

Appendix B. Bird Data

1.1 Introduction

This appendix includes the data used in the Habitats Regulations Appraisal (HRA) for the Forth Road Bridge (FRB) Five-Year Marine Licence application. This comprises data from the British Trust for Ornithology's (BTO) Wetland Bird Surveys (WeBS) (Section 1.2) and (Section 1.3).

1.2 BTO WeBS Data

Data from BTO WeBS was received for the two sectors either side of the Firth of Forth at the location of the FRB for the survey years 2014/2015 to 2018/2019. The sectors are 'Forth Cult Ness' to the north, which encompasses the estuary west of the rail bridge to St Margaret's Marsh and 'Hound Point to South Queensferry' to the south, which encompasses the estuary from the eastern breakwater of Port Edgar to Hound Point. It should be noted that the Hound Point to South Queensferry sector covers approximately three times the area of the Forth Cult Ness sector. Refer to Figure 3 which accompanies the main report for the locations and extents of these survey sectors.

The WeBS data is presented as five-year summaries for each species recorded in the Forth Cult Ness sector (Table 1) and Hound Point to South Queensferry (Table 2) below. Note that the WeBS counting year runs from July to June, so for example the year 2018/19 includes data from July 2018 to June 2019 inclusive.

Bar-tailed godwit, goldeneye, lapwing, mute swan, red-throated diver and whimbrel were included in the dataset for the Forth Cult Ness sector but no counts were recorded. Arctic tern, common gull and Canada goose were included in the dataset for the Hound Point to South Queensferry sector but no counts were recorded. Null counts from the WeBS survey data are not presented in Tables 1 and 2. In summary, 32 bird species were recorded in one or both of the two sectors, of which 18 were found in both sectors. Of the 24 species found in the Forth Cult Ness, 15 were qualifying interests of the Firth of Forth SPA/Ramsar and/or Forth Islands SPA, whilst the same was true of 18 of the 26 species in the Hound Point to South Queensferry sector.

Table 1: Five-year annual peak counts for species within the Forth Cult Ness WeBS sector

Species	Qualifying Interest of Designated Site (Y/N)			Annual Peak Counts and Month Recorded					
	Firth of Forth SPA	Firth of Forth Ramsar	Forth Islands SPA	2014/15	2015/16	2016/17	2017/18	2018/19	Mean Peak
Black-headed gull	N	N	N	96 (NOV)	52 (DEC)	35 (OCT)	37 (MAR)	79 (OCT)	60
Common gull	N	N	N	2 (JAN)	13 (JAN)	0	6 (MAR)	7 (OCT)	6
Common sandpiper	N	N	N	0	0	0	1 (JAN)	0	0
Common scoter	Y	N	N	0	0	0	3 (MAY)	0	1
Common tern	N	N	Y	50 (JUN)	40 (JUN)	60 (JUL)	160 (JUL)	71 (JUN)	76
Cormorant	Y	N	Y	4 (JUN)	2 (AUG)	2 (AUG, OCT, FEB)	11 (SEP)	3 (FEB, JUN)	4
Curlew	Y	N	N	7 (NOV)	3 (DEC)	3 (AUG, OCT)	7 (SEP)	5 (JAN)	5
Dunlin	Y	N	N	7 (DEC)	6 (JAN)	17 (JAN)	3 (MAR)	0	7
Eider	Y	N	N	38 (AUG, APR)	38 (APR)	20 (JUL)	24 (JUN)	18 (JUN)	28
Goosander	N	N	N	0	0	0	1 (SEP)	2 (MAR)	1
Great black-backed gull	N	N	N	0	1 (DEC)	2 (AUG)	2 (SEP)	1 (OCT, NOV)	1
Grey heron	N	N	N	1 (NOV, JUN)	1 (JAN)	2 (OCT)	1 (SEP, NOV)	4 (NOV)	2
Herring gull	N	N	Y	18 (SEP, APR)	12 (APR)	13 (AUG)	29 (SEP)	108 (MAY)	36
Lesser black-backed gull	N	N	Y	1 (JUN)	1 (AUG)	0	1 (APR)	0	1
Little grebe	N	N	N	0	1 (JAN)	0	2 (MAR)	1 (FEB)	1
Mallard	Y	N	N	3 (JUN)	1 (JUN)	0	3 (APR)	0	1
Oystercatcher	Y	N	N	21 (DEC)	10 (DEC)	21 (FEB)	26 (DEC)	7 (NOV)	17
Red-breasted merganser	Y	N	N	0	3 (JAN)	1 (FEB, JUN)	0	7 (NOV)	2
Redshank	Y	Y	N	45 (DEC)	28 (NOV)	63 (AUG)	52 (OCT)	52 (NOV)	48
Sandwich tern	Y	Y	Y	0	1 (MAY)	2 (JUL)	2 (JUL)	12 (SEP)	3
Shelduck	Y	Y	N	9 (JAN)	2 (MAY)	8 (FEB)	24 (MAR)	8 (JAN)	10
Snipe	N	N	N	0	0	0	1 (JAN)	0	0
Teal	N	N	N	0	0	0	0	3 (JAN)	1
Turnstone	Y	Y	N	5 (JAN, FEB)	1 (JAN)	2 (AUG)	3 (MAR)	3 (NOV)	3

