objectives Version 1.0 (12/10/22) To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. In order to fully consider and assess any potential effects of the Project on this site, the authors of this report have also had regard to the site-specific conservation objectives for other SPAs which feature the relevant SCI species,including the following objectives which are used here as approximate examples: <u>Greylag Goose *Anser anser*</u> (Taken from Dundalk Bay SPA (NPWS 2011a)) To restore the favourable conservation condition of greylag goose as defined by a range of attributes and targets: • **Winter population trend**: Long term winter population trend within the SPA is stable or increasing; • **Winter spatial distribution**: Sufficient area and availability (in terms of timing and intensity of use) of suitable habitat to support the population target; • **Disturbance at wintering site**: The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution; • **Barriers to connectivity and site use**: The number, location, shape and area of barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA; • **Forage spatial distribution, extent and abundance**: Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target; • **Roost spatial distribution and extent:** Sufficient number of locations, area and availability of suitable roosting habitat to support the population target; • **Supporting habitat: area and quality**: Sufficient area of utilisable habitat available in ecologically important sites outside the SPA. <u>Lesser Black-backed Gull *Larus fuscus*</u> (Taken from Saltee Islands SPA (NPWS 2011b)) To maintain the favourable conservation condition of Lesser Black-backed Gull as defined by a range of attributes and targets:	11.9km SE

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
		• **Population trend:** Long term population trend stable or increasing; • **Distribution**: No significant decrease in the range, timing or intensity of use of areas by lesser black-backed gull, other than that occurring from natural patterns of variation.	
South Dublin Bay and River Tolka Estuary SPA [IE004024]	• Light-Bellied Brent Goose (*Branta bernicla hrota*) [A046] • Oystercatcher (*Haemotopus ostralegus*) [A130] • Ringed Plover (*Charadrius hiaticula*) [A137] • Knot (Calidris canutus) [A143] • Sanderling (*Calidris alba*] [A144] • Dunlin (*Calidris alpina*) [A149] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Redshank (*Tringa totanus*) [A162] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Roseate Tern (*Sterna dougallii*) [A192] • Common Tern (*Sterna hirundo*) [A193] • Arctic Tern (*Sterna paradisaea*) [A194] • Wetland and Waterbirds [A999]	Conservation Objectives Specific Version 1.0 (09/03/15) To maintain the favourable conservation condition of the supported populations of wintering SCI bird species of the South Dublin Bay and River Tolka Estuary SPA, as defined by a range of attributes and targets: • **Population trend**: Long term population trend stable or increasing; • **Distribution**: No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation. To maintain the favourable conservation condition of the supported populations of breeding SCI tern species of the South Dublin Bay and River Tolka Estuary SPA, as defined by a range of attributes and targets: • **Passage population: individuals**: No significant decline. • **Distribution: roosting areas**: No significant decline. • **Prey biomass available**: No significant decline. • **Barriers to connectivity**: No significant increase. • **Disturbance at roosting site:** Human activities should occur at levels that do not adversely affect the numbers of terns among the post-breeding aggregation of terns. • **Breeding population abundance: apparently occupied nests (AONs)**: No significant decline. (Common Tern only); • **Productivity rate: fledged young per breeding pair:** No significant decline. (Common Tern only); • **Distribution: breeding colonies:** No significant decline. (Common Tern only); • **Disturbance at breeding site:** Human activities should occur at levels that do not adversely affect the breeding common tern population. (Common Tern only). To maintain the favourable conservation condition of the wetland habitat in South Dublin bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target: • **Habitat area**: The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192 hectares, other than that occurring from natural patterns of variation.	34.7km NE 58km by hydrological connection

