

Appendix 12.2

Winter and breeding bird surveys for a proposed Ringaskiddy Resource Recovery Centre at Ringaskiddy, Co. Cork.

A1 Introduction

Dixon.Brosnan Environmental Consultants carried out an appraisal of the potential impacts of the proposed development of the Ringaskiddy Resource Recovery Centre at Ringaskiddy, County Cork on birds utilising the development site and the coastal areas adjacent to it. The information in this report was used to help determine the impacts on bird populations in **Chapter 12 (Biodiversity)** of the EIS and also informed the conclusions of the NIS which specifically addresses impacts on designated Natura 2000 sites including the Cork Harbour SPA.

A2 Methodology

A2.1 Desktop Review

A desktop review was carried out to identify designated SPAs in the surrounding landscape and to assess information from other surveys in this general area. From the information provided in the desktop review and based on the information provided by previous reports, it was decided to carry out winter bird surveys and breeding bird surveys.

A2.2 Winter bird survey - methodology

The winter bird surveys were undertaken on the following dates: 25th October 2014, 22nd November 2014, 22nd December, 2014, 21st January 2015, 19th February 2015 and 20th March 2015. The survey methodology was based on that used by the British Trust for Ornithology (BTO), Wetland Bird Survey (WeBS) and also that for the Irish Wetland Bird Survey (I-WeBS), as outlined in Gilbert et al. (1998). The winter bird survey and breeding bird survey were undertaken using Nikon ProStaff-7 10X42 binoculars and Safari 20-60 X 80 spotting scope. Ninety minute counts were undertaken monthly at either high tide, mid tide and low tide. Survey vantage point locations for the winter bird counts are shown in **Figure 1**. It is noted that many of these birds were recorded overflying the channel and that the survey covered a radius of approximately 300m from each vantage point.



Figure 1. Vantage point count locations.

A2.3 Breeding bird surveys - methodology

The breeding bird survey was undertaken on the 27th May 2015, 12th June 2015 and 19th June 2015. The survey methodology utilised a scaled down version of the British Trust for Ornithology's (BTO) Common Bird Census (CBC) Technique (Bibby et al., 2000 & Gilbert et al., 1998), with aspects of species specific survey methodologies employed where required (Gilbert et al., 1998). All bird locations, numbers, behaviour were recorded by annotating field maps and by taking notes.

All bird species encountered during the survey were mapped and coded using standard BTO 'Species Codes' and 'Categories of Breeding Evidence' e.g. singing male, agitated behaviour, carrying food, recently fledged downy young. No attempts were made to locate nests as bird behaviour is generally sufficient to determine probable or confirmed breeding. Survey visits commenced shortly after dawn and were completed before mid-day to coincide with the peak bird activity period. Visits were not made during adverse weather conditions and a route was chosen to ensure all parts of the proposed development area were effectively surveyed. The survey route through and around the proposed development area is shown in **Figure 2**. The breeding bird surveys focused primarily on the proposed development area where there is the potential for permanent impacts due to the removal of nesting habitat.



Figure 2. Breeding bird survey- routes outlined in red.

A3 Designated sites.

The closest Special Protection Area for birds is the Cork Harbour SPA (Site code 004030) which is located 0.5km south of the study area at its closest point. The closed proposed Natural Heritage Area is the Lough Beg pNHA (Site code 001066) which is located 0.3km south of the study area. Large areas of Cork Harbour have received formal designations, primarily on the basis of important bird populations. These areas are interrelated, with bird populations moving between different areas at different times. Table 1 below lists the Special Conservation Interests for the Cork Harbour SPA. A site synopsis for the Cork Harbour SPA is attached as Appendix 12.5 of the EIS.

Table 1. Cork Harbour SPA –Special Conservation Interest for Cork Harbour SPA and Qualifying Populations.

