
**Appropriate Assessment
Screening Report
Appendices**

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1. APPENDICES – AA SCREENING SUPPORTING INFORMATION

1.1 Appendix 1.1: Protected Sites for Nature Conservation in the Vicinity of the Proposed Development

European sites in the vicinity of the Proposed Development are listed below in Table 1-1, along with their qualifying/special conservation interests, reference to the most recent conservation objectives document, and their location relative to the Proposed Development site.

Other nationally protected sites for nature conservation in the vicinity of the Proposed Development are listed below in Table 1-2, along with the nature conservation interests for which they are designated, and their location relative to the Proposed Development site.

Table 1-1 European sites in the vicinity of the Proposed Development

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
Special Area of Conservation (SACs)		
Malahide Estuary SAC [000205]	The Proposed Development lies within this European site boundary	1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* <i>S.I. No. 91/2019 - European Union Habitats (Malahide Estuary Special Area of Conservation 000205) Regulations 2019</i> NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, and the Gaeltacht.
Rogerstown Estuary SAC [000208]	The Proposed Development lies within this European site boundary	1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* <i>S.I. No. 286/2018 - European Union Habitats (Rogerstown Estuary Special Area of Conservation 000208) Regulations 2018</i> NPWS (2013) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
River Boyne and River Blackwater SAC [002299]	Located c. 130m north of the	7230 Alkaline fens

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
	Proposed Development	<p>91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)*</p> <p>1099 River Lamprey <i>Lampetra fluviatilis</i></p> <p>1106 Salmon <i>Salmo salar</i></p> <p>1355 Otter <i>Lutra lutra</i></p> <p>NPWS (2021) Conservation objectives for River Boyne and River Blackwater SAC [002299]. Version 1. Department of Housing, Local Government and Heritage.</p>
Baldoyle Bay SAC [000199]	Located c. 250m east of the Proposed Development	<p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1310 <i>Salicornia</i> and other annuals colonizing mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p><i>S.I. No. 472/2021 - European Union Habitats (Baldoyle Bay Special Area of Conservation 000199) Regulations 2021</i></p> <p>NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
North Dublin Bay SAC [000206]	Located c. 1km south east of the Proposed Development	<p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1210 Annual vegetation of drift lines</p> <p>1310 <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>1395 Petalwort <i>Petalophyllum ralfsii</i></p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>2110 Embryonic shifting dunes</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p>2190 Humid dune slacks</p> <p><i>S.I. No. 525/2019 - European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019</i></p> <p>NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
Boyne Coast and Estuary SAC [001957]	Located c. 1.2km north east of the Proposed Development	<p>1130 Estuaries</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1210 Annual vegetation of drift lines</p> <p>1310 <i>Salicornia</i> and other annuals colonising mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>2110 Embryonic shifting dunes</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> <p><i>S.I. No. 433/2021- European Union Habitats (Boyne coast and Estuary Special Area of Conservation 001957) Regulations 2021</i></p>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
		NPWS (2012) Conservation Objectives: Boyne Coast and Estuary SAC 001957. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Rockabill to Dalkey Island SAC [003000]	Located c. 3km east of the Proposed Development	1170 Reefs 1351 Harbour porpoise <i>Phocoena phocoena</i> <i>S.I. No. 94/2019 - European Union Habitats (Rockabill To Dalkey Island Special Area of Conservation 003000) Regulations 2019</i> NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
South Dublin Bay SAC [000210]	Located c. 3km south-east of the Proposed Development	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 <i>S.I. No. 525/2019 - European Union Habitats (South Dublin Bay Special Area of Conservation 000210) Regulations 2019</i> NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Howth Head SAC [000202]	Located c. 4.6km south east of the Proposed Development	1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths <i>S.I. No. 524/2021 - European Union Habitats (Howth Head Special Area of Conservation 000202) Regulations 2021</i> NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
Ireland's Eye SAC [002193]	Located c. 5.3km east of the Proposed Development	1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts <i>S.I. No. 501/2017 - European Union Habitats (Ireland's Eye Special Area of Conservation 002193) Regulations 2017</i> NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
Lambay Island SAC [000204]	Located c. 7.5km east of the Proposed Development	1170 Reefs 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1351 Harbour porpoise <i>Phocoena phocoena</i> 1364 Grey seal <i>Halichoerus grypus</i> 1365 Harbour seal <i>Phoca vitulina</i> <i>S.I. No. 294/2019 - European Union Habitats (Lambay Island Special Area of Conservation 000204) Regulations 2019</i> NPWS (2013) Conservation Objectives: Lambay Island SAC 000204. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
Clogher Head SAC [001459]	Located c. 10.7km north east of the Proposed Development	1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths <i>S.I. No. 610/2019 - European Union Habitats (Clogher Head Special Area of Conservation 001459) Regulations 2019</i> NPWS (2017) Conservation Objectives: Clogher Head SAC 001459. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
Special Protection Areas (SPAs)		
Malahide Estuary SPA [004025]	The Proposed Development lies within this European site boundary	A005 Great Crested Grebe Podiceps cristatus A046 Light-bellied Brent Goose Branta bernicla hrota A048 Shelduck Tadorna tadorna A054 Pintail Anas acuta A067 Goldeneye Bucephala clangula A069 Red-breasted Merganser Mergus serrator A130 Oystercatcher Haematopus ostralegus A140 Golden Plover Pluvialis apricaria A141 Grey Plover Pluvialis squatarola A143 Knot Calidris canutus A149 Dunlin Calidris alpina A156 Black-tailed Godwit Limosa limosa A157 Bar-tailed Godwit Limosa lapponica A162 Redshank Tringa totanus A999 Wetlands <i>S.I. No. 285/2011 - European Communities (Conservation of Wild Birds (Malahide Estuary Special Protection Area 004025)) Regulations 2011.</i> NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Rogerstown Estuary SPA [004015]	The Proposed Development lies within this European site boundary	A043 Greylag Goose Anser anser A046 Light-bellied Brent Goose Branta bernicla hrota A048 Shelduck Tadorna tadorna A056 Shoveler Anas clypeata A130 Oystercatcher Haematopus ostralegus A137 Ringed Plover Charadrius hiaticula A141 Grey Plover Pluvialis squatarola A143 Knot Calidris canutus A149 Dunlin Calidris alpina alpina A156 Black-tailed Godwit Limosa limosa A162 Redshank Tringa totanus A999 Wetlands <i>S.I. No. 271/2010 - European Communities (Conservation of Wild Birds (Rogerstown Estuary Special Protection Area 004015)) Regulations 2010</i>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
		<p>NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
<p>River Nanny Estuary and Shore SPA [004158]</p>	<p>The Proposed Development lies within this European site boundary</p>	<p>A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A140 Golden Plover <i>Pluvialis apricaria</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A184 Herring Gull <i>Larus argentatus</i> A999 Wetlands</p> <p><i>S.I. No. 140/2012 - European Communities (Conservation of Wild Birds (River Nanny Estuary and Shore SPA 004158)) Regulations 2012.</i></p> <p>NPWS (2012) Conservation Objectives: River Nanny Estuary and Shore SPA 004158. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
<p>North-West Irish Sea SPA [004236]</p>	<p>Located c. 10m east of the Proposed Development</p>	<p>[A065] Common Scoter <i>Melanitta nigra</i> [A001] Red-throated Diver <i>Gavia stellata</i> [A003] Great Northern Diver <i>Gavia immer</i> [A009] Fulmar <i>Fulmarus glacialis</i> [A013] Manx Shearwater <i>Puffinus puffinus</i> [A018] Shag <i>Phalacrocorax aristotelis</i> [A017] Cormorant <i>Phalacrocorax carbo</i> [A177] Little Gull <i>Larus minutus</i> [A188] Kittiwake <i>Rissa tridactyla</i> [A179] Black-headed Gull <i>Chroicocephalus ridibundus</i> [A182] Common Gull <i>Larus canus</i> [A183] Lesser Black-backed Gull <i>Larus fuscus</i> [A184] Herring Gull <i>Larus argentatus</i> [A187] Great Black-backed Gull <i>Larus marinus</i> [A195] Little Tern <i>Sterna albifrons</i> [A192] Roseate Tern <i>Sterna dougallii</i> [A193] Common Tern <i>Sterna hirundo</i> [A194] Arctic Tern <i>Sterna paradisaea</i> [A204] Puffin <i>Fratercula arctica</i> [A200] Razorbill <i>Alca torda</i> [A199] Guillemot <i>Uria aalge</i></p> <p>NPWS (2023b) Conservation Objectives: North-West Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.</p>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
Boyne Estuary SPA [004080]	Located c. 400m north east of the Proposed Development	<p>A048 Shelduck Tadorna tadorna A130 Oystercatcher Haematopus ostralegus A140 Golden Plover Pluvialis apricaria A141 Grey Plover Pluvialis squatarola A142 Lapwing Vanellus vanellus A143 Knot Calidris canutus A144 Sanderling Calidris alba A156 Black-tailed Godwit Limosa limosa A162 Redshank Tringa totanus A169 Turnstone Arenaria interpres A195 Little Tern Sterna albifrons A999 Wetlands</p> <p><i>S.I. No. 626/2011 - European Communities (Conservation of Wild Birds (Boyne Estuary Special Protection Area 004080)) Regulations 2011.</i></p> <p>NPWS (2013) Conservation Objectives: Boyne Estuary SPA 004080. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
South Dublin Bay and River Tolka Estuary SPA [004024]	Located c. 500m south east of the Proposed Development	<p>A046 Light-bellied Brent Goose Branta bernicla hrota A130 Oystercatcher Haematopus ostralegus A137 Ringed Plover Charadrius hiaticula A141 Grey Plover Pluvialis squatarola A143 Knot Calidris canutus A144 Sanderling Calidris alba A149 Dunlin Calidris alpina A157 Bar-tailed Godwit Limosa lapponica A162 Redshank Tringa totanus A179 Black-headed Gull Chroicocephalus ridibundus A192 Roseate Tern Sterna dougallii A193 Common Tern Sterna hirundo A194 Arctic Tern Sterna paradisaea A999 Wetlands</p> <p><i>S.I. No. 212/2010 - European Communities (Conservation of Wild Birds (South Dublin Bay and River Tolka Estuary Special Protection Area 004024)) Regulations 2010.</i></p> <p>NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
Baldoyle Bay SPA [004016]	Located c. 600m east of the Proposed Development	<p>A046 Light-bellied Brent Goose Branta bernicla hrota A048 Shelduck Tadorna tadorna A137 Ringed Plover Charadrius hiaticula A140 Golden Plover Pluvialis apricaria A141 Grey Plover Pluvialis squatarola A157 Bar-tailed Godwit Limosa lapponica A999 Wetlands</p>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
		<p><i>S.I. No. 275/2010 - European Communities (Conservation of Wild Birds (Baldoyle Bay Special Protection Area 004016)) Regulations 2010</i></p> <p>NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
<p>North Bull Island SPA [004006]</p>	<p>Located c. 1km east of the Proposed Development</p>	<p>A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A052 Teal <i>Anas crecca</i> A054 Pintail <i>Anas acuta</i> A056 Shoveler <i>Anas clypeata</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A143 Knot <i>Calidris canutus</i> A144 Sanderling <i>Calidris alba</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A160 Curlew <i>Numenius arquata</i> A162 Redshank <i>Tringa totanus</i> A169 Turnstone <i>Arenaria interpres</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A999 Wetlands</p> <p><i>S.I. No. 211/2010 - European Communities (Conservation of Wild Birds (North Bull Island Special Protection Area 004006)) Regulations 2010.</i></p> <p>NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p>
<p>Skerries Islands SPA [004006]</p>	<p>Located c. 1.4km east of the Proposed Development</p>	<p>A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A148 Purple Sandpiper <i>Calidris maritima</i> A169 Turnstone <i>Arenaria interpres</i> A184 Herring Gull <i>Larus argentatus</i></p> <p><i>S.I. No. 245/2010 - European Communities (Conservation of Wild Birds (Skerries Islands Special Protection Area 004122)) Regulations 2010.</i></p> <p>NPWS (2022) Conservation Objectives for Skerries Islands SPA [004122]. First Order site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.</p>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
Rockabill SPA [004014]	Located c. 3.5km east of the Proposed Development	A148 Purple Sandpiper <i>Calidris maritima</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> <i>S.I. No. 94/2012 - European Communities (Conservation of Wild Birds (Rockabill Special Protection Area 004014)) Regulations 2012.</i> NPWS (2013) Conservation Objectives: Rockabill SPA [004122]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
River Boyne and River Blackwater SPA [004232]	Located c. 3.7km north west of the Proposed Development	A229 Kingfisher <i>Alcedo atthis</i> <i>S.I. No. 462/2012 - European Communities (Conservation of Wild Birds (River Boyne and River Blackwater Special Protection Area 004232)) Regulations 2012.</i> NPWS (2022) Conservation objectives for River Boyne and River Blackwater SPA [004232]. First Order site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
Ireland's Eye SPA [004117]	Located c. 5.4km east of the Proposed Development	A017 Cormorant <i>Phalacrocorax carbo</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i> <i>S.I. No. 240/2010 - European Communities (Conservation of Wild Birds (Ireland's Eye Special Protection Area 004117)) Regulations 2010.</i> NPWS (2022) Conservation objectives for Ireland's Eye SPA [004117]. First Order site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage
Howth Head Coast SPA [004113]	Located c. 6.5km east of the Proposed Development	A188 Kittiwake <i>Rissa tridactyla</i> <i>S.I. No. 185/2012 - European Communities (Conservation of Wild Birds (Howth Head Coast Special Protection Area 004113)) Regulations 2012.</i> NPWS (2021) Conservation objectives for Howth Head Coast SPA [004113]. First Order site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
Lambay Island SPA [004069]	Located c. 7.5km east of the Proposed Development	A009 Fulmar <i>Fulmarus glacialis</i> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A043 Greylag Goose <i>Anser anser</i> A183 Lesser Black-backed Gull <i>Larus fuscus</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i> A204 Puffin <i>Fratercula arctica</i> <i>S.I. No. 242/2010 - European Communities (Conservation of Wild Birds (Lambay Island Special Protection Area 004069)) Regulations 2010.</i> NPWS (2022) Conservation objectives for Lambay Island SPA [004069].