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
North Bull Island SPA [IE004006]	• Light-Bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Teal (*Anas crecca*) [A052] • Pintail (*Anas acuta*) [A054] • Shoveler (*Anas clypeata*) [A056] • Oystercatcher (*Haematopus ostralegus*) [A130] • Golden Plover (*Pluvialis apricaria*) [A140] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (Calidris canutus) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149] • Black-tailed Godwit (*Limosa limosa*) [A156] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Curlew (*Numenius arquata*) [A160] • Redshank (*Tringa totanus*) [A162] • Turnstone (*Arenaria interpres*) [A169] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Wetland and Waterbirds [A999]	Conservation Objectives Specific Version 1.0 (09/03/15) To maintain the favourable conservation condition of the supported populations of SCI bird species of the North Bull Island SPA, as defined by a range of attributes and targets. • **Population trend**: Long term population trend stable or increasing; • **Distribution**: No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation. To maintain the favourable conservation condition of the wetland habitat in North Bull Island SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target: • **Habitat area**: The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation.	36.7km NE 58.5km by hydrological connection
North-West Irish Sea cSPA [IE004236]	• Common Scoter (*Melanitta nigra*) [A065] • Red-throated Diver (*Gavia stellata*) [A001] • Great Northern Diver (*Gavia immer*) [A003] • Fulmar (*Fulmarus glacialis*) [A009] • Manx Shearwater (*Puffinus puffinus*) [A013] • Shag (*Phalacrocorax aristotelis*) [A018] • Cormorant (*Phalacrocorax carbo*) [A017]	Conservation Objectives Specific Version 1.0 (19/09/23) To maintain or restore the favourable conservation condition of the supported populations of SCI bird species of the North-west Irish Sea cSPA, as defined by a range of attributes and targets. For each of the SCI species the following attributes and targets are published in respect of their conservation objectives: • **Breeding population size**: No significant decline;	36.7km NE 58.5km by hydrological connection

Site name	Qualifying Interest (QI)	Conservation Objectives	Distance and direction of European site from the Proposed Works
	• Little Gull (*Larus minutus*) [A177] • Kittiwake (*Rissa tridactyla*) [A188] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Common Gull (*Larus canus*) [A182] • Lesser Black-backed Gull (*Larus fuscus*) [A183] • Herring Gull (*Larus argentatus*) [A184] • Great Black-backed Gull (*Larus marinus*) [A187] • Little Tern (*Sterna albifrons*) [A195] • Roseate Tern (*Sterna dougallii*) [A192] • Common Tern (*Sterna hirundo*) [A193] • Arctic Tern (*Sterna paradisaea*) [A194] • Puffin (*Fratercula arctica*) [A204] • Razorbill (*Alca torda*) [A200] • Guillemot (*Uria aalge*) [A199]	• **Spatial distribution:** Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population; • **Forage spatial distribution, extent, abundance and availability:** Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target; • **Disturbance across the site**: The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution; and • **Barriers to connectivity**: The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA.	

4.3 Potential Effects

4.3.1 Ascertaining whether or not Pathways of Effect exist

The possibility of significant effects is considered using a source-pathway-receptor model. 'Source' is defined as the individual elements of the proposed works that have the potential to affect the identified ecological receptors both within the European site and outside of it in accordance with the 'Holohan' judgment (refer section 2.4 above). 'Pathway' is defined as the means or route by which a source can affect the ecological receptor. 'Ecological receptor' is defined as the SCI (of SPAs) or QI (of SACs) for which COs have been set for the European sites under consideration. Each element can exist independently however an effect is created when there is a linkage between the source, pathway and receptor.

Possible direct and indirect effects arising as a result of activities undertaken as part of the project are as follows:

- Direct Effects:
  - Habitat loss;
  - Aerial noise and/or visual disturbance or displacement of Annex II qualifying species or Special Conservation Interest (SCI) bird species; and
  - Underwater noise and vibration.
- Indirect Effects
  - Reduction in water quality and habitat deterioration of Annex I habitats in SACs, wetland habitats in SPAs and non-annex habitats resulting in impacts to Annex Ii species, as result of suspended sediments or pollution incidents.

Given the sites location, which is isolated from any nearby European sites, in addition to the nature of the Project which will not give rise to operational phase recreational disturbance or operational phase collision risk, among other potential effect pathways, no further pathways for effect upon European sites will arise as a result of the Project.

4.3.2 Habitat Loss

The Project will not take place within any European site. There will be no direct habitat loss from any European site as a result of the proposed works.

Likely significant effects will not occur as a result of direct habitat loss.