Cork Harbour SPA [IE0004030] SCIs			Season
[A004]	Little Grebe	<i>Tachybaptus ruficollis</i>	Wintering
[A005]	Great Crested Grebe	<i>Podiceps cristatus</i>	Wintering
[A017]	Cormorant	<i>Phalacrocorax carbo</i>	Wintering
[A028]	Grey Heron	<i>Ardea cinerea</i>	Wintering
[A048]	Shelduck	<i>Tadorna tadorna</i>	Wintering
[A050]	Wigeon	<i>Anas penelope</i>	Wintering
[A052]	Teal	<i>Anas crecca</i>	Wintering
[A056]	Pintail	<i>Anas acuta</i>	Wintering
[A065]	Shoveler	<i>Anas cylpeata</i>	Wintering
[A069]	Red-breasted Merganser	<i>Mergus serrator</i>	Wintering
[A130]	Oystercatcher	<i>Haematopus ostralegus</i>	Wintering
[A140]*	Golden Plover	<i>Pluvialis apricaria</i>	Wintering
[A141]	Grey Plover	<i>Pluvialis squatarola</i>	Wintering
[A142]	Lapwing	<i>Vanellus vanellus</i>	Wintering
[A149]*	Dunlin	<i>Calidris alpina</i>	Wintering
[A156]	Black-tailed Godwit	<i>Limosa limosa</i>	Wintering
[A157]*	Bar-tailed Godwit	<i>Limosa lapponica</i>	Wintering
[A160]	Curlew	<i>Numenius arquata</i>	Wintering
[A162]	Redshank	<i>Tringa totanus</i>	Wintering
[A179]	Black-headed Gull	<i>Larus ridibundus</i>	Wintering
[A182]	Common Gull	<i>Larus canus</i>	Wintering
[A183]	Lesser Black-backed Gull	<i>Larus fuscus</i>	Wintering
[A193]*	Common Tern	<i>Sterna hirundo</i>	Breeding
[A999]	Wetlands & Waterbirds		

A4 Results

A4.1 Winter bird surveys

Four vantage point count locations were utilised for the winter bird survey 2014/15, as shown in **Figure 1**. These all overlooked the open estuarine habitat and the Cork Harbour West Channel between Ringaskiddy and Spike Island. The cobble beach and terrestrial habitats along the eastern boundary of the study area were also covered. Tides and weather conditions for each day are described in **Table 2**. Tide times at Ringaskiddy are based on the tidal tables for Cobh.

Table 2. Tide and survey conditions – winter bird survey

Date	Tides	Weather	Notes
25/10/2014	Low 13.12 High 19.08	Sea state 1. Mild bright day, with high cloud cover. Wind East 10kph. Cloud 7/8. 13°C	-
22/11/2014	Low 11.18 High 17.11	Sea state 1. Dry bright warm day. Wind West, 2-8kph. Cloud 2/8. Temp 12°C	High numbers of walkers and dogs. Disturbance level high on Saturdays.
22/12/2014	Low 11.45 High 17.35	Sea state 1. Pleasant day with some gusts to 20kph. Wind West Northwest 8-12kph. Cloud 4/8. Temp 8°C.	-
21/01/2015	High 05.48 Low 12.17 High 18.07	Sea state 0-1. Very calm day. Wind South 1-2kph. Cloud 1/8. Temp 7°C	-
19/02/2015	Low 12.01 High 17.51	Sea state 1. Mild breezy day, slight rain showers. Wind West, 4-8kph. Cloud 8/8. Temp 12°C.	-
20/03/2015	Low 11.41 High 17.31	Sea state 0-1. Dry, bright and warm day. Wind North 0-1kph. Cloud 6/8. Temp 14°C.	-

Summarised recordings from the winter bird surveys in 2014/15 are shown in **Table 3**. Complete results from this survey are included in **Appendix A**.

Table 3. Species recorded at Ringaskiddy, winter bird survey 2014/2015.

