## Appendix 15.3 Designated Sites and their Interest Features

Table 34. Relevant designated sites for nature conservation and their	interest features
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Designated Site (Code)	Closest Distance (km) to Proposed Scheme	Relevant Qualifying Interest/Special Conservation Interest (*Priority SAC Habitat) or Ecological Features of Interest
European Sites (SAC, cSA	C, SPA, pSPA)	
River Boyne and River Blackwater SAC (002299)	Within Proposed Scheme	<ul> <li>Annex I Habitats</li> <li>Alkaline fens [7230]</li> <li>*Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>QI Species</li> <li>River lamprey (Lampetra fluviatilis) [1099]</li> <li>Salmon (Salmo salar) [1106]</li> <li>Otter (Lutra lutra) [1355]</li> </ul>
Boyne Coast and Estuary SAC (001957)	13.6 km east	<ul> <li>Annex I Habitats</li> <li>Estuaries [1130]</li> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Salicornia and other annuals colonizing mud and sand [1310]</li> <li>Atlantic salt meadows (<i>Glauco-puccinellietalia maritimae</i>) [1330]</li> <li>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')</li> <li>*Fixed coastal dunes with herbaceous vegetation ('grey dunes')</li> </ul>
Girley (Drewstown) Bog SAC (002203)	26.8 km west	<ul><li>Annex I Habitats</li><li>Degraded raised bogs still capable of natural regeneration [7120]</li></ul>
Killyconny Bog (Cloghbally) SAC (000006)	30 km northwest	<ul> <li>Annex I Habitats</li> <li>*Active raised bogs [7110]</li> <li>Degraded raised bogs still capable of natural regeneration [7120]</li> </ul>
Lough Bane and Lough Glass SAC (002120)	40.8 km west	<ul> <li>Annex I Habitats</li> <li>Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]</li> <li>QI Species</li> <li>White-clawed crayfish (<i>Austropotamobius pallipes</i>) [1092]</li> </ul>
Mount Hevey Bog SAC (002342)	41.7 km southwest	<ul> <li>Annex I Habitats</li> <li>*Active raised bogs [7110]</li> <li>Degraded raised bogs still capable of natural regeneration [7120]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>

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Designated Site (Code)	Closest Distance (km) to Proposed Scheme	Relevant Qualifying Interest/Special Conservation Interest (*Priority SAC Habitat) or Ecological Features of Interest
Lough Lene SAC (002121)	43.6 km west	<ul> <li>Annex I Habitats</li> <li>Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]</li> <li>QI Species</li> <li>White-clawed crayfish (<i>Austropotamobius pallipes</i>) [1092]</li> </ul>
White Lough, Ben Loughs and Lough Doo SAC (001810)	45 km west	<ul> <li>Annex I Habitats</li> <li>Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]</li> <li>QI Species</li> <li>White-clawed crayfish (<i>Austropotamobius pallipes</i>) [1092]</li> </ul>
Wooddown Bog SAC (002205)	51.7 km west	<ul> <li>Annex I Habitats</li> <li>Degraded raised bogs still capable of natural regeneration [7120]</li> </ul>
Raheenmore Bog SAC (000582)	65.9 km southwest	<ul> <li>Annex I Habitats</li> <li>*Active raised bogs [7110]</li> <li>Degraded raised bogs still capable of natural regeneration [7120]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>
River Boyne and River Blackwater SPA (002299)	Within Proposed Scheme	QI Species <ul> <li>Kingfisher (Alcedo atthis) [A229]</li> </ul>
Boyne Estuary SPA (004080)	13.2 km east	QI Species         • Shelduck (Tadorna tadorna) [A048]         • Oystercatcher (Haematopus ostralegus) [A130]         • Golden plover (Pluvialis apricaria) [A140]         • Grey plover (Pluvialis squatarola) [A141]         • Lapwing (Vanellus vanellus) [A142]         • Knot (Calidris canutus) [A143]         • Sanderling (Calidris alba) [A144]         • Black-tailed godwit (Limosa limosa) [A156]         • Redshank (Tringa tetanus) [A162]         • Turnstone (Arenaria interpres) [A169]         • Little tern (Sterna albifrons) [A195]         Annex I Habitats         • Wetlands [A999]