The site is hydrologically connected to a number of European sites supporting coastal and marine habitats. Consideration is then given as to whether or not the Proposed Works could indirectly affect the qualifying habitats of any of those European sites.

4.3.3 Aerial Noise and Visual Disturbance

The proposed works will give rise to no works within proximity to any European sites. Annex II species populations and Annex I SCI bird populatiosn of nearby SACs or SPAs respectively are highly unlikley to be present within the site and it is known that the site is not used as supporting habitat by any such populations.

Likely significant effects will therefore not occur as a result of aerial noise and visual disturbance.

4.3.4 Underwater Noise and Vibration

The proposed works will involve relatively limited works in relative proximity to a single minor watercourse, the Bluebell Stream, which is hydrologically linked to the South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA.

The site is distant (at least 58km) from any hydrologically linked European sites, which are additionally not designated on account of Annex II species which are sensitive to the effects of underwater noise or vibration. No Annex II species known to be sensitive to effects associated with underwater noise or vibration is likely to be subject to any adverse effects as a result of the Project, given their absence from the affected areas.

There is no possibility of a likely significant effect as a consequence of underwater noise emissions or vibration arising as a result of the proposed works.

4.3.5 Water Quality and Habitat Deterioration

Aspects of the Project, inclusive of works within proximity to the Bluebell stream, a minor watercourse, including proposed watercourse crossings utilising an open-cut methodology in addition to general construction activities and earthworks across the site in proximity to field drains, have potential to give rise to elevated concentrations of suspended sediments within the freshwater environment.

Potential operational phase impacts to the aquatic environment are limited to those associated with pollution and sedimentation arising as a result of contaminated surface water run-off in addition to the inappropriate discharge of foul water into the aquatic environment.

As set out above the site is hydrologically connected to a number of European sites within Dublin Bay, via the Bluebell Stream and subsequently the River Liffey, including the South Dublin Bay SAC and North Dublin Bay SAC and the South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA. The Project is located at a minimum distance of 34.7km from each of these European sites (straight-line distance) and is linked to them by a hydrological pathway at least 58km in length.

There is no potential for the Project to give rise to any impacts through water quality and habitat deterioration effects upon other European sites which are not hydologically connected to the site. This is inclusive of all other European sites included at Table 4.1 including Poulaphouca Reservoir SPA, Mouds Bog SAC, Ballynafagh Lake SAC, Ballynafagh Bog SAC, Pollardstown Fen SAC or Red Bog, Kildare SAC.

Proposed works which will take place within 10m of the Bluebell Stream, with potential to result in run-off of sediments and pollutants and thus linked to the sites via an identifiable impact pathway, will be limited to the proposed temporary open cut watercourse crossing required in order to facilitate the delivery of the foul sewer and fibre cable connection in addition to the installation of a culvert to facilitate delivery of the secondary site access and any associated works. These works, with potential to directly impact upon the watercourse, are extremely limited and small-scale in nature and will be undertaken over an extremely limited time period and in line with best practice measures, in dry conditions following damming and fluming of the relevant lengths of watercourse.

The construction phase will also involve significant earth works to facilitate site levelling and the creation of Sustainable Drainage Systems (SuDS). Such works have potential to result in adverse impacts upon the aquatic environment through the inadvertent release of such sediment materials into the Bluebell Stream. Given that the stream is in places more akin to a large field drain, it is considered highly likely that such released sediments would be deposited quickly and not borne downstream in suspension as the stream support generally weak flows. Over the 58km pathway separating the site and downstream European sites any sediments or pollutants arising as a result of the Project would be subject to deposition or dilution within the extremely large volumes of water within the River Liffey prior

to discharge to Dublin Bay itself. It is noted that the River Liffey drains a catchment of 1,256km^2 with associated existing agricultural sediment loads and diffuse inputs.