Species	High tide count (total)	Mid tide count (total)	Low tide count (total)
Oystercatcher	20	52	109
Blackheaded Gull		3	53
Herring Gull		4	17
Black Guillemot			3
Lesser Blackbacked gull	3	1	6
Cormorant	9	9	14
Common Gull	10	27	64
Redshank	2	4	11
Curlew		4	7
Mallard	3		
Glaucous Gull	1	1	5
Grey Heron	1	3	10
Hooded Crow	9	9	28
Wood Pigeon	23	3	12
Rook	234	31	10
Blackbird	2		8
Robin			2
Tree Sparrow	6		
Thrush		1	
Little Egret		4	7
Greater Blackbacked Gull	3	6	2
Greenshank		3	14
Mediterranean Gull			1
Teal			4
Great Crested Grebe		1	2
Brent Goose		69	107
Sanderling		2	
Goldfinch	1		2
Grey Wagtail	1	2	7
Meadow Pipit		1	2
Wren			1
Blue Tit		1	3
Turnstone			4
Knot			4
Great Northern Diver	2	1	1
Dunlin		225	
Jackdaw	7		
Starling		30	

A4.2 Breeding bird surveys

The breeding bird survey was undertaken on the beach front, adjoining roadside and in all of the accessible tracks within the development area, as shown in **Figure 2**. The majority of the development area has developed a scrub habitat dominated by gorse and bramble with small areas of semi-natural grassland. The tracks through the site are generally open, and the most southerly section of track provides good vantage points over the entire site as it is on an elevated position. The British Trust for Ornithology (BTO) breeding bird codes are shown in **Table 4**. The breeding status of all species encountered during surveys were classified into four categories: Confirmed (Br), Probable (Pr), Possible (Po) and Non-breeder (N), based on BTO categories of breeding evidence. A full list of bird species recorded during the 2015 surveys is provided in **Table 5**.

Table 4. British Trust for Ornithology breeding bird survey codes

Breeding status	Confirmed breeder (Br)	Probable breeder (Pr)	Possible breeder (Po)	Non-breeder (N)
Observed behaviours	Distraction-display or injury feigning (DD)	Pair in suitable nesting habitat (P)	Observed in suitable nesting habitat (H)	Flying Over (F)
	Used nest or eggshells found from current season (UN)	Permanent Territory (T)	Singing Male (S)	Migrant (M)
	Recently fledged young or downy young (FL)	Courtship and Display (D)		Summering non-breeder (U)
	Adults entering or leaving nest-site indicating occupied nest (ON)	Visiting probable nest site (N)		
	Adult carrying faecal sac or food for young (FF)	Agitated Behaviour (A)		
	Nest containing eggs (NE)	Brood patch of incubating bird (I)		
	Nest with young seen or heard (NY)	Nest Building or excavating nest-hole (B)		

Table 5. Breeding bird survey results

Bird species	Breeding status	Estimated No. of Pairs	No. Birds recorded per visit		
			27/05/2015	12/06/2015	19/06/2015
Blackbird	Br-FF	2	3	3	3
Blue Tit	Br-FL	3	4	4	12
Bullfinch	Pr- A	1	2	0	0
Chaffinch	Br-FL	2	0	6	3
Chiffchaff	Pr-D	2-3	3	0	7
Common Gull	N-F	0	0	0	14
Dunnock	Po- S	1	2	1	2
Goldcrest	Pr-D	1	1	0	0
Goldfinch	PR-N	1	2	0	0
Great tit	Br-DD	1	1	0	2
Greenfinch	Pr-P	1	1	2	2
Heron	N	0	0	0	1
Hooded Crow	N-F	0	0	0	3
Kestrel	Pr-FL	1	1	0	3
Long-tailed Tit	Pr-P	1	2	0	0
Oystercatcher	N	0	0	0	3
Robin	Br-UN	1	3	0	0
Rook	N-F	0	0	1	0
Sedge Warbler	Po-H	0-1	0	0	3
Skylark	Po-S	1-2	4	0	1
Song Thrush	Pr-N	1	1	0	1
Starling	N-F	0	39	17	0
Swallow	N-F	0	4	2	4
Common Tern	N-F	0	3	0	0
Tree Sparrow	Po-H	0-1	1	0	0
Common Whitethroat	Pr-A	1	1	0	1
Wood Pigeon	Pr-D	2-3	6	3	4
Wren	Br-ff	2	2	1	1