Designated Site (Code)	Closest Distance (km) to Proposed Scheme	Relevant Qualifying Interest/Special Conservation Interest (*Priority SAC Habitat) or Ecological Features of Interest
North-west Irish Sea SPA (004236)	17.8 km east	QI Species         • Red-throated Diver Gavia stellata [A001]         • Cormorant Phalacrocorax carbo [A017]         • Shag Phalacrocorax aristotelis [A018]         • Common Scoter Melanitta nigra [A065]         • Little Gull Larus minutus [A177]         • 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]         • Common Tern Sterna hirundo [A193]         • Arctic Tern Sterna paradisaea [A194]         • Little Tem Sterna albifrons [A195]         • Great Northern Diver Gavia immer [A003]         • Fulmar Fulmarus glacialis [A009]         • Manx Shearwater Puffinus puffinus [A013]         • Kittiwake Rissa tridactyla [A188]         • Roseate Tern Sterna dougallii [A192]         • Guillemot Uria aalge [A199]         • Razorbill Alca torda [A200]         • Puffin Fratercula arctica [A204]
National Sites (NHA, pNHA	, National Park, Nature Res	erves, Wildfowl Sanctuaries)
Black Castle Bog NHA (000570)	c. 52 km southwest	This site comprises a raised bog that includes high bog and cutover bog. The northwest margins of the site are bounded by roads and the southeast bounded by scrub and woodland. Irish Hare ( <i>Lepus timidus ssp. hibernicus</i> ), a red data listed species occurs here.
Jamestown Bog NHA (001324)	c. 18 km west	The site comprises a raised bog that includes both areas of high bog and cutover bog. Irish Hare ( <i>Lepus timidus ssp. hibernicus</i> ), a red data listed species occurs here.
Girley Bog NHA (001580)	c. 25 km west	The site comprises a raised bog that includes both areas of high bog and cutover bog and is bounded in parts by coniferous forestry to the south and north. The site is partially divided by a large drain that runs across the high bog. There is an area of hummocks and pools in the southern half of the high bog, although parts of the south-west have been afforested. Cutover is found all around this site and in the north-west and southwest the cutover has been utilised for forestry

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Molerick Bog NHA (001582)	c. 38 km southwest	The site consists of a small basin bog with a dry surface. Cutover is found all around the site, there is broadleaved woodland located to the south-west, wet woodland is located to the north-west, scrub to the east, humid grassland to the south, a flush/fen area to the west and humid grassland on mineral soil to the north-west.
Carbury Bog NHA (001388)	c. 44 km west	This site supports a good diversity of raised bog microhabitats including some hummock/hollow complexes, scrub and marginal deciduous woodland which add to the diversity and scientific value of the site. The Red Data Book species, Round-leaved Wintergreen ( <i>Pyrola rotundifolia</i> ) has been recorded on this site.
Hodgestown Bog NHA (001393)	c. 44 km southwest	This site supports a good diversity of raised bog microhabitats, including hummocks. There are no pools. The high bog is surrounded by cutover much of which has been planted with coniferous forestry, especially in the south and east of the site.
Wooddown Bog NHA (000694)	c. 50 km west	The site comprises a raised bog that includes both areas of high bog and cutover bog. This site supports a good diversity of raised bog microhabitats, including hummock/hollow complexes, a soak system and flushes, as well as a number of scarce plant species.
Milltownpass Bog NHA (002323)	c. 51 km southwest	This bog has pools present and is wet and quaking in places. The wet areas are formed by re-wetting of depressions on the high bog surface caused by subsidence. There is very little drainage on the high bog and no forestry. Cutover is found all around the high bog margins with encroaching scrub and a forestry plantation. Broad-leaved woodland occurs to the west of the site.
Slane Riverbank pNHA (001591)	Within Proposed Scheme	This small area of wet grassland along the banks of the Boyne is home to the rare round-fruited rush ( <i>Juncus compressus</i> ), known from only two other counties in Ireland.
Boyne woods pNHA (001592)	Within Proposed Scheme	Variety of wetland habitats along the banks of the Boyne including broad-leaved woodland, freshwater marsh and canal. Swamp meadow-grass ( <i>Poa palustris</i> ), a red data listed species also occurs here.
Crewbane Marsh pNHA (000553)	c. 0.3 km	Freshwater marsh habitat on very wet alluvial flood plain. One of the last remaining examples of flood plain marsh on the banks of the Boyne. Also, important habitat for a number of protected species.
Rossnaree Riverbank pNHA (001589)	c. 0.4 km	Of scientific interest for the presence of round-fruited rush ( <i>Juncus compressus</i> ), a rare plant found in three counties in Ireland.
Thomastown Bog pNHA (001593)	c. 3 km	Raised bog surrounded by wet woodland and wet grassland, with wet woodland being the most prominent habitat. Wet woodland exhibits a rich ground flora. Reed beds also recorded within this site.
King Williams Glen pNHA (001804)	c. 3.5 km	Deep meltwater channel, exposed limestone.
Balrath Woods pNHA (001579)	c. 4 km	Site is composed of three main areas of mature woodland, with oak and non-native beech dominant. The rare common wintergreen ( <i>Pyrola minor</i> ) has been recorded here.
Dowth Wetland pNHA (001861)	c. 4 km	An area of flood plain marsh with associated deciduous woodland.