Significant mixing of seawater occurs in Dublin Bay with freshwater flowing in from the surrounding river catchments. The mixing and dilution of any polluting materials that nonetheless escape to the marine environment as a result of the proposed works will be further aided by the tidal currents, wind and wave climate which transport and continue to mix the seawater and freshwater (and any polluting substances) both into and out of the Liffey Estuary, and help it disperse widely and dilute to much lower concentrations throughout Dublin Bay to the point where it cannot be detected above background levels. On this basis any potential minor inputs arising as a result of the proposed works are highly likely to be undetectable at the point at which any such materials reach any European sites which lie at distances greater than 58km downstream of the proposed works.

Furthermore, it is noted that Annex I habitats, Annex II species and SPA bird populations which comprise the qualifying interests of the relevant downstream SACs and SPAs are not particularly sensitive to the effects of sedimentation. The transportation and deposition of sediments within Dublin Bay are part of a natural ongoing process which has contributed to the favourable conservation status of the relevant SACs and SPAs and their qualifying interests. Water qualitfy is not specifically listed as an attribute within the conservation objecties for any of the relevant qualifying features of the SACs and SPAs within Dublin Bay.

Therefore, potential construction and operational phase effects associated with sedimentation, pollution, surface water runoff, and foul water have no potential to give rise to a measurable effect upon the downstream European sites within Dublin Bay. This conclusion is drawn in light of the relatively small-scale nature of such potential inputs, the length of the hydrological pathway, the nature of the Liffey catchment which is already subject to significant input of sediments and other materials which , in addition to the nature of the relevant European sites which are not designated on account of qualifying interests which are known to be sensitive to impacts associated with sedimentation or minute changes in water quality, effects which are nonetheless not anticipated to occur as a result of the operational phase of the Project.

Further to the above information, it is noted that the proposals will incorporate a range of standard water quality and flood protection measures including the implementation of industry standard best practice measures for the protection of surface waterbodies at construction phase and the construction of extensive SuDS features and associated interceptors and drainage swales which will function at operational phase. As set out above, at Section 3.3 and in line with the legal considerations set out within Section 2.3, these measures have been incorporated into the Project as standard features, inherent in the Project, and irrespective of any effect on any European site. They are industry standard best practice measures which would be implemented regardless of the presence or absence of linked European sites.

On the basis of the above, likely significant water quality or habitat deterioration effects upon the South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea cSPA or any further European sites is excluded at the screening stage.

4.4 In-Combination Effects

Article 6(3) of the Habitats Directive requires that in-combination effects with other plans or projects are also considered. As set out in the Commission's 2018 Notice (EC, 2019), significance of effect will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned. The significance of any identified combined effects of the Proposed works alongside other past, present or reasonably foreseeable future plans or projects must be evaluated.

In that context, plans or projects which are completed, approved but uncompleted, or proposed have been considered. EC (2019) specifically advises that "as regards other proposed plans or projects, on grounds of legal certainty it would seem appropriate to restrict the in-combination provision to those

which have been actually proposed, i.e. for which an application for approval or consent has been introduced".

Future Gas Networks Ireland Infrastructure Upgrade Works

As set out in Chapter 3 of the EIAR, the Project will use highly efficient on-site gas turbines to generate the majority of electrical energy required to operate the Data Centres. Whilst the Project includes an on-site Above Ground Installation (AGI) to regulate the supply to the turbines, a physical connection to the GNI gas network is required to provide the supply to the gas turbines.

A high-pressure gas pipe is expected to be made available by GNI at the proposed Data Centre site boundary on the R409. This will then feed into an AGI gas infrastructure compound, to be constructed as part of the Data Centre development, to reduce the pressure to 24 Bar. This supply is required to feed the on-site power generation solution for the Data Centres.

The final, detailed design, consenting and construction of the required infrastructure works will be the responsibility of GNI in the exercise of their own statutory functions, and therefore Herbata Ltd is not seeking planning consent to carry out these works as part of the Project.

Notwithstanding the fact that Herbata Ltd is not seeking planning consent to carry out these works as part of the Project, given the functional interdependence that exists between the Project and the GNI Gas Connection, the in-combination effects of the Project with the GNI Gas Connection have been considered and assessed in this Appropriate Assessment Screening Report.