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
		First Order site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
Dalkey Islands SPA [004172]	Located c. 12.8km south east of the Proposed Development	A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> NPWS (2022) Conservation objectives for Dalkey Islands SPA [004172]. First Order Site specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage. <i>S.I. No. 238/2010 - European Communities (Conservation of Wild Birds (Dalkey Islands Special Protection Area 004172)) Regulations 2010.</i>
Wicklow Mountains SPA [004040]	Located c. 14km south west of the Proposed Development	A098 Merlin <i>Falco columbarius</i> A103 Peregrine <i>Falco peregrinus</i> <i>S.I. No. 586/2012 - European Communities (Conservation of Wild Birds (Wicklow Mountains Special Protection Area 004040)) Regulations 2012</i> NPWS (2022) Conservation Objectives for Wicklow Mountain SPA 004040. First Order site Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
Dundalk Bay SPA [004026]	Located c. 17.5km north of the Proposed Development	A005 Great Crested Grebe <i>Podiceps cristatus</i> A043 Greylag Goose <i>Anser anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A048 Shelduck <i>Tadorna tadorna</i> A052 Teal <i>Anas crecca</i> A053 Mallard <i>Anas platyrhynchos</i> A054 Pintail <i>Anas acuta</i> A065 Common Scoter <i>Melanitta nigra</i> A069 Red-breasted Merganser <i>Mergus serrator</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A140 Golden Plover <i>Pluvialis apricaria</i> A141 Grey Plover <i>Pluvialis squatarola</i> A142 Lapwing <i>Vanellus vanellus</i> A143 Knot <i>Calidris canutus</i> A149 Dunlin <i>Calidris alpina</i> A156 Black-tailed Godwit <i>Limosa limosa</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A160 Curlew <i>Numenius arquata</i> A162 Redshank <i>Tringa totanus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A182 Common Gull <i>Larus canus</i> A184 Herring Gull <i>Larus argentatus</i> A999 Wetlands <i>S.I. No. 310/2012 - European Communities (Conservation of Wild Birds (Dundalk Bay Special Protection Area 004026)) Regulations 2012.</i>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
		NPWS (2011) Conservation Objectives: Dundalk Bay SAC 000455 and Dundalk Bay SPA 004026. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Stabannan-Braganstown SPA [004091]	Located c. 19.2km north of the Proposed Development	A043 Greylag Goose <i>Anser anser</i> <i>S.I. No. 546/2011 - European Communities (Conservation of Wild Birds (Stabannan-Braganstown Special Protection Area 004091)) Regulations 2011</i> NPWS (2022) Conservation Objectives: Stabannan-Braganstown SPA 004091. First Order site Specific Conservation Objectives Version 1.0 National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
The Murrough SPA [004186]	Located c. 30km from the Proposed Development	A001 Red-throated Diver <i>Gavia stellata</i> A043 Greylag Goose <i>Anser anser</i> A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A184 Herring Gull <i>Larus argentatus</i> A195 Little Tern <i>Sterna albifrons</i> <i>S.I. No. 298/2011 - European Communities (Conservation of Wild Birds (The Murrough Special Protection Area 004186)) Regulations 2011</i> NPWS (2022) Conservation objectives for The Murrough SPA [004186]. First Order Sites Specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage
Wicklow Head SPA [004127]	Located c. 42km south of the Proposed Development	A188 Kittiwake <i>Rissa tridactyla</i> NPWS (2022) Conservation objectives for Wicklow Head SPA [004127]. First Order Site specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
Seas Off Wexford SPA [004237]	Located c. 90km south of the Proposed Development	A001 Red-throated Diver <i>Gavia stellata</i> A009 Fulmar <i>Fulmarus glacialis</i> A013 Manx Shearwater <i>Puffinus puffinus</i> A016 Gannet <i>Morus bassanus</i> A017 Cormorant <i>Phalacrocorax carbo</i> A018 Shag <i>Phalacrocorax aristotelis</i> A065 Common Scoter <i>Melanitta nigra</i> A176 Mediterranean Gull <i>Larus melanocephalus</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A183 Lesser Black-backed Gull <i>Larus fuscus</i> A184 Herring Gull <i>Larus argentatus</i> A188 Kittiwake <i>Rissa tridactyla</i> A191 Sandwich Tern <i>Sterna sandvicensis</i> A192 Roseate Tern <i>Sterna dougallii</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A195 Little Tern <i>Sterna albifrons</i> A199 Guillemot <i>Uria aalge</i>

Site Name	Distance	Reasons for Designation – QIs or SCIs (* = priority Annex I Habitat)
		A200 Razorbill <i>Alca torda</i> A204 Puffin <i>Fratercula arctica</i> NPWS (2024) Conservation Objectives: Seas off Wexford SPA 004237. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
Saltee Islands SPA [004002]	Located 137km south of the Proposed Development	A009 Fulmar <i>Fulmarus glacialis</i> A016 Gannet <i>Morus bassanus</i> A018 Shag <i>Phalacrocorax aristotelis</i> A188 Kittiwake <i>Rissa tridactyla</i> A199 Guillemot <i>Uria aalge</i> A200 Razorbill <i>Alca torda</i> A204 Puffin <i>Fratercula arctica</i> NPWS (2011) Conservation Objectives: Saltee Islands SAC000707 and Saltee Islands SPA 004002. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

1.2 Appendix 1.2: Desktop Records

Desktop records of protected, rare, or other notable plant species are listed below in Table 1-2. These are plant species which are legally protected under the Flora (Protection) Order, 2015 and/or are listed as Critically Endangered, Endangered or Vulnerable on the relevant national Red Data list for Ireland.

Table 1-2 Records of protected, red-listed or notable flora recorded from the desk study in the vicinity of the study area

Common Name/ Scientific name	Legal Status ¹	Red List Status	Source
Betony <i>Stachys officinalis</i>	FPO	Near threatened	NBDC online database record (O13)
Black Horehound <i>Ballota nigra</i>	None	Near threatened	NBDC online database record (O13, O24, and O25)
Brackish Water-crowfoot <i>Ranunculus baudotii</i>	None	Near threatened	NBDC online database record (O16)
Bugloss <i>Anchusa arvensis</i>	None	Near threatened	NBDC online database record (O24 and O25)
Common Gromwell <i>Lithospermum officinale</i>	None	Near threatened	NBDC online database record (O13)
Curved Hard-grass <i>Parapholis incurva</i>	FPO	Endangered	NBDC online database record (O23)

¹ HDII/IV/V = Habitats Directive Annexes II/IV/V; FPO = Flora (Protection) Order, 2015; WA = Wildlife Acts

Common Name/ Scientific name	Legal Status ¹	Red List Status	Source
Dittander <i>Lepidium latifolium</i>	None	Vulnerable	NBDC online database record (O13)
Dwarf Mallow <i>Malva neglecta</i>	None	Near threatened	NBDC online database record (O13)
Corn marigold <i>Glebionis segetum</i>	None	Near threatened	NBDC online database record (O14, O16, O17, O24, and O25)
Great Burnet <i>Sanguisorba officinalis</i>	FPO	Endangered	NBDC online database record (O13)
Greater Knapweed <i>Centaurea scabiosa</i>	None	Near threatened	NBDC online database record (O13)
Green-winged Orchid <i>Anacamptis morio</i>	None	Vulnerable	NBDC online database record (O25)
Hairy St John's-wort <i>Hypericum hirsutum</i>	None	Endangered	NBDC online database record (O13)
Hairy Violet <i>Viola hirta</i>	FPO	Endangered	NBDC online database record (O13)
Hound's-tongue <i>Cynoglossum officinale</i>	None	Near threatened	NBDC online database record (O17 and O24)
Irish Whitebeam <i>Sorbus hibernica</i>	None	Vulnerable	NBDC online database record (O13 and O24)
Lesser Centaury <i>Centaureum pulchellum</i>	FPO	Endangered	NBDC online database record (O23)
Little-robin <i>Geranium purpureum</i>	None	Endangered	NBDC online database record (O23)
Meadow Barley <i>Hordeum secalinum</i>	FPO	Endangered	NBDC online database record (O13, O14, O17, O23, O24, and O25)
Meadow Crane's-bill <i>Geranium pratense</i>	None	Vulnerable	NBDC online database record (O13)
Milk Thistle <i>Silybum marianum</i>	None	Near threatened	NBDC online database record (O13 and O24)
Nettle-leaved Bellflower <i>Campanula trachelium</i>	None	Endangered	NBDC online database record (O13)
Opposite-leaved Pondweed <i>Groenlandia densa</i>	FPO	Endangered	NBDC online database record (O13)
Pale Flax <i>Linum bienne</i>	None	Near threatened	NBDC online database record (O13, O17, O18, O23 and O24)
Prickly Poppy <i>Papaver argemone</i>	None	Vulnerable	NBDC online database record (O24 and O25)

Common Name/ Scientific name	Legal Status ¹	Red List Status	Source
Prostrate Broom <i>Cytisus scoparius subsp. maritimus</i>	None	Vulnerable	NBDC online database record (O23 and O24)
Purple Spurge <i>Euphorbia peplis</i>	None	Regionally Extinct	NBDC online database record (O13)
Rough Clover <i>Trifolium scabrum</i>	None	Near threatened	NBDC online database record (O17 and O26)
Round-leaved Crane's-bill <i>Geranium rotundifolium</i>	None	Endangered	NBDC online database record (O13)
Saltmarsh Flat-sedge <i>Blysmus rufus</i>	None	Near threatened	NBDC online database record (O23)
Sea Pea <i>Lathyrus japonicus</i>	FPO	Data deficient	NBDC online database record (O23)
Sea-kale <i>Crambe maritima</i>	None	Near threatened	NBDC online database record (O16 and O23)
Slender Thistle <i>Carduus tenuiflorus</i>	None	Near threatened	NBDC online database record (O13, O18, O23, and O24)
Slender Tufted-sedge <i>Carex acuta</i>	None	Near threatened	NBDC online database record (O23)
Small Cudweed <i>Filago minima</i>	None	Near threatened	NBDC online database record (O13)
Smooth Brome <i>Bromus racemosus</i>	None	Vulnerable	NBDC online database record (O14)
Spring Vetch <i>Vicia lathyroides</i>	None	Least concern	NBDC online database record (O13)
Strawberry-tree <i>Arbutus unedo</i>	None	Near threatened	NBDC online database record (O13 and O23)
Tubular Water-dropwort <i>Oenanthe fistulosa</i>	None	Near threatened	NBDC online database record (O13)
Upright Brome <i>Bromopsis erecta</i>	None	Near threatened	NBDC online database record (O13, O24, and O25)
Water-violet <i>Hottonia palustris</i>	None	Vulnerable	NBDC online database record (O13)
Cladonia portentosa	HD_V	Data deficient	NBDC online database record (O23)
Bearded Pawwort <i>Barbilophozia barbata</i>	None	Critically Endangered	NBDC online database record (O23)
Cliff Scalewort <i>Porella cordaeana</i>	None	Near threatened	NBDC online database record (O07, O16, and O17)
Petalwort <i>Petalophyllum ralfsii</i>	FPO, HD_II	Least concern	NBDC online database record (O23 and O24)

Desktop records of protected, rare, or other notable fauna species are listed below in Table 1-3. In relation to fauna species those which are protected under the Habitats Directive and/or are listed as threatened (Vulnerable to Critically Endangered) on the relevant national Red Lists are included. In the case of bird species, only those species listed in Annex I of the Birds Directive or on the Birds of Conservation Concern in Ireland (BoCCI) Red List are included in the table below. For invertebrate species, those which are listed as threatened (Vulnerable to Critically Endangered) on the relevant national Red List are included.