A4.3 Common Tern-Breeding surveys

No breeding terns occur within or in immediate proximity to the study area. A breeding population of Common Tern are known to occur near the entrance to the Port of Cork, approximately 750m west of the study area. This colony was identified by the Port of Cork Environmental Impact Statement (Port of Cork/RPS, 2014), which recorded 45-50 breeding pairs on concrete structures (mooring dolphins) adjacent to the entrance to the Port of Cork. This common tern breeding colony was resurveyed as part of this current assessment as they are the most significant breeding bird colony in the surrounding landscape. Counts of

terns were undertaken from a vantage point to the west of the mooring dolphins adjacent to the entrance to the Port of Cork. Counts were undertaken of (i) all of the birds present in the area both sitting, perching and flying, and (ii) only the birds sitting on nests/eggs. An average of the number of birds sitting on nests/eggs was used to derive the number of pairs present. Results are shown in **Table 6**. Approximately 50-55 breeding pairs were recorded (mean 53 breeding pairs).

Table 6. Common Tern Survey

Date	Total birds counted	No. birds sitting on nests/eggs
27/05/15	93	51
12/06/15	97	55
19/06/15	89	53
Overall average	93	53

A4.4 Seals and cetaceans

A total of four harbour seals were observed during the winter bird surveys. The seals were recorded moving through the channel between Ringaskiddy and Spike Island.

A5 Discussion of results

A5.1 Birds considered of conservation value.

Thirty bird species were recorded that have received some form of conservation designation as shown in **Table 7**. Birds species listed in Annex I of the Birds Directive are considered a conservation priority. Five species (Mediterranean Gull, Dunlin, Little Egret, Great Northern Diver and Common Tern) are listed on Annex 1 of the Birds Directive. Certain bird species are listed by BirdWatch Ireland as Birds of Conservation Concern in Ireland. Red List bird species are of high conservation concern and the Amber List species are of medium conservation. Six red listed species were recorded namely Herring Gull, Curlew, Redshank, Black-Headed Gull, Dunlin and Knot. Seventeen species are Amber listed. Twenty four bird species are listed under the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), to which Ireland is a signatory.

Table 7. Conservation status for species recorded.

Species		Birds Directive Annex					Red List	Amber List	AEWA
		I	II(I)	II(II)	III(I)	III(II)			
<i>Cephus grylle</i>	Black Guillemot							X	X
<i>Haematopus ostralegus</i>	Oystercatcher							X	X
<i>Columba palumbus</i>	Woodpigeon		II(I)		III(I)				
<i>Larus canus</i>	Common Gull							X	X
<i>Larus melanocephalus</i>	Mediterranean Gull	I						X	X
<i>Larus argentatus</i>	Herring Gull						X		X
<i>Larus fuscus</i>	Lesser black-backed Gull							X	X
<i>Larus marinus</i>	Great black-backed Gull							X	X
<i>Phalacrocorax carbo</i>	Cormorant							X	X
<i>Numenius arquata</i>	Curlew			II(II)			X		X
<i>Tringa totanus</i>	Redshank						X		X
<i>Larus ridibundus</i>	Black-headed Gull						X		X
<i>Calidris alpina schinzii</i>	Dunlin	I					X		X
<i>Anas platyrhynchos</i>	Mallard		II(I)		III(I)				X
<i>Ardea cinerea</i>	Grey Heron								X
<i>Passer montanus</i>	Tree Sparrow							X	
<i>Egretta garzetta</i>	Little Egret	I							X
<i>Tringa nebularia</i>	Greenshank							X	X
<i>Anas crecca</i>	Teal		II(I)		III(II)			X	X
<i>Podiceps cristatus</i>	Great-crested Grebe							X	X
<i>Branta bernicla</i>	Brent Goose							X	X
<i>Calidris alba</i>	Sanderling								X
<i>Arenaria interpres</i>	Ruddy Turnstone								X
<i>Calidris canutus</i>	Knot						X		X
<i>Gavia immer</i>	Great Northern Diver	I							X
<i>Sturnus vulgaris</i>	Starling							X	
<i>Hirundo rustica</i>	Swallow							X	