A report has been prepared by Donnachadh O'Brien & Associates Consulting Engineers Ltd. in order to inform this consideration and assessment of the in-combination effects of the Project with the GNI Gas Connection, which identifies the most likely route for the new high-pressure gas distribution pipeline and describes the works that are required to provide same, and which provides sufficient detail and information to allow a robust in combination effects assessment to be conducted. That report is included at Appendix I to this Appropriate Assessment Screening Report.

The proposed construction methodology for the gas pipeline, as set out in the report of Donnachadh O'Brien & Associates Consulting Engineers Ltd. (see Appendix I), will include for a 14m working corridor within areas of agricultural land, in addition to works within the verge of public roads and watercourse crossings at three watercourses and a large number of minor drainage ditches and field drains. Such watercourse crossings will utilise either an open excavation for drainage ditches and drains and the use of directional drilling / pipe-jacking as appropriate.

The European Sites that may fall within the zone of influence of the future GNI Connection Works are limited to those which also lie downstream of the Herbata project, as discussed above, including the various SACs and SPAs within Dublin Bay. No further European sites are considered relevant to the GNI connection works due to the lack of supported pathways for effect, including the lach of surface water hydrological connections.

Having considered and assessed the most likely route of the new high-pressure gas distribution pipeline, the European Sites within the zone of influence of the future works, and the nature and extent of the works required, as set out in the report of Donnachadh O'Brien & Associates Consulting Engineers Ltd. (see Appendix I), it is the professional opinion of the authors of this report that the future gas pipeline connection to the Project, in combination with the Project, will have no potential to give rise to any likely significant effects on any European Sites, and that there is no doubt in relation to this conclusion.

Furthermore, any future GNI connection application will be undertaken following its own environmental assessment procedure and as such will be subject to the same obligations as the Project in respect of the extent of mitigation measures and standard good practice at construction, with a minimal footprint.

While a range of applications have been submitted or approved within proximity to the Proposed Development, namely within the Osberstown Business Park and M7 Business Park. It is not considered that such proposals, which will take place within areas of existing development would have potential to act in-combination with the Proposed Development.

Further Plans and Projects

The Kildare County Council Planning Portal in addition to the An Bord Pleanala case database, were consulted to establish whether there are additional projects which will be considered for their potential in-combination effects. Table 4-2, identifies all those projects which have been assessment with regards to cumulative impacts. These projects were also assessed in respect of the accompanying EIAR.

Table 4-2: Projects Assessed for Cumulative Impacts

Planning Reference	Address	Description	Status	Determination Date	AA Screening or NIS Completed (Yes or No)	Assessment of Potential In-combination Effects
201418	Kerdiffstown and Monread North,Naas,Co. Kildare	A proposed solar farm on an area of approximately 10.8 hectares, comprising photovoltaic panels on ground mounted frames, 4 no. single storey inverter/transformer stations, 1 No. onsite terminal station, storage containers and temporary site compound, security fencing, new and upgraded internal access tracks, CCTV and all associated ancillary development works. Elgin Energy Services Limited are applying for the proposed solar farm to have planning permission that is effective for 10 years (and an operational period of 40 years)	Granted	05/05/2021	No	While the site also lies upstream of the Dublin Bay Natura 2000 sites, the proposals do not involve significant works within proximity to a watercourse. Furthermore the proposed development will incorporate a range of measures intended to protect the natural environment, (see Condition 9 of the Schedule of Conditions for the approved scheme). No in-combination effects are predicted.
PL09.305953	Townlands of Drehid, Mulgeeth,Ballynamullagh, Mucklon, Kilmurray (Carbury By),Killyon and Timahoe East, Co. Kildare	A ten-year planning permission to develop a renewable energy development. The proposed renewable energy development will comprise of (a) the construction and operation of 2 areas of solar photovoltaic arrays mounted on metal frames over an area of approximately 200ha, and having a maximum overall height of 3 metres over ground level; (b) Internal solar farm underground cabling; (c) 2 no. temporary construction compounds; (d) recreation and amenity works, including looped walk (upgrade of existing tracks and provision of new tracks, car parking and vehicular access); (e) 1 no. Battery Storage compound; (f) upgrade of existing tracks and provision of new site access roads; (g) site drainage; (h) forestry felling and replanting; (i) permanent signage; and (j) all associated site development and ancillary works. The proposed renewable energy development will have an operational life of 35 years from the date of commissioning. The overall renewable energy project also includes the provision of a 110kV substation with associated electrical plant, welfare facilities, waste water holding	Granted	29/07/2020	Yes	No LSEs were predicted to arise to any Natura 2000 sites identified as relevant to this assessment due to it's location, the nature of the works and the lack of hydrological connectivity to downstream sites. No in-combination effects are predicted to arise.