Table 1-3 Records of protected, red-listed or notable fauna from the desktop study in the vicinity of the study area

Common Name/ Scientific Name	Legal Status ²	Red List Status ³	Source
Mammals (Marine)			
Bottle-nosed dolphin <i>Tursiops truncatus</i>	HD_II & IV, WA	n/a	NBDC online database record (O16, O17, O18, O23, O24, and O26)
Harbour porpoise <i>Phocoena phocoena</i>	HD_II & IV, WA	n/a	NBDC online database record (O13, O16, O17, O18, O23, O24, O25, and O26)
Common seal <i>Phoca vitulina</i>	HD_II & IV, WA	n/a	NBDC online database record (O17, O18, O23, O24, O25, and O26)
Grey seal <i>Halichoerus grypus</i>	HD_II & IV, WA	n/a	NBDC online database record (O13, O16, O17, O18, O23, O24, O25, and O26)
Mammals (Terrestrial)			
Otter <i>Lutra lutra</i>	HD_II & IV, WA	Least concern	NBDC online database record (O13 and O25)
Fish			
Allis Shad <i>Alosa alosa</i>	HD_II & IV	Data deficient	NBDC online database record (O18)

² HD_II/IV/V = Habitats Directive Annexes II/IV/V; WA = Wildlife Acts; BD_I/II/III = Birds Directive Annex I/II/III; OSPAR = Convention for the protection of the marine environment of the North-east Atlantic 1992

³ Mammal Red-list from Marnell, F., Kingston, N. & Looney, D. (2009) *Ireland Red List No. 3: Terrestrial Mammals* and Marnell, F., Looney, D. & Lawton, C. (2019) *Ireland Red List No. 12: Terrestrial Mammals*.

Birds from Gilbert, G., Stanbury, A. & Lewis, L. (2021) Birds of Conservation Concern in Ireland 4: 2020–2026. *Irish Birds* 43: 1–22.

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

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

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

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

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

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

Common Name/ Scientific Name	Legal Status ²	Red List Status ³	Source
Birds			
Arctic Tern <i>Sterna paradisaea</i>	WA, BD_I	Amber	NBDC online database record (O13)
Atlantic Puffin <i>Fratercula arctica</i>	WA	Amber	NBDC online database record (O23)
Bar-tailed Godwit <i>Limosa lapponica</i>	WA, BD_I	Amber	NBDC online database record (O07)
Bewick's Swan <i>Cygnus columbianus</i> subsp. <i>bewickii</i>	WA, BD_I	Red	NBDC online database record (O18)
Black Guillemot <i>Cepphus grylle</i>	WA	Amber	NBDC online database record (O13)
Black Tern <i>Chlidonias niger</i>	WA, BD_I	n/a	NBDC online database record (O23)
Black-headed Gull <i>Chroicocephalus ridibundus</i>	WA	Red	NBDC online database record (O06)
Black-legged Kittiwake <i>Rissa tridactyla</i>	WA	Amber	NBDC online database record (O07)
Black-necked Grebe <i>Podiceps nigricollis</i>	WA	Red	NBDC online database record (O24)
Black-tailed Godwit <i>Limosa limosa</i>	WA	Amber	NBDC online database record (O13)
Black-throated Diver <i>Gavia arctica</i>	WA, BD_I	Amber	NBDC online database record (O18)
Light bellied Brent Goose <i>Branta bernicla hrota</i>	WA	Amber	NBDC online database record (O13)
Common Coot <i>Fulica atra</i>	WA, BD_II(I), BD_III(II)	Amber	NBDC online database record (O06)
Common Eider <i>Somateria mollissima</i>	WA, BD_II(II), BD_III(II)	Amber	NBDC online database record (O17)
Common Goldeneye <i>Bucephala clangula</i>	WA, BD_II(II)	Amber	NBDC online database record (O07)
Common Greenshank <i>Tringa nebularia</i>	WA	Amber	NBDC online database record (O07)
Common Guillemot <i>Uria aalge</i>	WA	Amber	NBDC online database record (O08)
Common Kingfisher <i>Alcedo atthis</i>	WA, BD_I	Amber	NBDC online database record (O06)
Common Pochard <i>Aythya ferina</i>	WA, BD_II(I), BD_III(II)	Amber	NBDC online database record (O07)

Common Name/ Scientific Name	Legal Status ²	Red List Status ³	Source
Common Redshank <i>Tringa totanus</i>	WA	Red	NBDC online database record (O07)
Common Sandpiper <i>Actitis hypoleucos</i>	WA	Amber	NBDC online database record (O07)
Common Scoter <i>Melanitta nigra</i>	WA, BD_II(II), BD_III(III)	Red	NBDC online database record (O16)
Common Shelduck <i>Tadorna tadorna</i>	WA	Amber	NBDC online database record (O07)
Common Snipe <i>Gallinago gallinago</i>	WA, BD_II(I), BD_III(III)	Amber	NBDC online database record (O06)
Common Tern <i>Sterna hirundo</i>	WA, BD_I	Amber	NBDC online database record (O07)
Corn Crake <i>Crex crex</i>	WA, BD_I	Red	NBDC online database record (O06)
Dunlin <i>Calidris alpina</i>	WA, BD_I	Amber	NBDC online database record (O13)
Eurasian Curlew <i>Numenius arquata</i>	WA, BD_II(II)	Red	NBDC online database record (O06)
Eurasian Marsh Harrier <i>Circus aeruginosus</i>	WA	n/a	NBDC online database record (O25)
Eurasian Oystercatcher <i>Haematopus ostralegus</i>	WA	Amber	NBDC online database record (O07)
Eurasian Teal <i>Anas crecca</i>	WA, BD_II(I), BD_III(II)	Amber	NBDC online database record (O06)
Eurasian Wigeon <i>Anas penelope</i>	WA, BD_II(I), BD_III(II)	Amber	NBDC online database record (O07)
Eurasian Woodcock <i>Scolopax rusticola</i>	WA, BD_II(I), BD_III(III)	Amber	NBDC online database record (O06)
European Golden Plover <i>Pluvialis apricaria</i>	WA, BD_I, BD_II(II), BD_III(III)	Red	NBDC online database record (O06)
European Shag <i>Phalacrocorax aristotelis</i>	WA	Amber	NBDC online database record (O13)
European Storm-petrel <i>Hydrobates pelagicus</i>	WA, BD_I	Amber	NBDC online database record (O26)
Gadwall <i>Anas strepera</i>	WA, BD_II(I)	Amber	NBDC online database record (O08)
Garganey <i>Anas querquedula</i>	WA, BD_II(I)	Amber	NBDC online database record (O16)

Common Name/ Scientific Name	Legal Status ²	Red List Status ³	Source
Goosander <i>Mergus merganser</i>	WA, BD_II(II)	Amber	NBDC online database record (O07)
Great Black-backed Gull <i>Larus marinus</i>	WA	Amber	NBDC online database record (O07)
Great Cormorant <i>Phalacrocorax carbo</i>	WA	Amber	NBDC online database record (O06)
Great Crested Grebe <i>Podiceps cristatus</i>	WA	Amber	NBDC online database record (O07)
Great Northern Diver <i>Gavia immer</i>	WA, BD_I	n/a	NBDC online database record (O13)
Great Skua <i>Stercorarius skua</i>	WA	Amber	NBDC online database record (O17)
Greater Scaup <i>Aythya marila</i>	WA, BD_II(II), BD_III(III)	Amber	NBDC online database record (O13)
Grey Plover <i>Pluvialis squatarola</i>	WA	Amber	NBDC online database record (O13)
Hen Harrier <i>Circus cyaneus</i>	WA, BD_I	Amber	NBDC online database record (O07)
Herring Gull <i>Larus argentatus</i>	WA	Red	NBDC online database record (O06)
Lesser Black-backed Gull <i>Larus fuscus</i>	WA	Amber	NBDC online database record (O07)
Little Egret <i>Egretta garzetta</i>	WA, BD_I	n/a	NBDC online database record (O07)
Little Grebe <i>Tachybaptus ruficollis</i>	WA	Amber	NBDC online database record (O06)
Little Gull <i>Larus minutus</i>	WA, BD_I	n/a	NBDC online database record (O14)
Little Tern <i>Sternula albifrons</i>	WA, BD_I	Amber	NBDC online database record (O13)
Long-tailed Duck <i>Clangula hyemalis</i>	WA, BD_II(II)	n/a	NBDC online database record (O08)
Mallard <i>Anas platyrhynchos</i>	WA, BD_II(I), BD_III(I)	n/a	NBDC online database record (O06)
Manx Shearwater <i>Puffinus puffinus</i>	WA	Amber	NBDC online database record (O13)
Mediterranean Gull <i>Larus melanocephalus</i>	WA, BD_I	Amber	NBDC online database record (O13)
Merlin	WA, BD_I	Amber	NBDC online database record (O07)

Common Name/ Scientific Name	Legal Status ²	Red List Status ³	Source
<i>Falco columbarius</i>			
Mew Gull <i>Larus canus</i>	WA	Amber	NBDC online database record (O06)
Mute Swan <i>Cygnus olor</i>	WA	Amber	NBDC online database record (O06)
Northern Gannet <i>Morus bassanus</i>	WA	Amber	NBDC online database record (O08)
Northern Lapwing <i>Vanellus vanellus</i>	WA, BD_II(II)	Red	NBDC online database record (O06)
Northern Pintail <i>Anas acuta</i>	WA, BD_II(I), BD_III(II)	Red	NBDC online database record (O07)
Northern Shoveler <i>Anas clypeata</i>	WA, BD_II(I), BD_III(III)	Red	NBDC online database record (O07)
Peregrine Falcon <i>Falco peregrinus</i>	WA, BD_I	n/a	NBDC online database record (O07)
Razorbill <i>Alca torda</i>	WA	Amber	NBDC online database record (O16)
Red Knot <i>Calidris canutus</i>	WA	Red	NBDC online database record (O13)
Red-breasted Merganser <i>Mergus serrator</i>	WA, BD_II(II)	n/a	NBDC online database record (O07)
Red-throated Diver <i>Gavia stellata</i>	WA, BD_I	Amber	NBDC online database record (O13)
Ringed Plover <i>Charadrius hiaticula</i>	WA	Amber	NBDC online database record (O13)
Roseate Tern <i>Sterna dougallii</i>	WA, BD_I	Amber	NBDC online database record (O16)
Ruff <i>Philomachus pugnax</i>	WA, BD_I	Amber	NBDC online database record (O14)
Sandwich Tern <i>Sterna sandvicensis</i>	WA, BD_I	Amber	NBDC online database record (O17)
Tufted Duck <i>Aythya fuligula</i>	WA, BD_II(I), BD_III(II)	Amber	NBDC online database record (O07)
Twite <i>Carduelis flavirostris</i>	WA	Red	NBDC online database record (O13)
Velvet Scoter <i>Melanitta fusca</i>	WA, BD_II(II)	n/a	NBDC online database record (O14)
Whooper Swan <i>Cygnus cygnus</i>	WA, BD_I	Amber	NBDC online database record (O07)

Common Name/ Scientific Name	Legal Status ²	Red List Status ³	Source
Wood Sandpiper <i>Tringa glareola</i>	WA, BD_I	Amber	NBDC online database record (O25)
Invertebrates			
Desmoulin's Whorl Snail <i>Vertigo (Vertigo) moulinsiana</i>	HD_II, WA	HD_II, WA, Endangered	NBDC online database record (O07)
Marsh Fritillary <i>Euphydryas aurinia</i>	HD_II	HD_II , Vulnerable	NBDC online database record (O13, O14, and O23)

1.3 Appendix 1.3: Wintering bird survey results

The desk study records from the NBDC include 148 wintering waterfowl, gull and wader species. Including 31 species listed under Annex I of the Birds Directive within c. 2km of the Proposed Development site.

Table 1-4, Table 1-5, Table 1-6, Table 1-7, Table 1-8, Table 1-9 below provides a summary of the findings of the winter bird surveys with respect to those species which are of highest conservation concern, and were recorded within winter bird survey sites:

- Special Conservation Interests (SCIs), for a wintering population, of nearby SPAs
- Species listed under Annex I of the Birds Directive (2008/144/EC)

Table 1-10 provides a summary of the flight lines of all SCI bird species recorded flying over the Proposed Development. Table 1-11 details the survey conditions of all surveys undertaken.

Table 1-4 Vantage Point Records of Wintering Birds of Conservation Concern at the Laytown September 2021 – March 2023

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁴	Threshold of National Population ⁵
	Oct 2021 – Mar 2022	Oct 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Bar-tailed godwit <i>Limosa lapponica</i> (BA)	17 foraging at Laytown beach (05/11/2021)	4 foraging at Laytown beach (02/12/2022)	Red (W)	✓	Malahide Estuary SPA, within the Proposed Development	1,500	170
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	56 foraging at Laytown beach (02/12/2021)	28 foraging at Laytown beach (02/12/2022)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA, c. 500m south east of the Proposed Development	31,000	n/a
Black-tailed godwit <i>Limosa limosa</i> (BW)	24 foraging at Laytown beach (28/09/2021)	3 flying over Laytown viaduct (17/11/2022; 09/02/2023)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	1,100	200

⁴ Wetlands International. 2012. Waterbird Population Estimates, Fifth Edition. Summary Report Wetlands International, Wageningen The Netherlands (with estimates available at <http://wpe.wetlands.org/>).

⁵ Crowe, O., & Holt, C. 2013. Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. Irish Birds 9, 545-552.