Species		Birds Directive Annex				Red List	Amber List	AEWA
<i>Alauda arvensis</i>	Skylark		II(II)				X	
<i>Sterna hirundo</i>	Common Tern	I					X	X
<i>Falco tinnunculus</i>	Kestrel						X	
EU habitats and birds directive annexation descriptions								
Symbol	Meaning	Brief definition						
I	Annex I bird species	Endangered species						
II(I)	Annex II, section I bird species	Species maybe legally hunted in all EU member states						
II(II)	Annex II, section II bird species	Species may be legally hunted in named EU member states						
III(I)	Annex III, section I bird species	Species may be deliberately killed or captured, nests disturbed or eggs taken, and traded live or dead in all EU member states						
III(II)	Annex III, section II bird species	Species may be deliberately killed or captured, nests disturbed or eggs taken, and traded live or dead in named EU member states						

A5.2 Results in relation to designated sites

Only the one Special Protection Area (Cork Harbour SPA Site Code 004030) is located within 5km of the proposed Ringaskiddy Resource Recovery Centre. This SPA is shown in **Figure 3**. The qualifying interests for Cork Harbour SPA are shown in **Table 8** together with the conservation objectives for each species. A total of thirteen species listed as qualifying interests for the Cork Harbour SPA were recorded, namely, Cormorant, Oystercatcher, Dunlin, Curlew, Redshank, Greenshank, Great Crested Grebe, Grey Heron, Teal, Blackheaded Gull, Common Gull, Lesser Blackbacked Gull and Common Tern. Common Tern was recorded during the breeding bird survey overflying the channel. This species does not breed in proximity to the site.

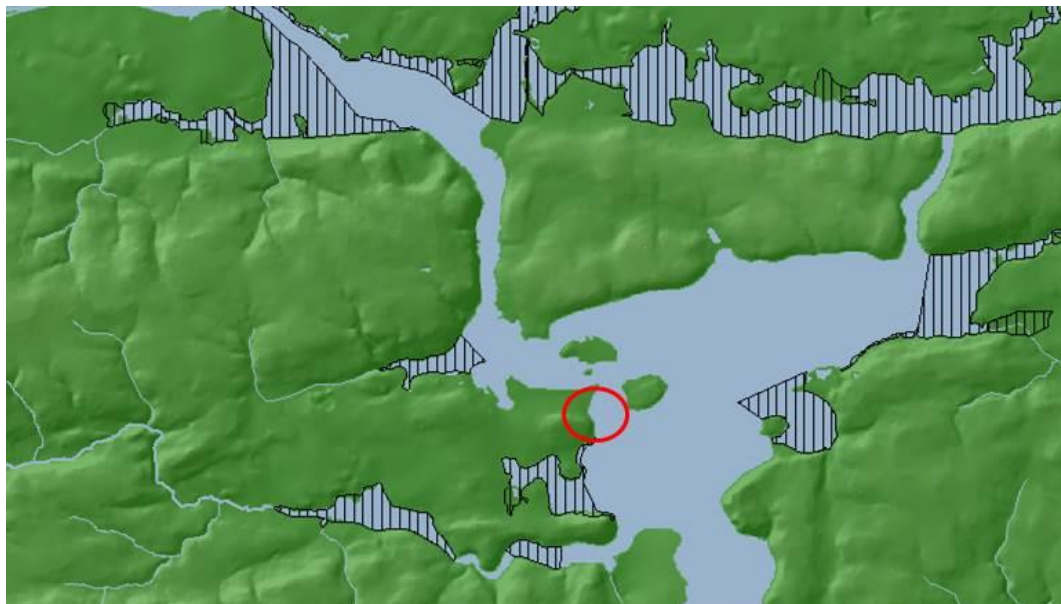


Figure 3. Cork Harbour SPA in relation to the study area (red circle).

A6 Summary

- A total of 1,354 birds from 38 species were recorded from 6 site visits during the winter bird survey. A total of 196 birds were recorded from 28 different bird species on three site visits during the breeding bird survey.
- Five Annex I bird species were recorded (Mediterranean Gull, Dunlin, Little Egret, Great Northern Diver and Common Tern). Six Red Listed species were recorded, namely Blackheaded Gull, Herring Gull, Redshank, Curlew, Knot and Dunlin.
- A total of thirteen species listed as qualifying interests for the Cork Harbour SPA were recorded, namely, Cormorant, Oystercatcher, Dunlin, Curlew, Redshank, Greenshank, Great Crested Grebe, Grey Heron, Teal, Blackheaded Gull, Common Gull, Lesser Blackbacked Gull and Common Tern.
- An important breeding colony of Common Tern is located approximately 750m from the development site on concrete structures adjacent to the Port of Cork entrance.
- None of the wintering birds recorded by vantage point counts in proximity to the proposed development site were recorded in high numbers and numbers were low in-comparison to the figures which would be considered nationally significant (i.e. 1% or more of the all-Ireland population of an Annex I species or 1% or more of the bio-geographical population of a migratory species)