Table 2: Five-year annual peak counts for species within the Hound Point to South Queensferry WeBS sector

Species	Qualifying Interest of Designated Site			Annual Peak Counts and Month Recorded					
	Firth of Forth SPA	Firth of Forth Ramsar	Forth Islands SPA	2014/15	2015/16	2016/17	2017/18	2018/19	Mean Peak
Bar-tailed godwit	Y	Y	N	0	0	0	0	3 (JAN)	1
Black-headed gull	N	N	N	123 (SEP)	229 (NOV)	487 (FEB)	388 (MAR)	207 (MAR)	287
Common tern	N	N	Y	12 (JUL)	6 (AUG)	14 (MAY)	6 (JUN)	354 (JUN)	78
Cormorant	Y	N	Y	2 (SEP, DEC)	3 (NOV)	2 (JUL, DEC)	7 (OCT)	4 (SEP, JAN)	4
Curlew	Y	N	N	4 (JAN)	20 (JAN)	500 (AUG)	40 (OCT)	220 (FEB)	157
Eider	Y	N	N	118 (SEP)	72 (JUN)	22 (MAY)	68 (MAR)	66 (AUG)	69
Goldeneye	Y	Y	N	0	0	4 (FEB)	4 (JAN)	8 (APR)	3
Great black-backed gull	N	N	N	0	0	2 (JUL)	2 (OCT)	0	1
Great crested grebe	Y	N	N	0	2 (JAN)	2 (OCT)	0	0	1
Grey heron	N	N	N	1 (NOV)	0	1 (JUN)	0	1 (JAN, MAR, JUN)	1
Greylag goose (British/Irish)	N	N	N	0	0	0	0	4 (APR)	1
Herring gull	N	N	Y	56 (JAN)	51 (MAR)	215 (APR)	90 (OCT)	280 (JUN)	138
Lesser black-backed gull	N	N	Y	20 (JUL)	19 (SEP)	20 (AUG)	36 (MAY)	43 (AUG)	28
Little grebe	N	N	N	4 (OCT)	4 (DEC, FEB)	2 (NOV, DEC, JUN)	3 (MAY)	4 (APR)	3
Mallard	Y	N	N	13 (FEB)	2 (FEB)	0	30 (MAR)	65 (JAN)	22
Mute swan	N	N	N	3 (JAN)	2 (NOV, DEC)	0	0	6 (MAY)	2
Oystercatcher	Y	N	N	30 (NOV)	24 (DEC)	44 (FEB)	76 (FEB)	210 (FEB)	77
Purple sandpiper	N	N	N	0	0	0	2 (FEB)	0	0
Red-breasted merganser	Y	N	N	3 (JAN)	5 (JAN)	0	42 (MAR)	16 (FEB)	13
Redshank	Y	Y	N	2 (DEC)	5 (JAN)	4 (FEB)	6 (NOV, DEC)	52 (JAN)	14
Sandwich tern	Y	Y	Y	6 (AUG, SEP)	7 (AUG)	0	12 (JUL)	12 (JUL)	7
Scaup	Y	N	N	0	0	0	50 (MAR)	0	10
Shelduck	Y	Y	N	0	5 (MAR)	0	0	28 (MAY)	7
Teal	N	N	N	30 (OCT)	0	0	0	0	6
Turnstone	Y	Y	N	0	15 (FEB)	4 (MAR)	12 (MAR)	2 (DEC)	7
Wigeon	Y	N	N	2 (JAN)	4 (FEB)	2 (JAN)	4 (JAN)	70 (FEB)	16

1.3 Roseate Tern LIFE Recovery Project Data

Historic data for breeding terns on Long Craig Island was obtained through the Scottish Wildlife Trust (SWT), from the roseate tern LIFE project and Royal Society for the Protection of Birds (RSPB). The data is presented in Table 3 below. Productivity was calculated by dividing the number of large/fledged chicks per by the peak count of active nests.

Table 3. Common tern breeding pair data from Long Craig Island

Year	Maximum number of adults on nests	Minimum number of chicks fledged	Productivity
1981	60	No Data	---
1982	40	No Data	---
1983	40	No Data	---
1984	40	No Data	---
1985	40	No Data	---
1986	30	No Data	---
1987	No Data	No Data	---
1988	45	No Data	---
1989	100	No Data	---
1990	143	No Data	---
1991	145	No Data	---
1992	No Data	No Data	---
1993	No Data	No Data	---
1994	No Data	No Data	---
1995	76	80	1.05
1996	0	0	0.00
1997	69	No Data	---
1998	No Data	No Data	---
1999	No Data	No Data	---
2000	75	74	0.99
2001	24	No Data	---
2002	55	No Data	---
2003	126	167	1.33
2004	171	No Data	---
2005	120	140	1.17
2006	92	105	1.14
2007	172	91	0.53
2008	90	38	0.42
2009	122	152	1.25
2010	109	100	0.92
2011	105	122	1.16
2012	0	0	0.00
2013	73	90	1.23
2014	131	130	0.99
2015	132	157	1.19
2016	168	44	0.26
2017	165	35	0.21
2018	78	5	0.06
2019	128	163	1.27