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁴	Threshold of National Population ⁵
	Oct 2021 – Mar 2022	Oct 2022 – Mar 2023	BoCCJ (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Light-bellied brent goose <i>Branta bernicla</i> (BG)	104 foraging at Laytown beach (05/11/2021)	83 foraging at Laytown beach (15/12/2022)	Amber (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	400	350
Common gull <i>Larus canus</i> (CM)	31 foraging at Laytown beach (05/11/2021)	38 foraging at Seafield GAA pitches (17/11/2022)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	16,400	n/a
Cormorant <i>Phalacrocorax carbo</i> (CA)	1 foraging in Irish sea and also recorded within the River Nanny (28/09/2021; 08/10/2021; 22/10/2021; & 06/10/2022)	1 flying over Laytown viaduct (08/11/2022; 17/11/2022; 15/12/2022; 05/01/2023; 09/02/2023; & 24/03/2023)	Amber (B/W)	-	Skerries Islands SPA, located c. 1.4km east of the Proposed Development	1,200	110
Curlew <i>Numenius arquata</i> (CU)	6 foraging at Laytown beach (22/10/2021)	25 flying over Laytown viaduct (24/03/2023)	Red (B/W)	-	North Bull Island SPA, located c. 1km east of the Proposed Development	7,600	350
Dunlin <i>Calidris alpina</i> (DN)	57 foraging at Laytown beach (04/02/2022)	90 foraging at Laytown beach (05/01/2023)	Red (B/W)	✓	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	13,300	460
Golden plover <i>Pluvialis apricaria</i> (GP)	330 loafing at Laytown beach (04/03/2022)	23 foraging at Laytown beach (09/02/2023)	Red (B/W)	✓	Malahide Estuary SPA, within the Proposed Development	9,300	920

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁴	Threshold of National Population ⁵
	Oct 2021 – Mar 2022	Oct 2022 – Mar 2023	BoCCJ (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Great crested grebe <i>Podiceps cristatus</i> (GG)	None recorded during surveys in 2021/22 period	9 swimming in Irish Sea (08/11/2022)	Amber (B/W)	-	Malahide Estuary SPA, within the Proposed Development	6,300	30
Great northern diver <i>Gavia immer</i> (ND)	None recorded during surveys in 2021/22 period	2 foraging in Irish Sea (08/11/2022)	Amber (W)	✓	Inner Galway Bay SPA, located c. 180km west of the Proposed Development	50	20
Greenshank <i>Tringa nebularia</i> (GK)	2 foraging at Laytown beach (28/09/2021)	1 foraging at Laytown beach (15/12/2022 & 09/02/2023)	Green (W)	-	The River Shannon and River Fergus Estuaries SPA, c. 185km south west of the Proposed Development	3,300	20
Grey plover <i>Pluvialis squatarola</i> (GV)	1 foraging at Laytown beach (02/12/2021; 06/01/2022; 04/02/2022; & 04/03/2022)	2 foraging at Laytown beach (08/11/2022 & 17/11/2022)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,000	30
Herring gull <i>Larus argentatus</i> (HG)	201 loafing at Laytown beach (22/10/2021)	108 loafing at Laytown beach (08/11/2022)	Amber (B/W)	-	River Nanny Estuary and Shore SPA, within the Proposed Development site	14,400	n/a
Knot <i>Calidris canutus</i> (KN)	8 foraging at Laytown beach (06/01/2022)	None recorded during surveys in 2022/23 period	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	5,300	160

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁴	Threshold of National Population ⁵
	Oct 2021 – Mar 2022	Oct 2022 – Mar 2023	BoCCJ (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Lapwing <i>Vanellus vanellus</i> (L.)	48 foraging at salt marsh area of River Nanny (04/02/2021)	170 landed in agricultural fields south-west of Laytown viaduct (17/11/2022)	Red (B/W)	-	Boyne Estuary SPA, c. 400m north east of the Proposed Development	72,300	850
Little egret <i>Egretta garzetta</i> (ET)	2 foraging at Laytown beach	2 foraging at Laytown beach (17/11/2022)	-	✓	-	1,100	20
Lesser black-backed gull <i>Larus fuscus</i> (LB)	1 loafing at Laytown beach (22/10/2021)	1 flying over Laytown viaduct (02/12/2022)	Amber (B/W)	-	Lambay Island SPA, c. 7.5km east of the Proposed Development	5,500 (Western Europe)/ 6,300 (Southern Scandinavia)	n/a
Little grebe <i>Tachybaptus ruficollis</i> (LG)	1 swimming at salt marsh area of River Nanny (17/12/2021; 06/01/2022; & 04/02/2022)	2 foraging at salt marsh area of River Nanny (08/11/2022)	Amber (B/W)	-	Wexford Harbour and Slobbs SPA, c. 102km south of the Proposed Development	4,700	20
Mallard <i>Anas platyrhynchos</i> (MA)	37 rafting at salt marsh area of River Nanny (17/12/2021)	5 foraging at salt marsh area of River Nanny (15/12/2022)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	53,000	280
Oystercatcher <i>Haematopus ostralegus</i> (OC)	344 foraging at Laytown beach (04/02/2022)	40 flying over Laytown viaduct (17/11/2022)			Malahide Estuary SPA, Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	8,200	610

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁴	Threshold of National Population ⁵
	Oct 2021 – Mar 2022	Oct 2022 – Mar 2023	BoC/I (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Redshank <i>Tringa tetanus</i> (RK)	70 foraging at Laytown beach (28/09/2021)	21 foraging at Laytown beach (15/12/2022)	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Red-throated diver <i>Gavia stellata</i> (RH)	3 foraging in Irish Sea beyond Laytown beach (22/10/2021)	None recorded during surveys in 2022/23 period	Amber (B/W)	✓	The Murrough SPA, c. 30km south of the Proposed Development	3,000	20
Ringed plover <i>Charadrius hiaticula</i> (RP)	65 foraging at Laytown beach (17/12/2021)	70 foraging at Laytown beach (09/02/2023)	Amber (B/W)	-	Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	540	120
Sanderling <i>Calidris alba</i> (SS)	8 foraging at Laytown beach (22/10/2021)	20 foraging at Laytown beach (08/11/2022)	-	-	River Nanny Estuary and Shore SPA, located within the Proposed Development	2,000	85
Teal <i>Anas crecca</i> (T.)	52 foraging at salt marsh area of River Nanny (17/12/2021)	19 loafing at salt marsh area of River Nanny (08/11/2022)	Amber (B/W)	-	North Bull Island SPA, c. 1km east of the Proposed Development	5,000	360
Turnstone <i>Arenaria interpres</i> (TT)	16 foraging at Laytown beach (05/11/2021)	15 foraging at Laytown beach (15/12/2022)	Amber (W)	-	Boyne Estuary SPA, c. 400m north of the Proposed Development	1,400	95
Wigeon <i>Mareca Penelope</i> (WN)	18 foraging at salt marsh area of River Nanny (04/02/2022)	2 swimming at salt marsh area of River Nanny (08/11/2022)	Amber (B/W)	-	The Murrough SPA, c. 30km south of the Proposed Development	140,000	560

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁴	Threshold of National Population ⁵
	Oct 2021 – Mar 2022	Oct 2022 – Mar 2023	BoCCJ (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Whooper swan <i>Cygnus cygnus</i> (WS)	6 flying over at salt marsh area of River Nanny (22/10/2021)	None recorded during surveys in 2022/23 period	Amber (B/W)	✓	Lough Derravaragh SPA, c. 64km east of the Proposed Development	340	150

Table 1-5 Vantage Point Records of Wintering Birds of Conservation Concern at the Gormanston September 2021 – March 2023

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁶	Threshold of National Population ⁷
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest SPA designated for SCI species within Zol		
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	650 foraging at Gormanston camp grassland (08/10/2021)	9 flying over rail line (17/11/2022)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA, c. 500m south east of the Proposed Development	31,000	n/a
Black-tailed godwit <i>Limosa limosa</i> (BW)	1 foraging on the beach at Benhead (02/12/2021)	4 foraging on agricultural grassland east of rail line (02/12/2022)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	1,100	200
Black-throated diver <i>Gavia arctica</i> (BV)	1 foraging in the Irish sea (05/11/2021)	None recorded during surveys in 2022/23 period	Amber (W)	✓	Inner Galway Bay SPA, located c. 180km west of the Proposed Development	3,500	n/a
Light-bellied brent goose <i>Branta bernicla</i> (BG)	14 foraging at tideline along Benhead (04/03/2021)	200 foraging on agricultural arable field east of rail line beside Benhead (02/12/2022)	Amber (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	400	350
Common gull <i>Larus canus</i> (CM)	10 flying over rail line adjacent to Gormanston camp (17/12/2021)	2 flying over rail line (17/11/2022 & 24/02/2023)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	16,400	n/a

⁶ Wetlands International. 2012. Waterbird Population Estimates, Fifth Edition. Summary Report Wetlands International, Wageningen The Netherlands (with estimates available at <http://wpe.wetlands.org/>).

⁷ Crowe, O., & Holt, C. 2013. Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. Irish Birds 9, 545-552.

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁶	Threshold of National Population ⁷
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest SPA designated for SCI species within Zol		
Common scoter <i>Melanitta nigra</i> (CX)	1,750 swimming in the Irish Sea (15/03/2022)	2,000 swimming in the Irish Sea (24/02/2023)	Red (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	7,500	110
Cormorant <i>Phalacrocorax carbo</i> (CA)	7 loafing on the Irish Sea (08/10/2021)	3 swimming in the Irish Sea (24/02/2023)	Amber (B/W)	-	Skerries Islands SPA, located c. 1.4km east of the Proposed Development	1,200	110
Curlew <i>Numenius arquata</i> (CU)	221 foraging on the grassland in Gormanston camp (06/01/2022)	240 foraging on the grassland in Gormanston camp (15/12/2022)	Red (B/W)	-	North Bull Island SPA, located c. 1km east of the Proposed Development	7,600	350
Gannet <i>Morus bassana</i> (GX)	None recorded during surveys in 2021/22 period	1 flying near Benhead beach along Irish Sea (24/03/2023)	Amber (B)	-	Saltee Islands SPA located c. Xkm south of the Proposed Development	n/a	n/a
Golden plover <i>Pluvialis apricaria</i> (GP)	1,160 foraging on the grassland in Gormanston camp (20/01/2022)	72 roosting on the grassland in Gormanston camp (24/01/2023)	Red (B/W)	✓	Malahide Estuary SPA, within the Proposed Development	9,300	920
Great crested grebe <i>Podiceps cristatus</i> (GG)	8 loafing on the Irish Sea (08/10/2021)	2 swimming on the Irish Sea (17/11/2022)	Amber (B/W)	-	Malahide Estuary SPA, within the Proposed Development	6,300	30
Great northern diver <i>Gavia stellata</i> (ND)	8 foraging on the Irish Sea (04/03/2022)	None recorded during surveys in 2022/23 period	Amber (W)	✓	Inner Galway Bay SPA, located c. 180km west of the Proposed Development	50	20
Greenshank <i>Tringa nebularia</i> (GK)	1 foraging on the beach at Benhead (02/12/2021)	None recorded during surveys in 2022/23 period	Green (W)	-	The River Shannon and River Fergus Estuaries SPA, c. 185km south west of the	3,300	20

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁶	Threshold of National Population ⁷
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest SPA designated for SCI species within Zol		
					Proposed Development		
Grey plover <i>Pluvialis squatarola</i> (GV)	2 foraging on the beach parallel to Gormanston camp (02/12/2021)	None recorded during surveys in 2022/23 period	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,000	30
Common guillemot <i>Uria aalge</i> (GU)	3 swimming on the Irish Sea (05/11/2021)	None recorded during surveys in 2022/23 period	Amber (B)	-	Lambay Island SPA, c. 7.5km east of the Proposed Development	n/a	n/a
Herring gull <i>Larus argentatus</i> (HG)	22 flying over rail line at Mosney accommodation (15/03/2022)	35 foraging in Irish Sea (09/02/2023 & 24/02/2023)	Amber (B/W)	-	River Nanny Estuary and Shore SPA, within the Proposed Development site	14,400	n/a
Lapwing <i>Vanellus vanellus</i> (L.)	156 foraging on the grassland in Gormanston camp (20/01/2022)	160 flying over rail line and landing nearby (05/01/2023)	Red (B/W)	-	Boyne Estuary SPA, c. 400m north east of the Proposed Development	72,300	850
Lesser black-backed gull <i>Larus fuscus</i> (LB)	None recorded during surveys in 2021/22 period	2 flying over rail line (24/03/2023)	Amber (B/W)	-	Lambay Island SPA, c. 7.5km east of the Proposed Development	5,500 (Western Europe)/ 6,300 (Southern Scandinavia)	n/a
Little egret <i>Egretta garzetta</i> (ET)	2 flying along the Irish Sea parallel to Gormanston camp (19/11/2021)	None recorded during surveys in 2022/23 period	-	✓	-	1,100	20
Mallard <i>Anas platyrhynchos</i> (MA)	3 flying over rail line at Mosney accommodation (15/03/2022)	None recorded during surveys in 2022/23 period	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	53,000	280

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of International Population ⁶	Threshold of National Population ⁷
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest SPA designated for SCI species within Zol		
Merlin <i>Falco columbarius</i> (ML)	None recorded during surveys in 2021/22 period	1 perched on agricultural grassland east of rail line (09/02/2023)	Amber (B)	✓	Wicklow Mountains SPA c. Xkm south of the Proposed Development	n/a	n/a
Oystercatcher <i>Haematopus ostralegus</i> (OC)	61 roosting on the beach at Ben Head (02/12/2021)	48 foraging on agricultural grassland east of rail line (09/02/2023)	Red (B/W)	-	Malahide Estuary SPA, Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	8,200	610
Razorbill <i>Alca torda</i> (RZ)	2 perched on the rocks at Ben Head (06/01/2021)	None recorded during surveys in 2022/23 period	Red (B)	-	Lambay Island SPA, c. 7.5km east of the Proposed Development	n/a	n/a
Redshank <i>Tringa tetanus</i> (RK)	1 foraging on the beach at Ben Head (02/12/2021)	None recorded during surveys in 2022/23 period	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Red-throated diver <i>Gavia stellata</i> (RH)	17 swimming on the Irish Sea (06/01/2022)	2 swimming on the Irish Sea (09/02/2023 & 24/03/2023)	Amber (B/W)	✓	The Murrough SPA, c. 30km south of the Proposed Development	3,000	20
Ringed plover <i>Charadrius hiaticula</i> (RP)	11 foraging on the beach at Ben Head (05/11/2021)	None recorded during surveys in 2022/23 period	Amber (B/W)	-	Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	540	120