Designated Site (Code)	Closest Distance (km) to Proposed Scheme	Relevant Qualifying Interest/Special Conservation Interest (*Priority SAC Habitat) or Ecological Features of Interest
Mellifont Abbey Woods pNHA (001464)	c. 5 km	Mixed woodland, wet woodland, conifer plantations, grassland and lake habitats. The Red Data Book plant wintergreen ( <i>Pyrola spp</i> .) and the notable invertebrate species Pyrenean snail ( <i>Semilimax pyrenaicus</i> ) have been recorded at the site.
Boyne River Islands pNHA (001862)	c. 5 km	Small chain of three islands formed by a build-up of alluvial sediment, covered with dense wet woodland. Other habitats include grassland, freshwater marsh and reed swamp.
Duleek Commons pNHA (001578)	c. 5 km	Drained marsh area supporting a good variety of wetland plants in relatively good condition. The rare slender spike- rush ( <i>Eleocharis uniglumis</i> ) has been recorded here.
King William's Glen pNHA (001804)	c. 5 km east	Steep valley side woodland overlooking the River Boyne. Dominated by a mixture of ash ( <i>Fraxinus excelsior</i> ), pedunculate oak ( <i>Quercus robur</i> ), beech ( <i>Fagus</i> ), and sycamore ( <i>Acer pseudoplatanus</i> ), with holly ( <i>llex</i> ), elder ( <i>Sambucus nigra</i> ), hazel ( <i>Corylus</i> ) and hawthorn ( <i>Crataegus</i> ) beneath. This is a well-used amenity area and there are many broad paths through this area and suffers erosion (RPS, 2020).
Mentrim Lough pNHA (001587)	c. 10.5 km	Consists of low hills, ridges and marshy depressions and is part of the margin of the drumlin belt. The lough is located on the north side of the site and supports marsh fern ( <i>Thelypteris palustris</i> ) a rare plant in Ireland.
Kildemock Marsh pNHA (001806)	c. 10.5 km	Small reed bed in poorly draining glacial till with no open water remaining. Area of wet grassland vegetation in area behind reedbed.
Boyne Coast and Estuary pNHA (001957)	c. 12 km	Coastal and dune habitats, including red listed variegated horsetail (Equisetum variagatum).
Cromwells Bush Fen pNHA (001576)	c. 12.5 km	Small wetland lying in a pastoral/arable setting over poorly draining glacial drift. Numerous fen habitats represented; from open water to relatively dry coarse grassland. This site supports a number of wetland waders and the rare floating plant frogbit ( <i>Hydrocharis morsus-ranae</i> ) has been recorded here.
Ardee Cutaway Bog pNHA (001454)	c. 13.5 km	Cutaway bog habitat with mosaic of bog and heath vegetation.
Blackhall Woods pNHA (001293)	c. 14 km	Planted woodland with an interesting bryophyte community that form a typical Atlantic community that grows on fallen timber.
Louth Hall and Ardee Woods pNHA (001616)	c. 14 km	Variety of planted and semi-natural deciduous woodland, as well as dry and wet woodlands. Deciduous woodland invaded with non-native rhododendron. Wet woodland has a good diversity of species. Some of the last remaining well established broadleaved woodlands in the area.
Trim pNHA (001357)	c. 20 km southwest	This is a wetland site on the floodplain of the Boyne and is characterised by its freshwater marsh habitats. It is home to a good diversity of plant species and of particular interest is the presence of strawberry clover ( <i>Trifolium fragiferum</i> ) – normally only found along the coast. Being close to the town of Trim it has valuable potential as an educational resource (MCC, 2010).
Rathmoylan Esker pNHA (000557)	c. 28 km southwest	One of the most easterly wooded eskers in the country, this site is important from a biological as well as a geomorphological perspective. Due to the demand for gravel these sites are now extremely rare in the region (MCC, 2010).