A7 Conclusions

A7.1 Conclusions- Breeding bird surveys

Six breeding species (Blackbird, Blue Tit, Chaffinch, Great Tit, Robin, Wren) were recorded within the proposed development area. Nine species (Bullfinch, Chiffchaff, Goldcrest, Goldfinch, Greenfinch, Kestrel, Song Thrush, Common Whitethroat, Wood pigeon) were identified as possible breeders. The mix of species recording during the surveys are considered typical of this type of landscape. Eight of the recorded species are Amber listed; of these species five are terrestrial species (Skylark, Kestrel, Starling, Swallow and Tree Sparrow). The remaining three species (Common Tern, Oystercatcher and Common Gull) are associated with marine habitats and do not breed within the study area. No rare or uncommon species were noted as breeders or potential breeders.

A7.2 Conclusions - Winter bird surveys

A total of 38 bird species were recorded during the 2014/2015 winter bird surveys. Some species that are considered of high conservation value (Annex I of the Birds Directive, qualifying species for the Cork Harbour SPA and Red List species) were noted in this general area. It is noted that many the survey covered a radius of approximately 300m from each vantage point. Many of these birds were recorded overflying the channel, and the site itself and the shoreline adjoining the site, did not support high numbers of these species. The coastal area adjoining the site consists primarily of rock and shingle, and therefore does not support the high numbers of wintering waders that are characteristic of high value mudflats with high densities of macro-invertebrates.

A8 References

Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. 2000. Bird Census Techniques. Academic Press, London.

Gilbert, G., Gibbons, D.W. & Evans, J. (1998) *Bird Monitoring Methods - a Manual of Techniques for Key UK Species*. RSPB: Sandy.

Ringaskiddy Port Redevelopment EIS (Port of Cork/RPS, 2014)

A9 Appendix A.

Winter Survey Results - 25/10/2014

Date	Time	Tide	Harbour seal	Oystercatcher	Blackheaded gull	herring gull	Black guillemot	Lesser Blackbacked gull	Cormorant	Common gull	Red shank	Curlew
25/10/2014	13.00-14.30	low		15		4		1	3	22	2	3
25/10/2014	14.30-16.00	mid		13					1	4	1	3
25/10/2014	16.00-17.30	high		2					1			

Winter Survey Results - 25/10/2014 (continued)

Date	Time	Tide	Mallard	Glaucous Gull	Heron	Hooded Crow	Wood pigeon	Rook	Blackbird	Robin	Tree sparrow	Thrush
25/10/2014	13.00-14.30	low			2	3		2				
25/10/2014	14.30-16.00	mid			1	3		15				1
25/10/2014	16.00-17.30	high				2	14	175			6	

Winter Survey Results - 25/10/2014 (continued)

Date	Time	Tide	Little Egret	Greater Blackbacked	Greenshank	Mediterranean Gull	Teal	Great Crested Grebe	Brent Goose	Sanderling	Goldfinch	Grey Wagtail
25/10/2014	13.00-14.30	low	1	1	1	1						
25/10/2014	14.30-16.00	mid	1	3								
25/10/2014	16.00-17.30	high		1								

Winter Survey Results - 25/10/2014 (continued)

Date	Time	Tide	Meadow Pipit	Wren	Blue Tit	Turnstone	Knot	Great Northern Diver	Dunlin	Jackdaw	Starling
25/10/2014	13.00-14.30	low									
25/10/2014	14.30-16.00	mid									
25/10/2014	16.00-17.30	high									