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁶	Threshold of National Population ⁷
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest SPA designated for SCI species within Zol		
Sanderling <i>Calidris alba</i> (SS)	11 foraging on the beach at Ben Head (05/11/2021)	None recorded during surveys in 2022/23 period	-	-	River Nanny Estuary and Shore SPA, located within the Proposed Development	2,000	85
Scaup <i>Anas marila</i> (SP)	1 flying and hunting on the Irish Sea (17/12/2021)	None recorded during surveys in 2022/23 period	Red (W)	-	Wexford slob or Shannon	n/a	n/a
Shag <i>Gulosus aristotellis</i> (SH)	1 foraging on the Irish Sea (08/10/2021)	None recorded during surveys in 2022/23 period	Amber (B)	-	Skerries Islands SPA, located c. 1.4km east of the Proposed Development	2,000	n/a
Turnstone <i>Arenaria interpres</i> (TT)	11 foraging on the rocks at Ben Head (04/02/2022)	None recorded during surveys in 2022/23 period	Amber (W)	-	Boyne Estuary SPA, c. 400m north of the Proposed Development	1,400	95

Table 1-6 Vantage Point Records of Wintering Birds of Conservation Concern at the Balbriggan September 2021 – March 2023

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁸	Threshold of National Population ⁹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	SPA designated for SCI species within Zol		
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	59 foraging on Balbriggan football pitches (08/10/2021)	11 foraging on Balbriggan football pitches (02/12/2022)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA, c. 500m south east of the Proposed Development	31,000	n/a
Light-bellied brent goose <i>Branta bernicla</i> (BG)	13 foraging on Balbriggan beach (04/03/2021)	None recorded during surveys in 2022/23 period	Amber (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	400	350
Common gull <i>Larus canus</i> (CM)	None recorded during surveys in 2021/22 period	1 flying over rail line (24/02/2023)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	16,400	n/a
Curlew <i>Numenius arquata</i> (CU)	2 flying over the rail line at Balbriggan pitches (02/12/2022)	15 foraging on Balbriggan football pitches (24/01/2023)	Red (B/W)	-	North Bull Island SPA, located c. 1km east of the Proposed Development	7,600	350
Grey heron <i>Ardea cinerea</i> (H.)	1 flying over the rail line at Balbriggan pitches (04/03/2022)	None recorded during surveys in 2022/23 period	-	-	Wexford slob or galway bay	5,000	25
Herring gull <i>Larus argentatus</i> (HG)	22 foraging on Balbriggan football pitches (08/10/2021)	41 foraging on Balbriggan football pitches (24/01/2023)	Amber (B/W)	-	River Nanny Estuary and Shore SPA, within the Proposed Development site	14,400	n/a

⁸ Wetlands International. 2012. Waterbird Population Estimates, Fifth Edition. Summary Report Wetlands International, Wageningen The Netherlands (with estimates available at <http://wpe.wetlands.org/>).

⁹ Crowe, O., & Holt, C. 2013. Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. Irish Birds 9, 545-552.

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ⁸	Threshold of National Population ⁹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering)	Annex I	SPA designated for SCI species within Zol		
Oystercatcher <i>Haematopus ostralegus</i> (OC)	62 foraging on Balbriggan football pitches (16/02/2022)	112 foraging on Balbriggan football pitches (05/01/2023)	Red (B/W)	-	Malahide Estuary SPA, Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	8,200	610
Redshank <i>Tringa tetanus</i> (RK)	8 foraging on Balbriggan football pitches and grassland next to Lambeecher estate (20/01/2022; 16/02/2022)	7 foraging on Balbriggan football pitches (15/12/2023 & 09/02/2023)	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240

Table 1-7 Vantage Point Records of Wintering Birds of Conservation Concern at the Rogerstown September 2021 – March 2023

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of Inter-national Population ¹⁰	Threshold of National Population ¹¹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Bar-tailed godwit <i>Limosa lapponica</i> (BA)	34 foraging on Rogerstown estuary (21/01/2022)	36 foraging on grassland of Rogerstown park (24/01/2023)	Red (W)	✓	Malahide Estuary SPA, within the Proposed Development	1,500	170
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	107 flying over the rail line (16/12/2021)	60 flushed from grassland of Rogerstown park (24/01/2023)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA, c. 500m south east of the Proposed Development	31,000	n/a
Black-tailed godwit <i>Limosa limosa</i> (BW)	450 loafing on Rogerstown estuary (29/03/2022)	166 foraging on Rogerstown estuary (16/03/2023)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	1,100	200
Light-bellied brent goose <i>Branta bernicla</i> (BG)	75 flying over the rail line (03/12/2021)	564 foraging on agricultural grassland north of Rogerstown estuary (02/12/2022)	Amber (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	400	350
Common gull <i>Larus canus</i> (CM)	9 flying over rail line (04/03/2022)	4 flying over rail line (23/03/2023)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	16,400	n/a

¹⁰ Wetlands International. 2012. Waterbird Population Estimates, Fifth Edition. Summary Report Wetlands International, Wageningen The Netherlands (with estimates available at <http://wpe.wetlands.org/>).

¹¹ Crowe, O., & Holt, C. 2013. Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. Irish Birds 9, 545-552.

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of International Population ¹⁰	Threshold of National Population ¹¹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Cormorant <i>Phalacrocorax carbo</i> (CA)	2 swimming in Rogerstown estuary (18/11/2021) and 2 flying over the rail line (04/11/2021; 18/11/2021)	1 foraging and perching in Rogerstown estuary (12/10/2022; 17/11/2022; 16/12/2022; & 05/01/2023)	Amber (B/W)	-	Skerries Islands SPA, located c. 1.4km east of the Proposed Development	1,200	110
Curlew <i>Numenius arquata</i> (CU)	295 foraging at Rogerstown estuary (04/02/2022)	295 foraging at Rogerstown estuary (05/01/2023)	Red (B/W)	-	North Bull Island SPA, located c. 1km east of the Proposed Development	7,600	350
Dunlin <i>Calidris alpina</i> (DN)	3,000 foraging at Rogerstown estuary (21/01/2022)	1,313 foraging at Rogerstown estuary (16/12/2022)	Red (B/W)	✓	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	13,300	460
Golden plover <i>Pluvialis apricaria</i> (GP)	900 at Rogerstown estuary (04/02/2022; 15/03/2022)	846 foraging at Rogerstown estuary (04/02/2022; 15/03/2022)	Red (B/W)	✓	Malahide Estuary SPA, within the Proposed Development	9,300	920
Greenshank <i>Tringa nebularia</i> (GK)	7 foraging at Rogerstown estuary (16/12/2021)	17 loafing at rock armour of Rogerstown estuary beside rail line (05/01/2023)	Green (W)	-	The River Shannon and River Fergus Estuaries SPA, c. 185km south west of the Proposed Development	3,300	20
Grey heron <i>Ardea cinerea</i> (H.)	4 perched on exposed rocks next to rail line of Rogerstown estuary (14/10/2021)	1 foraging at Rogerstown estuary (04/11/2022; 17/11/2022; 02/12/2022; 05/01/2023; & 24/02/2023) and 1 flying	-	-	Wexford slob or galway bay	5,000	25

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of International Population ¹⁰	Threshold of National Population ¹¹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
		over rail line (16/12/2022)					
Grey plover <i>Pluvialis squatarola</i> (GV)	39 foraging at Rogerstown estuary (21/01/2022)	104 foraging at Rogerstown estuary (24/02/2023)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,000	30
Herring gull <i>Larus argentatus</i> (HG)	230 flying over rail line (07/01/2022)	27 flying over rail line (02/12/2022)	Amber (B/W)	-	River Nanny Estuary and Shore SPA, within the Proposed Development site	14,400	n/a
Knot Calidris <i>canutus</i> (KN)	1,650 foraging at Rogerstown estuary (21/01/2022)	300 landed in Rogerstown estuary with joining an additional 30 (12/10/2022)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	5,300	160
Lapwing <i>Vanellus vanellus</i> (L.)	35 flying over rail line (18/11/2021)	120 flying over rail line (24/01/2023)	Red (B/W)	-	Boyne Estuary SPA, c. 400m north east of the Proposed Development	72,300	850
Lesser black-backed gull <i>Larus fuscus</i> (LB)	7 swimming in Rogerstown estuary (29/03/2022)	None recorded during surveys in 2022/23 period	Amber (B/W)	-	Lambay Island SPA, c. 7.5km east of the Proposed Development	5,500 (Western Europe)/ 6,300 (Southern Scandinavia)	n/a
Little egret <i>Egretta garzetta</i> (ET)	3 foraging at Rogerstown estuary (14/10/2022) and flying over rail line (04/03/2022)	3 foraging at Rogerstown estuary (12/10/2022)	-	✓	-	1,100	20
Little grebe <i>Tachybaptus ruficollis</i> (LG)	16 swimming in Rogerstown estuary (03/12/2021)	None recorded during surveys in	Amber (B/W)	-	Wexford Harbour and Slobbs SPA, c. 102km south of the Proposed Development	4,700	20

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of International Population ¹⁰	Threshold of National Population ¹¹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
		2022/23 period					
Little gull <i>Hydrocoloeus minutus</i> (LU)	28 flying over rail line (16/12/2021)	None recorded during surveys in 2022/23 period	Amber (P)	✓	-	1,000	n/a
Mallard <i>Anas platyrhynchos</i> (MA)	63 foraging at Rogerstown estuary (14/10/2021)	33 loafing at Rogerstown estuary (02/12/2022)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	53,000	280
Oystercatcher <i>Haematopus ostralegus</i> (OC)	700 soaring over Rogerstown park (21/10/2021)	40 flying over rail line (17/11/2022)	Red (B/W)		Malahide Estuary SPA, Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	8,200	610
Peregrine falcon <i>Falco peregrinus</i> (PE)	2 flying over rail line (21/10/2021)	1 flying over rail line (04/11/2022)	-	✓	Wicklow Mountains SPA	n/a	n/a
Red-breasted merganser <i>Mergus serrator</i> (RM)	10 foraging at Rogerstown estuary (21/10/2021)	4 foraging at Rogerstown estuary (04/11/2022)	Amber (B/W)		Malahide Estuary SPA within the Proposed Development	860	25
Redshank <i>Tringa tetanus</i> (RK)	97 foraging and roosting at Rogerstown estuary (16/12/2021; 21/01/2022)	97 foraging Rogerstown estuary (24/01/2023)	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Ringed plover <i>Charadrius hiaticula</i> (RP)	150 foraging at Rogerstown estuary (21/01/2022)	100 loafing at agricultural grassland north of Rogerstown estuary (09/02/2023)	Amber (B/W)		Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	540	120

Common name/Scientific name/BTO Code	Recorded activity, peak count		Conservation Importance			Threshold of International Population ¹⁰	Threshold of National Population ¹¹
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Shelduck <i>Tadorna tadorna</i> (SU)	170 swimming at Rogerstown estuary (04/02/2022)	121 swimming at Rogerstown estuary (24/02/2023)	Amber (B/W)		Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,500	100
Sanderling <i>Calidris alba</i> (SS)	None recorded during surveys in 2021/22 period	1 loafing at Rogerstown estuary (24/01/2023)	-		River Nanny Estuary and Shore SPA, located within the Proposed Development	2,000	85
Shoveler <i>Spatula clypeata</i> (SV)	8 flying over rail line (07/01/2022)	None recorded during surveys in 2022/23 period	Red (B/W)		Rogerstown Estuary SPA within the Proposed Development	650	20
Teal <i>Anas crecca</i> (T.)	240 loafing at Rogerstown estuary (16/12/2021)	124 swimming at Rogerstown estuary (24/02/2023)	Amber (B/W)		North Bull Island SPA, c. 1km east of the Proposed Development	5,000	360
Turnstone <i>Arenaria interpres</i> (TT)	4 foraging at Rogerstown estuary (21/10/2021)	12 foraging at Rogerstown estuary (16/12/2022)	Amber (W)		Boyne Estuary SPA, c. 400m north of the Proposed Development	1,400	95
Wigeon <i>Mareca Penelope</i> (WN)	430 loafing at Rogerstown estuary (21/01/2022)	198 swimming at Rogerstown estuary (05/01/2023)	Amber (B/W)		The Murrough SPA, c. 30km south of the Proposed Development	140,000	560

Table 1-8 Vantage Point Records of Wintering Birds of Conservation Concern at the Malahide September 2021 – March 2023

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹²	Threshold of National Population ¹³
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Bar-tailed godwit <i>Limosa lapponica</i> (BA)	5 foraging at Malahide estuary (06/01/2022)	10 flying over the rail line (09/02/2023)	Red (W)	✓	Malahide Estuary SPA, within the Proposed Development	1,500	170
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	230 flying over the rail line (03/12/2021)	10 flying over the rail line (16/03/2023)	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA, c. 500m south east of the Proposed Development	31,000	n/a
Black-tailed godwit <i>Limosa limosa</i> (BW)	102 perched on Malahide estuary (16/02/2022)	176 foraging in Malahide estuary (16/03/2023)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	1,100	200
Light-bellied brent goose <i>Branta bernicla</i> (BG)	300 landing in an agricultural field in Broadmeadow estuary (16/12/2021)	400 flying west of rail line, potentially landing in arable fields (16/12/2022)	Amber (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	400	350
Common gull <i>Larus canus</i> (CM)	8 swimming in Malahide estuary (04/02/2022)	2 loafing in Malahide estuary (16/03/2023)	Amber (B/W)	-	grebe	16,400	n/a
Common tern <i>Sterna hirundo</i> (CN)	2 common terns flying over rail line (29/09/2021)	None recorded during surveys in 2022/23 period	Amber (B)	✓	South Dublin Bay and River Tolka Estuary SPA, c. 500m south east of the Proposed Development	n/a	n/a

¹² Wetlands International. 2012. Waterbird Population Estimates, Fifth Edition. Summary Report Wetlands International, Wageningen The Netherlands (with estimates available at <http://wpe.wetlands.org/>).