		tank, security fencing, upgrade of existing tracks and provision of new site access roads, 110kV overhead line grid connection cabling with associated angle lattice masts and supporting polesets and all ancillary works				
18969	Brownstown and Carnalaway, Kilcullen, Co. Kildare	A solar farm to be installed over restored landfill with an export capacity of approximately 3MW comprising photovoltaic panels on ground mounted frames, connection to existing single-storey ESB Sub- Station / switch room building, installation of 3 No. transformers, ducting and underground electrical cabling and all associated ancillary works and services. Revised by significant further information consisting of; construction management plan detailing construction techniques	Granted	21/08/2019	No	This proposal lies significantly distant from the proposed development and does not lie within the Liffey catchment, it does however lie within the catchment of the River Dodder, which also discharges to Dublin Bay. KCC determined that no AA Screening was required in respect of this project which will not give rise to likely significant downstream effects. No in-combination effects are predicted to arise.
18250	Killeenlea, Ardrass Lower & Killadoon, Celbridge, Co. Kildare	A 10 year permission (to construct development) for a solar farm comprising: the installation of photovoltaic panels on ground mounted frames in rows on a site of C.47.44 hectares, a single storey onsite 38kV substation with compound, with 2 no single storey storage containers, 25 no. invertor stations , ducting & underground electrical cabling, perimeter fencing, 23.no mounted CCTV Cameras, provision of a new access from the L5066/Killadoon Road, provision of internal access tracks, and all associated site development and landscaping works	Granted	12/01/2019	No	This proposal lies significantly distant from the proposed development. No likley significant effects upon downstream Natura 2000 sites are predicted to arise as a result of the proposal. No in-combination effects are predicted to arise.
12577	Bord na Mona, Main Street, Newbridge, Co. Kildare.	Construction of a new I.T. data centre building, concrete slab to facilitate a 550 Kva back-up generator and a concrete fuel storage bund to hold a 3000L fuel tank	Granted	03/09/2012	No	This proposal lies significantly distant from the proposed development, within the River Liffey Catchment. This project was not deemed to have any potential to give rise to any downstream effects upon Natura 200 sites. No in-combination effects are predicted to arise.
18247	Porterstown and Kilteel Lower, Kill, Co. Kildare	Development of a grid system services facility within a total site area of up to 1.95 hectares, to include 1no. TSO compound including 1no. single storey TSO	Granted	11/06/2018	Yes	This development, which is located significantly separated from the project, was subject to AA Screenign which