Winter Survey Results - 22/11/2014

Date	Time	Tide	Harbour seal	Oystercatcher	Blackheaded gull	herring gull	Black guillemot	Lesser Blackbacked gull	Cormorant	Common gull	Red shank	Curlew
22/11/2014	13.00-14.30	low		4			3	2	8	6	2	
22/11/2014	14.30-15.30	mid						1	3	2		
22/11/2014	15.30-16.30	high							4	3		
19/02/2015	13.00-14.30	low		11	4	1				4		

Winter Survey Results - 22/11/2014 (continued)

Date	Time	Tide	Mallard	Glaucous gull	Heron	Hooded Crow	Wood pigeon	Rook	Blackbird	Robin	Tree sparrow	Thrush
22/11/2014	13.00-14.30	low			1							
22/11/2014	14.30-15.30	mid				1	2	1				
22/11/2014	15.30-16.30	high	3				7	5				

Winter Survey Results - 22/11/2014 (continued)

Date	Time	Tide	Little Egret	Greater Blackbacked Gull	Greenshank	Mediterranean Gull	Teal	Great Crested Grebe	Brent Goose	Sanderling	Goldfinch	Grey Wagtail
22/11/2014	13.00-14.30	low			8		4	1				
22/11/2014	14.30-15.30	mid										
22/11/2014	15.30-16.30	high										

Winter Survey Results - 22/11/2014 (continued)

Date	Time	Tide	Meadow Pipit	Wren	Blue Tit	Turnstone	Knot	Great Northern Diver	Dunlin	Jackdaw	Starling
22/11/2014	13.00-14.30	low									
22/11/2014	14.30-15.30	mid									
22/11/2014	15.30-16.30	high									

Winter Survey Results - 22/12/2014

Date	Time	Tide	Harbour seal	Oystercatcher	Blackheaded gull	herring gull	Black guillemot	Lesser Blackbacked gull	Cormorant	Common gull	Red shank	Curlew
22/12/2014	10.30-12.00	low	1	14		9		2		9		1
22/12/2014	12.00-13.30	mid		12	3	4				13		1
22/12/2014	13.30-15.00	high	1	18						2	1	

Winter Survey Results - 22/12/2014 (continued)

Date	Time	Tide	Mallard	Glaucous gull	Heron	Hooded Crow	Wood pigeon	Rook	Blackbird	Robin	Tree sparrow	Thrush
22/12/2014	10.30-12.00	low			1	2	12	3	1			
22/12/2014	12.00-13.30	mid		1	1	2		14				
22/12/2014	13.30-15.00	high		1		3		45				

Winter Survey Results - 22/12/2014 (continued)

Date	Time	Tide	Little Egret	Greater Blackbacked Gull	Greenshank	Mediterranean Gull	Teal	Great Crested Grebe	Brent Goose	Sanderling	Goldfinch	Grey Wagtail
22/12/2014	10.30-12.00	low	1	1					34			
22/12/2014	12.00-13.30	mid	1	3					33	2		
22/12/2014	13.30-15.00	high		2								

Winter Survey Results - 22/12/2014 (continued)

Date	Time	Tide	Meadow Pipet	Wren	Blue Tit	Turnstone	Knot	Great Northern Diver	Dunlin	Jackdaw	Starling
22/12/2014	10.30-12.00	low									
22/12/2014	12.00-13.30	mid									
22/12/2014	13.30-15.00	high									

Winter Survey Results - 21/01/2015

Date	Time	Tide	Harbour seal	Oystercatcher	Blackheaded gull	herring gull	Black guillemot	Lesser Blackbacked gull	Cormorant	Common gull	Red shank	Curlew
21/01/2015	11.00-12.30	low		24	27			1	3	8	3	1
21/01/2015	12.30-14.00	low		28	22					3	1	1
21/01/2015	14.00-15.30	mid	1	14					3			

Winter Survey Results - 21/01/2015 (continued)

Date	Time	Tide	Mallard	Glaucous gull	Heron	Hooded Crow	Wood pigeon	Rook	Blackbird	Robin	Tree sparrow	Thrush
21/01/2015	11.00-12.30	low		3	2	12		3	4			
21/01/2015	12.30-14.00	low			1	3			3	2		
21/01/2015	14.00-15.30	mid				1	1					

Winter Survey Results - 21/01/2015 (continued)