¹³ Crowe, O., & Holt, C. 2013. Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. Irish Birds 9, 545-552.

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹²	Threshold of National Population ¹³
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Cormorant <i>Phalacrocorax carbo</i> (CA)	40 foraging (04/11/2021) and roosting (29/09/2021) in Malahide estuary	43 loafing in Malahide estuary (16/12/2022)	Amber (B/W)	-	Skerries Islands SPA, located c. 1.4km east of the Proposed Development	1,200	110
Curlew <i>Numenius arquata</i> (CU)	55 flying over rail line (16/12/2021)	84 foraging at Malahide estuary (17/11/2022)	Red (B/W)	-	North Bull Island SPA, located c. 1km east of the Proposed Development	7,600	350
Dunlin <i>Calidris alpina</i> (DN)	160 foraging in Malahide estuary (16/03/2022)	388 foraging in Malahide estuary (24/02/2023)	Red (B/W)	✓	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	13,300	460
Golden plover <i>Pluvialis apricaria</i> (GP)	None recorded during surveys in 2021/22 period	1 loafing in Malahide estuary (17/11/2022)	Red (B/W)	✓	Malahide Estuary SPA, within the Proposed Development	9,300	920
Great crested grebe <i>Podiceps cristatus</i> (GG)	2 foraging in Malahide estuary (07/01/2022)	1 swimming in Malahide estuary (12/10/2022)	Amber (B/W)	-	Malahide Estuary SPA, within the Proposed Development	6,300	30
Greenshank <i>Tringa nebularia</i> (GK)	21 foraging in Malahide estuary	18 perched in Malahide estuary (23/03/2023)	Green (W)	-	The River Shannon and River Fergus Estuaries SPA, c. 185km south west of the Proposed Development	3,300	20
Grey heron <i>Ardea cinerea</i> (H.)	16 roosting in Malahide estuary (04/11/2021)	2 flying beside the rail line (05/01/2023)	-	-	Wexford slob or galway bay	5,000	25
Grey plover <i>Pluvialis squatarola</i> (GV)	7 foraging in Malahide estuary (06/01/2022)	None recorded during surveys in 2022/23 period	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,000	30

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹²	Threshold of National Population ¹³
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Herring gull <i>Larus argentatus</i> (HG)	130 flying over rail line (18/11/2021)	25 flying over the rail line (16/03/2023)	Amber (B/W)	-	River Nanny Estuary and Shore SPA, within the Proposed Development site	14,400	n/a
Knot Calidris <i>canutus</i> (KN)	750 flying and landing in Malahide estuary (04/02/2022)	22 foraging in Malahide estuary (02/12/2022)	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	5,300	160
Lapwing <i>Vanellus vanellus</i> (L.)	150 flying over rail line (04/02/2022)	119 loafing in Malahide estuary (05/01/2023)	Red (B/W)	-	Boyne Estuary SPA, c. 400m north east of the Proposed Development	72,300	850
Lesser black-backed gull <i>Larus fuscus</i> (LB)	1 flying over rail line and also landing on viaduct (29/09/2021)	2 swimming in Malahide estuary (16/03/2023) with 2 flying over the rail line (24/02/2023 & 16/03/2023)	Amber (B/W)	-	Lambay Island SPA, c. 7.5km east of the Proposed Development	5,500 (Western Europe)/ 6,300 (Southern Scandinavia)	n/a
Little egret <i>Egretta garzetta</i> (ET)	6 foraging in Malahide estuary (14/10/2021)	3 foraging in Malahide estuary (24/02/2023)	-	✓	-	1,100	20
Mallard <i>Anas platyrhynchos</i> (MA)	27 foraging in Malahide estuary (14/10/2021)	19 foraging in Malahide estuary (16/12/2022)	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	53,000	280
Oystercatcher <i>Haematopus ostralegus</i> (OC)	250 foraging in Malahide estuary (21/10/2021)	284 foraging in Malahide estuary (05/01/2023)	Red (B/W)		Malahide Estuary SPA, Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	8,200	610

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹²	Threshold of National Population ¹³
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Peregrine falcon <i>Falco peregrinus</i> (PE)	None recorded during surveys in 2021/22 period	1 preening on the ground (16/03/2023) and 1 flying over rail line (04/11/2022 & 24/02/2023)	-	✓	Wicklow Mountains SPA	n/a	n/a
Pintail/ <i>Anas acuta</i> (PT)	15 swimming in Malahide estuary (21/01/2022)	37 swimming in Malahide estuary (05/01/2023)	Amber (W)		Malahide Estuary SPA within the Proposed Development	600	20
Red-breasted merganser <i>Mergus serrator</i> (RM)	6 flying over rail line (03/12/2021)	2 foraging and loafing in Malahide estuary (16/12/2022 & 05/01/2023) and 2 flying over rail line (16/03/2023)	Amber (B/W)		Malahide Estuary SPA within the Proposed Development	860	25
Redshank <i>Tringa tetanus</i> (RK)	85 foraging in Malahide estuary beside rail line (04/11/2021)	120 foraging in Malahide estuary (05/01/2023)	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Ringed plover <i>Charadrius hiaticula</i> (RP)	None recorded during surveys in 2021/22 period	11 foraging in Malahide estuary (16/12/2022)	Amber (B/W)		Rogerstown Estuary SPA, and River Nanny Estuary and Shore SPA within the Proposed Development	540	120
Sandwich tern <i>Thalasseus sandvicensis</i> (TE)	1 flying around Malahide estuary (29/09/2021)	None recorded during surveys in 2022/23 period	Amber (B)	✓	Ladys island or Galway bay	n/a	n/a

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹²	Threshold of National Population ¹³
	Sep 2021 – Mar 2022	Sep 2022 – Mar 2023	BoCCI (B – Breeding / W – Wintering/ P – Passage)	Annex I	Nearest SPA designated for SCI species within Zol		
Shelduck <i>Tadorna tadorna</i> (SU)	500 swimming in Malahide estuary (21/01/2022)	332 swimming in Malahide estuary (05/01/2023)	Amber (B/W)		Malahide Estuary SPA and Rogerstown Estuary SPA, within the Proposed Development	2,500	100
Shoveler <i>Spatula clypeata</i> (SV)	9 swimming in Malahide estuary (21/01/2022)	11 foraging in Malahide estuary (16/12/2022)	Red (B/W)		Rogerstown Estuary SPA within the Proposed Development	650	20
Teal <i>Anas crecca</i> (T.)	260 foraging in Malahide estuary (16/02/2022)	285 foraging in Malahide estuary (16/12/2022)	Amber (B/W)		North Bull Island SPA, c. 1km east of the Proposed Development	5,000	360
Turnstone <i>Arenaria interpres</i> (TT)	54 foraging in Malahide estuary (29/03/2022)	5 foraging in Malahide estuary (16/12/2022)	Amber (W)		Boyne Estuary SPA, c. 400m north of the Proposed Development	1,400	95
Wigeon <i>Mareca Penelope</i> (WN)	54 foraging in Malahide estuary (21/01/2022)	76 foraging in Malahide estuary (05/01/2023)	Amber (B/W)		The Murrough SPA, c. 30km south of the Proposed Development	140,000	560

Table 1-9 Summary of wintering bird surveys undertaken at Construction Compounds only

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹⁴	Threshold of National Population ¹⁵
	Sep – Dec 2023	Location	BoCCI (B – Breeding / W – Wintering)	Annex I	Nearest European site		
Herring gull <i>Larus argentatus</i> (HG)	30 Transit/Commuting (19/10/2023)	Laytown beach	Amber (B/W)	-	River Nanny Estuary and Shore SPA	14,400	n/a
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	4 Transit/commuting (19/10/2023)	Drogheda	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA	31,000	n/a
Dunlin <i>Calidris alpina</i> (DN)	10 Foraging (16/11/2023)	Laytown beach	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA	13,300	460
Teal <i>Anas crecca</i> (T.)	29 rafting (16/11/2023)	Laytown beach	Amber (B/W)	-	North Bull Island SPA	5,000	360
Redshank <i>Tringa tetanus</i> (RK)	43 Roosting/loafing (16/11/2023)	Laytown beach	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Teal <i>Anas crecca</i> (T.)	53 Rafting (16/11/2023)	Laytown beach	Amber (B/W)	-	North Bull Island SPA	5,000	360
Little grebe <i>Tachybaptus ruficollis</i> (LG)	2 Foraging (16/11/2023)	Laytown beach	Amber (B/W)	-		4,700	20
Common gull <i>Larus canus</i> (CM)	1 Transit/commuting (16/11/2023)	Drogheda	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	16,400	n/a

¹⁴ Wetlands International. 2012. Waterbird Population Estimates, Fifth Edition. Summary Report Wetlands International, Wageningen The Netherlands (with estimates available at <http://wpe.wetlands.org/>).

¹⁵ Crowe, O., & Holt, C. 2013. Estimates of waterbird numbers wintering in Ireland, 2006/07 – 2010/11. Irish Birds 9, 545-552.

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹⁴	Threshold of National Population ¹⁵
	Sep – Dec 2023	Location	BoCCI (B – Breeding / W - Wintering)	Annex I	Nearest European site		
Common gull <i>Larus canus</i> (CM)	6 Transit/commuting (16/11/2023)	Laytown beach	Amber (B/W)	-	Dundalk Bay SPA, c. 17.5km north of the Proposed Development	16,400	n/a
Redshank <i>Tringa tetanus</i> (RK)	20 Transit/commuting (16/11/2023)	Laytown beach	Red (B/W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	6 Transit/commuting (16/11/2023)	Gormanston	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA,	31,000	n/a
Lapwing <i>Vanellus vanellus</i> (L.)	35 Transit/commuting (16/11/2023)	Laytown beach	Red (B/W)	-	Boyne Estuary SPA	72,300	850
Lapwing <i>Vanellus vanellus</i> (L.)	40 Transit/commuting (16/11/2023)	Laytown beach	Red (B/W)	-	Boyne Estuary SPA	72,300	850
Little egret <i>Egretta garzetta</i> (ET)	1 Transit/commuting (16/11/2023)	Laytown beach	Green	✓		1,100	20
Curlew <i>Numenius arquata</i> (CU)	15 Transit/commuting (17/11/2023)	Barnageer agh	Red (B/W)	-	North Bull Island SPA	7,600	350
Herring gull <i>Larus argentatus</i> (HG)	3 Perched (17/11/2023)	Barnageer agh	Amber (B/W)	-	Skerries Islands SPA	14,400	n/a
Herring gull <i>Larus argentatus</i> (HG)	1 Perched (17/11/2023)	Barnageer agh	Amber (B/W)	-	Skerries Islands SPA	14,400	n/a
Greenshank <i>Tringa nebularia</i> (GK)	7 Roosting/loafing (14/12/2023)	Laytown beach	Green (W)	-	The River Shannon and River Fergus Estuaries SPA	3,300	20

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹⁴	Threshold of National Population ¹⁵
	Sep – Dec 2023	Location	BoCCI (B – Breeding / W - Wintering)	Annex I	Nearest European site		
Redshank <i>Tringa tetanus</i> (RK)	26 Roosting/loafing (14/12/2023)	Laytown beach	Red (B/W)	-	River Nanny Estuary and Shore SPA	2,400 (Iceland & Faeroe Islands)/760 (Britain & Ireland)	240
Wigeon <i>Mareca Penelope</i> (WN)	5 Rafting (14/12/2023)	Laytown beach	Amber (B/W)	-	The Murrough SPA	140,000	560
Knot <i>Calidris canutus</i> (KN)	3 Roosting/loafing (14/12/2023)	Laytown beach	Red (W)	-	River Nanny Estuary and Shore SPA	5,300	160
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	1 Foraging (14/12/2023) Gaa pitch	Laytown beach	Amber (B/W)	-	South Dublin Bay and River Tolka Estuary SPA,	31,000	n/a
Shelduck <i>Tadorna tadorna</i> (SU)	2 Rafting (14/12/2023)	Laytown beach	Amber (B/W)	-		2,500	100
Black-tailed godwit <i>Limosa limosa</i> (BW)	25 Perched (14/12/2023) Flushed when car drove by landed in same place.	Laytown beach	Red (W)	-	Malahide Estuary SPA and Rogerstown Estuary SPA	1,100	200
Lesser black-backed gull <i>Larus fuscus</i> (LB)	1 Perched (14/12/2023) Perching on roof	Barnageer agh	Amber (B/W)	-	Lambay Island SPA	5,500 (Western Europe)/ 6,300 (Southern Scandinavia)	n/a
Mallard <i>Anas platyrhynchos</i> (MA)	27 Rafting (14/12/2023)	Laytown beach	Amber (B/W)	-	Dundalk Bay SPA	53,000	280
Teal <i>Anas crecca</i> (T.)	41 Rafting (14/12/2023) flushed by passing cars and landed within the estuary. stayed below train line bridge and in area west of bridge.	Laytown beach	Amber (B/W)	-	North Bull Island SPA	5,000	360