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Royal Canal pNHA (002103)	c. 32 km southwest	This man-made habitat was a major transport artery linking Dublin with the Shannon until its closure in 1961. It is now of considerable amenity value. The pNHA section of the canal is known to be home to otters, an Annex II species, as well as the protected species opposite-leaved pondweed ( <i>Groenlandia densa</i> ) (JSA, 2010).
Lough Shesk pNHA (000556)	c. 33 km west	A unique area locally as it demonstrates clearly the progression of habitat formation from open water to raised bog. It therefore has a valuable role in research and education. It also has a rich diversity of plant species with uncommon species such as Narrow-leaved Marsh Orchid ( <i>Dactylorhiza traunsteineri</i> ), Fen Bedstraw ( <i>Galium uliginosum</i> ), Cowbane ( <i>Cicuta virosa</i> ), Frogbit ( <i>Hydrocharis morsus-ranae</i> ), Least Bur-reed ( <i>Sparganium minimum</i> ), Cranberry ( <i>Vaccinium oxycoccus</i> ) and Dioecious Sedge ( <i>Carex dioica</i> ) (MCC, 2010).
Lough Ramor pNHA (000008)	c. 34 km west	Lough Ramor lies in a hollow in the Silurian strata that covers most of east Cavan. Much of the shore is wooded naturally with alder ( <i>Alnus glutinosa</i> ), willow ( <i>Salix</i> ) and hazel ( <i>Corylus</i> ). Marshes exist in many places around the shore but extensive reedbeds stretching out into the lake are rare. The islands are usually covered by willows but in more open places black-headed gulls nest. The plant communities along the lake margins are of note and, combined with the over-wintering bird numbers, make Lough Ramor an important wetland site (Traynor Environmental Ltd., 2012).
Ballynabarny Fen pNHA (001573)	c. 38 km southwest	This small, artificially created fen lies between the Royal canal and the nearby railway. It has a particularly diverse ranges of sedges as well as the rare, variegated horse-tail ( <i>Equisetum variegatum</i> ) (MCC, 2010).
Ballina Bog pNHA (000390)	c. 39 km southwest	Despite the presence of many drains, the condition of the vegetation and surface makes this bog of considerable scientific importance. It is one of the most easterly raised bogs which are relatively intact (Scott Cawley, 2017).
Grand Canal pNHA (002104)	c. 40 km south	A number of different habitats are present along the canal including hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. Protected species recorded from the site include otter ( <i>Lutra lutra</i> ), smooth newt ( <i>Lissotriton vulgaris</i> ) and opposite-leaved pondweed ( <i>Groenlandia densa</i> ) (JSA, 2010).
Mount Hevey Bog pNHA (001584)	c. 40 km southwest	This site contains three Annex I habitats, Rhynchosporion, degraded raised bog and the priority active raised bog (MCC, 2010).
Donadea Wood pNHA (001391)	c. 40 km south	The site is notable for the presence of two rare species of Myxomycete fungus, namely <i>Diderma chondrioderma</i> and <i>Licea testudinacea</i> , the latter in one of only two known Irish sites. This site is of interest as, although highly managed, it has a significant proportion of deciduous trees and parts of the site have been wooded for a long period.
White Lough, Ben Loughs And Lough Doo pNHA (001810)	c. 43 km west	These are hard water lakes, listed as Annex I habitats by the EU. In addition, Lough Doo is of particular interest as its base is carpeted with stoneworts, a threatened group of plants. The white-clawed crayfish ( <i>Austropotamobius pallipes</i> ), an Annex II listed species, is also recorded from this site (MCC, 2010).
Lough Naneagh pNHA (001814)	c. 44 km west	This site consists of a variety of regionally important habitats including transitional lake and fen, as well as species- rich grassland and woodland (MCC, 2010).
Raheenmore Bog pNHA (000582)	c. 65 km southwest	This raised bog developed in a small basin in the catchment of two major river systems i.e. the Brosna and the Boyne. It is situated about 5 km from Daingean in Co. Offaly. The peat is very deep, up to 15 m in places. The bog has a well-developed hummock and hollow system.

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Raheenmore Bog Nature Reserve	c. 66 km southwest	A well-developed and exceptional example of deep midland raised bog, which is regarded as being of national importance (NPWS, n.d.).
Boyne Estuary Wildfowl Sanctuary (WFS-41)	c. 17 km east	QI Species         • Shelduck (Tadorna tadorna) [A048]         • Oystercatcher (Haematopus ostralegus) [A130]         • Golden plover (Pluvialis apricaria) [A140]         • Grey plover (Pluvialis squatarola) [A141]         • Lapwing (Vanellus vanellus) [A142]         • Knot (Calidris canutus) [A143]         • Sanderling (Calidris alba) [A144]         • Black-tailed godwit (Limosa limosa) [A156]         • Redshank (Tringa tetanus) [A162]         • Turnstone (Arenaria interpres) [A169]         • Little tern (Sterna albifrons) [A195]         Arnex I Habitats         • Wetlands [A999]
Lough Ramor Wildfowl Sanctuary (WFS-03)	c. 37 km west	Lough Ramor lies in a hollow in the Silurian strata that covers most of east Cavan. Much of the shore is wooded naturally with alder ( <i>Alnus glutinosa</i> ), willow ( <i>Salix</i> ) and hazel ( <i>Corylus</i> ). Marshes exist in many places around the shore but extensive reedbeds stretching out into the lake are rare. The islands are usually covered by willows but in more open places black-headed gulls nest. The plant communities along the lake margins are of note and, combined with the over-wintering bird numbers, make Lough Ramor an important wetland site