		electrical substation building and 1no. single storey customer substation, 1no. customer switchgear, electrical inverter /transformer station modules, containerised battery storage modules on concrete support structures, heating, ventilation and air conditioning units (HVAC units), access tracks and upgraded site entrance, associated electrical cabling and ducting, security gates, perimeter security fencing, CCTV security monitoring system, culverts and landscaping works and all associated ancillary infrastructure				determined no likley significant effects to any Natura 200o sites would arise. No in-combination effects are predicted to arise.
20745	Porterstown, Kill, Co. Kildare.	The development of a new electrical substation and additional equipment in the existing ESB Kilteel 110kV Substation to facilitate the connection of the Porterstown Battery Storage Facility (Planning Ref 18/247) The total site area is 1.2 hectares. The new electrical substation will include 1 control building (GRP Containerised Substation), a 110kV transformer, surge arresters, instrument transformers, a 110kV busbar connecting to the ESB substation, a lightning mast and other electrical equipment to be installed on concrete support structures. Additional features will include palisade fencing, security gates, access tracks, external lighting, drainage, associated electrical cabling and ducting, CCTV security monitoring system, landscaping and all associated ancillary infrastructure. The additional equipment to be installed in the ESB substation to facilitate the connection of the new substation will include a 110kV busbar extension, a 110kV transformer bay, a 110kV coupler bay, a 110kV busbar connecting to the new substation, an interface kiosk, palisade fencing, a lightning mast and all associated ancillary infrastructure required for the connection	Granted	05/10/2020	Yes	This proposed development, which is significantly spatially separated from the proposals, was subject to AA Screening, concluding that no LSE would occur to any Natura 2000 sites. No in-combination effects are predicted to arise.
PL09.310841	Dunnstown, Co. Kildare	A 10 year planning permission for the construction of: 1. An enclosed battery energy storage system compound on c. 4.089 ha with 76 no. battery storage units (each with associated containerised step-up transformer), 1 no. containerised control room and 1 no. containerised switch room, 1 no. containerised switchgear unit and CCTV cameras; 2. new site entrance off the L6044 and	Granted with Conditions after Appeal	30/09/2022	Yes	This proposal was subject to screening for appropriate assessment. This AA Screening was then reviewed by the ABP inspector who further clarified its validity and that no LSEs would arise to any Natura 2000 sites as a result of the development.

		site access road; 3. site access road extension to a proposed substation site (proposed substation currently subject of a Strategic Infrastructure Development Pre-Application Consultation with An Bord Pleanála); and 4. all associated ancillary development works. The operational lifespan of the battery energy storage system will be 35 years.				No in-combination effects are predicted to arise.

Having consulted the Kildare County Council Planning Portal in addition to any further An Bord Pleanala case database, there are no additional projects which will be considered for their potential in-combination effects, with all recent applications in the vicinity of the proposed works being small-scale developments including proposals for single dwellings, outbuildings, and domestic conversions which have no potential to act in-combination with the project.

While a range of applications have been submitted or approved within proximity to the Proposed Development, namely within the Osberstown Business Park and M7 Business Park. It is not considered that such proposals, which will take place within areas of existing development would have potential to act in-combination with the Proposed Development.

On this basis of the above it is considered that the assessed projects will have no potential to give rise to any in-combination effects upon ecological receptors when considered alongside the Proposed Development.

The only plan considered to have relevance to this in-combination assessment is the Kildare County Development Plan (2023-2029). This plan was subject to Appropriate Assessment which concluded that the Plan would, subject to the implementation of a range of mitigation measures, not give rise to any adverse impacts upon any Natura 2000 sites. Furthermore the project site is zoned within this local plan for the construction of a data centre. On this basis it is not considered that the Kildare Development Plan would have potential to give rise to likley significant in-combination effects upon any Natura 2000 sites when considered alongside the project.

5. CONCLUSIONS OF THE STAGE 1 SCREENING ASSESSMENT

This Appropriate Assessment Screening Report has been prepared in accordance with EU and Irish law and relevant European Commission and national guidelines to determine whether or not the Project is likely to have a significant effect upon any European site.

The project is not directly connected with or necessary to the management of any European site.

Following an examination, analysis and evaluation of all relevant information, on the basis of objective information and in light of the best scientific knowledge and applying the precautionary principle, it can be concluded that the project, either individually or in combination with other plans or projects, and in the absence of mitigation, is not likely to have a significant effect on any European site(s) in view of their site-specific conservation objectives. It is considered that there is no reasonable scientific doubt as to the absence of such effects.

This conclusion is drawn in light of the nature of the project, its proximity and linkages to European sites, the lack of identifiable pathways for effect and the nature of the qualifying interests of those European sites.

In reaching this conclusion, the nature of the Project and its relationship with all European Sites within the zone of influence, and their site-specific conservation objectives, has been fully considered.

Therefore it is the professional opinion of the author of this report that the proposed Project does not require a Stage 2 Appropriate Assessment.

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A.1 Appendix I: Gas Networks Ireland Infrastructure Upgrade Outline Report (Donnachadh O'Brien & Associates Consulting Engineers Ltd)