Common name/Scientific name/BTO Code	Recorded activity, peak count, not including fly overs		Conservation Importance			Threshold of Inter-national Population ¹⁴	Threshold of National Population ¹⁵
	Sep – Dec 2023	Location	BoCCI (B – Breeding / W - Wintering)	Annex I	Nearest European site		
Herring gull <i>Larus argentatus</i> (HG)	11 Flushed (14/12/2023)	Drogheda	Amber (B/W)	-	River Nanny Estuary and Shore SPA	14,400	n/a
Grey heron <i>Ardea cinerea</i> (H.)	1 Transit/commuting (14/12/2023)	Laytown	-	-	-	5,000	25
Light-bellied brent goose <i>Branta bernicla</i> (BG)	17 Transit/commuting (14/12/2023)	Laytown beach	Amber (W)	-	South Dublin Bay and River Tolka Estuary SPA	400	350
Oystercatcher <i>Haematopus ostralegus</i> (OC)	16 Transit/commuting (14/12/2023)	Laytown beach	Red (B/W)	-	River Nanny Estuary and Shore SPA	8,200	610

Table 1-10 Summary of flight lines of SCI bird species within the Proposed Development

Common name/Scientific name/BTO Code	Total number of flights over rail line between Sep – March 2021/22 & 2022/2023	Total number of flights within collision risk zone (0-10m) between Sep – March 2021/22 & 2022/2023	Summary
Bar-tailed godwit <i>Limosa lapponica</i> (BA)	7	3 (43%)	In absence of mitigation bar-tailed godwit are at risk of collision with proposed works. This is based on 2 years of data
Black-headed gull <i>Chroicocephalus ridibundus</i> (BH)	675	262 (39%)	In absence of mitigation black-headed gull are at risk of collision with proposed works. This is based on 2 years of data
Black-tailed godwit <i>Limosa limosa</i> (BW)	146	55 (37%)	In absence of mitigation black-tailed godwit are at risk of collision with proposed works. This is based on 2 years of data
Light-bellied brent goose <i>Branta bernicla</i> (BG)	286	144 (50%)	In absence of mitigation light-bellied brent geese are at risk of collision with proposed works. This is based on 2 years of data
Common gull <i>Larus canus</i> (CM)	106	22 (20%)	In absence of mitigation common gull are not at risk of collision with proposed works. This is based on 2 years of data
Common tern <i>Sterna hirundo</i> (CN)	1	0 (0%)	Ad-hoc record of bird flying over rail line, not considered to be frequent during winter period
Cormorant <i>Phalacrocorax carbo</i> (CA)	290	184 (63%)	In absence of mitigation cormorant are at risk of collision with proposed works. This is based on 2 years of data
Curlew <i>Numenius arquata</i> (CU)	354	122 (34%)	In absence of mitigation curlew are at risk of collision with proposed works. This is based on 2 years of data
Dunlin <i>Calidris alpina</i> (DN)	31	15 (48%)	In absence of mitigation dunlin are at risk of collision with proposed works. This is based on 2 years of data
Gannet <i>Morus bassana</i> (GX)	1	0 (0%)	In absence of mitigation gannet are not at risk of collision with proposed works. This is based on 2 years of data
Golden plover <i>Pluvialis apricaria</i> (GP)	38	3 (7%)	In absence of mitigation golden plover are not at risk of collision with proposed works. This is based on 2 years of data
Great black-backed gull <i>Larus marinus</i> (GB)	67	35 (52%)	In absence of mitigation great black-backed gull are at risk of collision with proposed works. This is based on 2 years of data
Greenshank <i>Tringa nebularia</i> (GK)	3	1 (33%)	In absence of mitigation greenshank are at risk of collision with proposed works. This is based on 2 years of data
Grey heron <i>Ardea cinerea</i> (H.)	16	9 (69%)	In absence of mitigation grey heron are at risk of collision with proposed works. This is based on 2 years of data

Common name/Scientific name/BTO Code	Total number of flights over rail line between Sep – March 2021/22 & 2022/2023	Total number of flights within collision risk zone (0-10m) between Sep – March 2021/22 & 2022/2023	Summary
Grey plover <i>Pluvialis squatarola</i> (GV)	4	0 (%)	In absence of mitigation grey plover are not at risk of collision with proposed works. This is based on 2 years of data
Herring gull <i>Larus argentatus</i> (HG)	1,406	374 (26%)	In absence of mitigation herring gull are at risk of collision with proposed works. This is based on 2 years of data
Knot <i>Calidris canutus</i> (KN)	19	5 (26%)	In absence of mitigation knot are at risk of collision with proposed works. This is based on 2 years of data
Lapwing <i>Vanellus vanellus</i> (L.)	50	6 (12%)	In absence of mitigation lapwing are not at risk of collision with proposed works. This is based on 2 years of data
Lesser black-backed gull <i>Larus fuscus</i> (LB)	12	5 (42%)	In absence of mitigation lesser black-backed gull are at risk of collision with proposed works. This is based on 2 years of data
Little gull <i>Hydrocoloeus minutus</i> (LU)	1	0 (0%)	In absence of mitigation little gull are not at risk of collision with proposed works. This is based on 2 years of data
Little egret <i>Egretta garzetta</i> (ET)	73	40 (54%)	In absence of mitigation little egret are at risk of collision with proposed works. This is based on 2 years of data
Mallard <i>Anas platyrhynchos</i> (MA)	78	21 (30%)	In absence of mitigation mallard are at risk of collision with proposed works. This is based on 2 years of data
Oystercatcher <i>Haematopus ostralegus</i> (OC)	373	256 (69%)	In absence of mitigation oystercatcher are at risk of collision with proposed works. This is based on 2 years of data
Peregrine falcon <i>Falco peregrinus</i> (PE)	6	1 (16%)	In absence of mitigation peregrine falcon are not at risk of collision with proposed works. This is based on 2 years of data
Red-breasted merganser <i>Mergus serrator</i> (RM)	19	13 (68%)	In absence of mitigation red-breasted merganser are at risk of collision with proposed works. This is based on 2 years of data
Redshank <i>Tringa tetanus</i> (RK)	265	197 (74%)	In absence of mitigation redshank are at risk of collision with proposed works. This is based on 2 years of data
Ringed plover <i>Charadrius hiaticula</i> (RP)	4	2 (50%)	In absence of mitigation ringed plover are at risk of collision with proposed works. This is based on 2 years of data
Sandwich tern <i>Thalasseus sandvicensis</i> (TE)	1	0 (0%)	Ad-hoc record of bird flying over rail line, not considered to be frequent during winter period

Common name/Scientific name/BTO Code	Total number of flights over rail line between Sep – March 2021/22 & 2022/2023	Total number of flights within collision risk zone (0-10m) between Sep – March 2021/22 & 2022/2023	Summary
Scaup <i>Anas marila</i> (SP)	3	1 (33%)	In absence of mitigation scaup are at risk of collision with proposed works. This is based on 2 years of data
Shelduck <i>Tadorna tadorna</i> (SU)	54	18 (33%)	In absence of mitigation shelduck are at risk of collision with proposed works. This is based on 2 years of data
Shoveler <i>Spatula clypeata</i> (SV)	4	2 (50%)	In absence of mitigation shoveler are at risk of collision with proposed works. This is based on 2 years of data
Teal <i>Anas crecca</i> (T.)	95	68 (71%)	In absence of mitigation teal are at risk of collision with proposed works. This is based on 2 years of data
Turnstone <i>Arenaria interpres</i> (TT)	5	3 (60%)	In absence of mitigation turnstone are at risk of collision with proposed works. This is based on 2 years of data
Wigeon <i>Mareca Penelope</i> (WN)	130	28 (22%)	In absence of mitigation wigeon are not at risk of collision with proposed works. This is based on 2 years of data
Whooper swan <i>Cygnus cygnus</i> (WS)	1	0 (0%)	In absence of mitigation whooper swan are not at risk of collision with proposed works. This is based on 2 years of data