Date	Time	Tide	Little Egret	Greater Blackbacked Gull	Greenshank	Mediterranean Gull	Teal	Great Crested Grebe	Brent Goose	Sanderling	Goldfinch	Grey Wagtail
21/01/2015	11.00-12.30	low			1			1	26		2	4
21/01/2015	12.30-14.00	low			1				19			3
21/01/2015	14.00-15.30	mid			1				11			2

Winter Survey Results - 21/01/2015 (continued)

Date	Time	Tide	Meadow Pipit	Wren	Blue Tit	Turnstone	Knot	Great Northern Diver	Dunlin	Jackdaw	Starling
21/01/2015	11.00-12.30	low	2	1	3						
21/01/2015	12.30-14.00	low				1	4				
21/01/2015	14.00-15.30	mid									

Winter Survey Results - 19/02/2015 (continued)

Date	Time	Tide	Harbour seal	Oystercatcher	Blackheaded gull	herring gull	Black guillemot	Lesser Blackbacked	Cormorant	Common gull	Red shank	Curlew
19/02/2015	13.00-14.30	low		11	4	1				4		
19/02/2015	14.30-16.00	mid		7					1	4		
19/02/2015	16.00-17.30	high	1					2	3	3		

Winter Survey Results - 19/02/2015 (continued)

Date	Time	Tide	Mallard	Glaucous gull	Heron	Hooded Crow	Wood pigeon	Rook	Blackbird	Robin	Tree sparrow	Thrush
19/02/2015	13.00-14.30	low			1	2						
19/02/2015	14.30-16.00	mid			1			1				
19/02/2015	16.00-17.30	high				1		3	2			

Winter Survey Results - 19/02/2015 (continued)

Date	Time	Tide	Little Egret	Greater Blackbacked Greenshank	Mediterranean Gull	Teal	Great Crested Grebe	Brent Goose	Sanderling	Goldfinch	Grey Wagtail
19/02/2015	13.00-14.30	low	1	2				8			
19/02/2015	14.30-16.00	mid	1				1	4			
19/02/2015	16.00-17.30	high								1	1

Winter Survey Results - 19/02/2015 (continued)

Date	Time	Tide	Meadow Pipit	Wren	Blue Tit	Turnstone	Knot	Great Northern Diver	Dunlin	Jackdaw	Starling
19/02/2015	13.00-14.30	low						1			
19/02/2015	14.30-16.00	mid	1		1			1	225		
19/02/2015	16.00-17.30	high						1		7	

Winter Survey Results - 20/03/2015

Date	Time	Tide	Harbour seal	Oystercatcher	Blackheaded gull	Herring gull	Black guillemot	Lesser Blackbacked gull	Cormorant	Common gull	Red shank	Curlew
20/03/2015	11.30-13.00	low		13		3				12	3	1
20/03/2015	13.00-14.30	mid		6					1	4	3	
20/03/2015	14.30-16.00	high						1	1	2	1	

Winter Survey Results - 20/03/2015 (continued)

Date	Time	Tide	Mallard	Glaucous gull	Heron	Hooded Crow	Wood pigeon	Rook	Blackbird	Robin	Tree sparrow	Thrush
20/03/2015	11.30-13.00	low		2	2	6		2				
20/03/2015	13.00-14.30	mid				2						
20/03/2015	14.30-16.00	high			1	3	2	6				

Winter Survey Results - 20/03/2015 (continued)

Date	Time	Tide	Little Egret	Greater Blackbacked Gull	Greenshank	Mediterranean Gull	Teal	Great Crested Grebe	Brent Goose	Sanderling	Goldfinch	Grey Wagtail
20/03/2015	11.30-13.00	low	4		1				20			
20/03/2015	13.00-14.30	mid	1		2				21			
20/03/2015	14.30-16.00	high										

Winter Survey Results - 20/03/2015 (continued)

Date	Time	Tide	Meadow Pipit	Wren	Blue Tit	Turnstone	Knot	Great Northern Diver	Dunlin	Jackdaw	Starling
20/03/2015	11.30-13.00	low				3					
20/03/2015	13.00-14.30	mid									30
20/03/2015	14.30-16.00	high						1			