Table 1-11 Summary of weather conditions of all wintering bird surveys

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
2021-2022				
28/09/2021	Laytown	LT	09:30-12:30	Dry, scattered clouds with slight breeze and moderate visibility. Temperatures approximately 11°C
28/09/2021	Gormanston camp	HT	14:35-17:35	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 15°C
28/09/2021	Balbriggan	HT	17:45-18:05	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 15°C
29/09/2021	Rogerstown	LT	10:15-13:15	Dry and sunny with strong easterly breeze and good visibility. Temperatures between 9°C and 15°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
29/09/2021	Malahide	Rising Tide	14:50-17:50	Dry, scattered clouds with moderate breeze and good visibility. Temperatures between 13°C and 15°C
08/10/2021	Balbriggan	LT	08:03-08:37	Dry, overcast with light breeze and good visibility. Temperatures approximately 16°C
08/10/2021	Gormanston camp	LT	09:00-12:00	Dry, broken clouds with light breeze and good visibility. Temperatures approximately 16°C
08/10/2021	Laytown	HT	13:00-16:00	Dry, broken clouds with light breeze and good visibility. Temperatures approximately 17°C
14/10/2021	Malahide	HT	08:00-11:00	Dry, overcast, with light breeze and excellent visibility. Temperatures approximately 13°C
14/10/2021	Rogerstown	LT	12:31-15:31	Dry, overcast with light breeze and excellent visibility. Temperatures approximately 14°C
21/10/2021	Malahide	LT	08:00-11:00	Dry, few clouds with slight breeze and good visibility. Temperatures approximately 6°C
21/10/2021	Rogerstown	HT	12:30-15:30	Dry, few clouds with slight breeze and moderate visibility. Temperatures approximately 11°C
22/10/2021	Laytown	LT	08:25-11:25	Drizzle, broken clouds with slight breeze and good visibility. Temperatures approximately 9°C
22/10/2021	Gormanston camp	HT	12:30-15:30	Drizzle, scattered clouds with slight breeze and good visibility. Temperatures approximately 13°C
22/10/2021	Balbriggan	HT	15:45-16:00	Dry, broken clouds with slight breeze and good visibility. Temperatures approximately 13°C
04/11/2021	Malahide	HT	09:15-12:15	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 6°C
04/11/2021	Rogerstown	LT	13:45-16:45	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 10°C
05/11/2021	Laytown	HT	09:00-12:00	Dry, overcast with moderate breeze and excellent visibility. Temperatures approximately 8°C
05/11/2021	Gormanston camp	LT	13:00-16:00	Dry, overcast with moderate breeze and excellent visibility. Temperatures approximately 8°C
18/11/2021	Rogerstown	HT	08:34-11:34	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 13°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
18/11/2021	Malahide	LT	13:00-16:00	Dry, broken clouds with slight breeze and excellent visibility. Temperatures approximately 13°C
19/11/2021	Laytown	HT	08:45-11:45	Dry, scattered clouds with slight breeze and excellent visibility. Temperatures approximately 11°C
19/11/2021	Gormanston camp	LT	12:50-15:50	Dry, scattered clouds with slight breeze and excellent visibility. Temperatures approximately 12°C
19/11/2021	Balbriggan	LT	16:11-16:31	Dry, broken clouds with slight breeze and excellent visibility. Temperatures approximately 12°C
02/12/2021	Gormanston camp	HT	08:25-11:25	Dry, scattered clouds with no breeze and good visibility. Temperatures approximately 3°C
02/12/2021	Balbriggan	HT	07:50-08:15	Dry, scattered clouds with no breeze and moderate visibility. Temperatures approximately 3°C
02/12/2021	Laytown	LT	12:20-15:20	Dry, scattered clouds with no breeze and good visibility. Temperatures approximately 5°C
03/12/2021	Rogerstown	HT	08:32-11:32	Dry, overcast with moderate breeze and good visibility. Temperatures between 6°C and 7°C
16/12/2021	Malahide	HT	08:30-11:30	Dry, broken clouds with slight breeze and excellent visibility. Temperatures approximately 11°C
16/12/2021	Rogerstown	LT	13:00-16:00	Dry, broken clouds with slight breeze and excellent visibility. Temperatures approximately 11°C
17/12/2021	Laytown	HT	08:50-11:50	Dry, overcast with slight breeze and excellent visibility. Temperatures approximately 8°C
17/12/2021	Gormanston camp	LT	12:35-15:35	Dry, overcast with moderate breeze and good visibility. Temperatures approximately 8°C
17/12/2021	Balbriggan	LT	15:50-16:15	Dry, overcast with moderate breeze and good visibility. Temperatures approximately 7°C
06/01/2022	Laytown	LT	08:45-11:45	Showers, broken clouds with slight breeze and good visibility. Temperatures approximately 6°C
06/01/2022	Gormanston camp	HT	13:00-13:00	Showers, scattered clouds with moderate breeze and good visibility. Temperatures approximately 7°C
07/01/2022	Malahide	LT	08:45-11:45	Dry, broken clouds with moderate breeze and good visibility. Temperatures between 1°C and 2°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
07/01/2022	Rogerstown	HT	13:00-15:50	Dry, scattered clouds with moderate breeze and good visibility. Temperatures between 1°C and 3°C
20/01/2022	Gormanston camp	HT	09:35-12:35	Dry, few clouds with slight breeze and excellent visibility. Temperatures approximately 3°C
20/01/2022	Laytown	HT	13:30-16:30	Dry, overcast with slight breeze and excellent visibility. Temperatures approximately 6°C
21/01/2022	Rogerstown	LT	08:30-11:30	Dry, broken clouds with slight breeze and good visibility. Temperatures approximately 5°C
21/01/2022	Malahide	HT	13:15-16:15	Dry, broken clouds with slight breeze and good visibility. Temperatures approximately 5°C
03/02/2022	Malahide	LT	08:45-11:45	Dry, scattered clouds with moderate breeze and good visibility. Temperatures approximately 3°C
03/02/2022	Rogerstown	HT	12:40-15:40	Dry, scattered clouds with moderate breeze and good visibility. Temperatures approximately 5°C
04/02/2022	Laytown	LT	08:10-11:10	Dry, scattered clouds with moderate breeze and good visibility. Temperatures approximately 3°C
04/02/2022	Gormanston camp	HT	12:10-15:00	Dry, scattered clouds with moderate breeze and good visibility. Temperatures approximately 4°C
04/02/2022	Balbriggan	HT	15:25-15:45	Dry, scattered clouds with moderate breeze and good visibility. Temperatures approximately 4°C
16/02/2022	Rogerstown	HT	09:00-12:00	Dry, broken clouds with moderate breeze and good visibility. Temperatures approximately 12°C
16/02/2022	Malahide	LT	14:15-17:15	Showers, overcast with strong breeze and good visibility. Temperatures approximately 11°C
16/02/2022	Rogerstown	HT	09:00-12:00	Broken clouds with moderate breeze. Temperatures approximately 13°C
16/02/2022	Laytown	HT	12:45-15:45	Rain, overcast with moderate breeze and fair visibility. Temperatures approximately 12°C
04/03/2022	Rogerstown	LT	08:30-11:30	Dry, few clouds with slight breeze and good visibility. Temperatures between 2°C and 7°C
04/03/2022	Malahide	HT	13:00-16:00	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 9°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
04/03/2022	Laytown	LT	07:58-10:58	Dry, sunny with slight breeze and moderate visibility. Temperatures approximately 3°C
04/03/2022	Gormanston camp	HT	12:00-15:00	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 7°C
04/03/2022	Balbriggan	HT	15:15	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 7°C
15/03/2022	Laytown	HT	08:20-11:20	Dry, overcast with slight breeze and good visibility. Temperatures between 5°C and 9°C
15/03/2022	Gormanston camp	LT	12:30-12:30	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 10°C
15/03/2022	Rogerstown	HT	08:50-11:50	Dry, overcast with slight breeze and good visibility. Temperatures between 6°C and 10°C
16/03/2022	Malahide	LT	13:00-16:00	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 10°C
29/03/2022	Rogerstown	LT	09:15-12:15	Dry, scattered clouds with slight breeze and good visibility. Temperatures approximately 11°C
29/03/2022	Malahide	HT	13:45-16:45	Dry, overcast with slight breeze and good visibility. Temperatures approximately 12°C
29/03/2022	Laytown	HT	09:15-12:15	Dry, overcast with slight breeze and good visibility. Temperatures approximately 9°C
29/03/2022	Gormanston camp	LT	13:00-16:00	Dry, overcast with slight breeze and good visibility. Temperatures approximately 8°C
29/03/2022	Balbriggan	LT	16:10-16:35	Dry, overcast with slight breeze and good visibility. Temperatures approximately 8°C
2022-2023				
12/10/2022	Rogerstown	LT	08:00-11:00	Dry, Overcast with gentle breeze and excellent visibility. Temperatures approximately 13°C
12/10/2022	Malahide	HT	12:00-15:00	Dry, Overcast with gentle breeze and good visibility. Temperatures approximately 13°C
04/11/2022	Malahide	HT	08:00-11:00	Dry, scattered clouds and light air. and good visibility. Temperatures approximately 6°C
04/11/2022	Rogerstown	LT	12:00-15:00	Dry, scattered clouds with light breeze and good visibility. Temperatures approximately 10°C
08/11/2022	Balbriggan	LT	08:30-08:45	Dry, few clouds and good visibility. Temperatures approximately 10°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
08/11/2022	Gormanston camp	LT	09:00-12:00	Dry, few clouds and good visibility. Temperatures approximately 10°C
08/11/2022	Laytown	HT	12:30-15:30	Light drizzle, scattered clouds, with high wind, moderate/near gale, and good visibility. Temperatures approximately 10°C
17/11/2022	Laytown	LT	08:30-11:30	Dry, scattered clouds with gentle breeze and good visibility. Temperatures approximately 4°C
17/11/2022	Gormanston camp	HT	12:30-15:30	Dry, scattered clouds with light breeze and good visibility. Temperatures approximately 6°C
17/11/2022	Rogerstown	HT	08:15-11:15	Mist, scattered clouds with light breeze and good visibility. Temperatures approximately 4°C
17/11/2022	Malahide	LT	12:15-15:15	Dry, broken clouds with light breeze and good visibility. Temperatures approximately 7°C
02/12/2022	Malahide	HT	08:25-11:25	Dry, scattered clouds and calm. good visibility. Temperatures approximately 5°C
02/12/2022	Rogerstown	LT	12:20-15:20	Dry, scattered clouds and calm. good visibility. Temperatures approximately 9°C
02/12/2022	Balbriggan	HT	08:00-12:00	Dry, few clouds, with light air. Excellent visibility. Temperatures approximately 7°C
02/12/2022	Laytown	LT	12:40-15:40	Dry, scattered clouds, with light air. Excellent visibility. Temperatures approximately 10°C
15/12/2022	Laytown	HT	08:45-11:45	Dry, few clouds, and calm. Excellent visibility. Temperatures approximately 3°C
15/12/2022	Gormanston camp	HT	12:30-15:30	Dry, few clouds, and light breeze. Excellent visibility. Temperatures approximately 1°C
15/12/2022	Balbriggan	LT	08:15-08:35	Dry, few clouds, and calm. Excellent visibility. Temperatures approximately 3°C
16/12/2022	Rogerstown	LT	08:30-11:30	Dry, few clouds, and calm. good visibility. Temperatures approximately -1°C
16/12/2022	Malahide	HT	12:30-15:30	Dry, few clouds, with light air. good visibility. Temperatures approximately -2°C
05/01/2023	Rogerstown	HT	08:30-11:30	Dry, scattered clouds with gentle breeze. Good visibility. Temperatures approximately 11°C
05/01/2023	Malahide	LT	12:30-15:30	Dry, scattered clouds with strong breeze. Good visibility. Temperatures approximately 13°C
05/01/2023	Gormanston camp	HT	09:35-12:35	Dry, overcast with strong breeze. Good visibility. Temperatures approximately 11°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
05/01/2023	Laytown	LT	13:15-16:45	Dry, overcast with strong breeze. Good visibility. Temperatures approximately 13°C
24/01/2023	Rogerstown	LT	09:00-12:00	Dry, few clouds and calm. poor visibility. Temperatures approximately 7°C
24/01/2023	Malahide	HT	13:15-16:15	Dry, scattered clouds with light breeze. Moderate visibility. Temperatures approximately 11°C
24/01/2023	Balbriggan	LT	08:30-08:50	Dry, scattered clouds with light breeze. Excellent visibility. Temperatures approximately 8°C
24/01/2023	Gormanston Camp	LT	09:00-12:00	Dry, scattered clouds with light breeze. Excellent visibility. Temperatures approximately 8°C
24/01/2023	Laytown	HT	12:30-15:30	Dry, broken clouds with gentle breeze. Excellent visibility. Temperatures approximately 11°C
09/02/2023	Laytown	LT	08:15-11:15	Dry, few clouds with light breeze. good visibility. Temperatures approximately 3°C
09/02/2023	Gormanston camp	HT	12:15-15:15	Dry, few clouds with gentle breeze. good visibility. Temperatures approximately 6°C
09/02/2023	Malahide	LT	08:00-11:00	Dry, few clouds with light air and good visibility. Temperatures approximately 2°C
09/02/2023	Rogerstown	HT	12:00-15:00	Dry, few clouds with light breeze and good visibility. Temperatures approximately 8°C
24/02/2023	Gormanston camp	LT	08:45-11:45	Dry, broken clouds with gentle breeze and good visibility. Temperatures approximately 7°C
24/02/2023	Laytown	HT	12:45-15:45	Dry, broken clouds with moderate breeze and good visibility. Temperatures approximately 9°C
24/02/2023	Malahide	LT	08:00-11:00	Dry, broken clouds with light air and good visibility. Temperatures approximately 7°C
24/02/2023	Rogerstown	HT	12:00-15:00	Dry, broken clouds with light air and good visibility. Temperatures approximately 10°C
08/03/2023	Laytown	LT	08:00-11:00	Light Drizzle, broken clouds and strong breeze, with good visibility. Temperatures approximately 2°C
08/03/2023	Gormanston Camp	HT	12:00-15:00	Dry, broken clouds with strong breeze and good visibility. Temperatures approximately 5°C
08/03/2023	Balbriggan	HT	15:15-15:45	Dry, broken clouds with strong breeze and good visibility. Temperatures approximately 4°C

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
23/03/2023	Malahide	LT	07:45-10:45	Dry, few clouds with moderate breeze and good visibility. Temperatures approximately 8°C
23/03/2023	Rogerstown	HT	12:00-15:00	Light Drizzle, broken clouds with moderate breeze and good visibility. Temperatures approximately 12°C
2023 - 2024¹⁶				
14/09/2023	Drogheda	Not relevant	10:00-12:30	Dry, broken clouds with a gentle breeze and good visibility. Temperatures approximately 17°C
14/09/2023	Laytown beach	Not relevant	13:00-15:30	Dry, broken clouds with a gentle breeze and good visibility. Temperatures approximately 16°C
15/09/2023	Gormanston	Not relevant	10:00-12:30	Pouring rain, overcast with a light breeze and moderate visibility. Temperatures approximately 13°C
15/09/2023	Barnageeragh	Not relevant	12:45-15:30	Raining, overcast with a light breeze and poor visibility. Temperatures approximately 13°C
19/10/2023	Barnageeragh	Not relevant	09:30-16:30	Raining, overcast with a gentle breeze and moderate visibility. Temperatures approximately 13°C
16/11/2023	Drogheda	Not relevant	08:40-10:46	Dry, broken clouds with light air and good visibility. Temperatures approximately 5°C
16/11/2023	Laytown beach	HT	11:10-13:10	Dry, broken clouds with light air and excellent visibility. Temperatures approximately 9°C. HT @ 1247.
16/11/2023	Gormanston beach	Not relevant	14:10-16:05	Light drizzle, overcast with a light breeze and good visibility. Temperatures approximately 7°C. HT @ 1255.
17/11/2023	Barnageeragh	Not relevant	09:40-11:40	Dry, few clouds with light breeze and excellent visibility. Temperatures approximately 6°C. HT @ 1341.
14/12/2023	Drogheda	Not relevant	08:15-10:15	Dry, broken clouds with light air and good visibility. Temperatures approximately 8°C. Visibility improved.
14/12/2023	Laytown beach	Not relevant	10:40-12:40	Dry, broken clouds with a light breeze and excellent visibility. Temperatures approximately 9°C

¹⁶ Construction Compound locations with suitable wintering bird habitat only

Date	Site	High Tide (HT) / Low Tide (LT) / Rising Tide	Survey Time	Weather Conditions
14/12/2023	Gormanston beach	Not relevant	13:20-14:30	Light drizzle, broken clouds with a light breeze and good visibility. Temperatures approximately 9°C. V quiet site.
14/12/2023	Barnageeragh	Not relevant	14:45-16:15	Dry, broken clouds with a light breeze and good visibility. Temperatures approximately 10°C

some urban situations, collected biomass (pulled stems / roots and bagged flower heads), where not disposed of immediately to a facility authorised to accept such waste, could be double bagged and put in dedicated quarantine areas (locations to be approved as part of the ISMP). Here, the material could be left to decompose before disposal with similar non-native invasive species waste at an authorised facility.

1.3.1.1 Reseeding Following Eradication

Areas devoid of; or cleared of vegetative cover near watercourses should be resown with appropriate riparian ground cover species in summer months to ensure that bare banks do not provide favourable conditions for Himalayan balsam to become re-established and to protect banks from accelerated erosion.

For any area of ground that is cleared of this non-native invasive species, and which is not subsequently constructed upon, follow-on mechanical cutting regimes and / or chemical treatments may be required to ensure the seed bank is fully exhausted.