

9 ORNITHOLOGY

9.1 INTRODUCTION

This section describes the ornithological interest of the Fal Estuary system and adjacent coastal areas in general, and specifically the waterbird interest of areas within the immediate vicinity of the site of the proposed development and dredging.

9.2 ASSESSMENT METHODOLOGY

9.2.1 *Study Area*

The study area covers the Fal Estuary to take into account the available baseline data as shown in Figures 9-1 and 9-2.

9.2.2 *Baseline Data Collection*

The information in this section is composed primarily of data obtained from the Wetland Bird Survey (WeBS). WeBS is the scheme which monitors non-breeding wetland birds in the UK to identify population sizes, determine trends in numbers and distribution and to identify important sites for wetland birds. The WeBS is divided into two national schemes.

9.2.3 *Survey*

Given the availability of WeBS data, no survey was undertaken to inform the EIA process.

9.2.4 *Assessment Criteria and Technique*

Impacts to ornithology have been assessed using the Guidelines for Ecological Impact Assessment in the United Kingdom which has been drawn up by the Institute of Ecology and Environmental Management (IEEM). These guidelines have been developed by IEEM to promote good practice in Ecological Impact Assessment (EcIA) relating to terrestrial, freshwater and coastal environments to the mean low water mark in the UK. The guidelines can be viewed at <http://www.ieem.net/ecia/index.html>.

9.2.5 *Assessment of Impact Significance*

Impact significance has been assessed using the methodology set out in Section 1.4.3 and using the terms identified in Table 1-1.

9.3 BASELINE ENVIRONMENTAL CONDITIONS

9.3.1 *Designated Sites and Species*

Falmouth Harbour does not lie within or adjacent to any international, national or local sites designated for their ornithological interest. It does, however, support a nationally important population of black-tailed godwit (*Limosa limosa*), which is included in the Birds of Conservation Concern Red List (high conservation concern). The estuary also supports good numbers of divers and rarer grebes (Conway, 1996), including a number

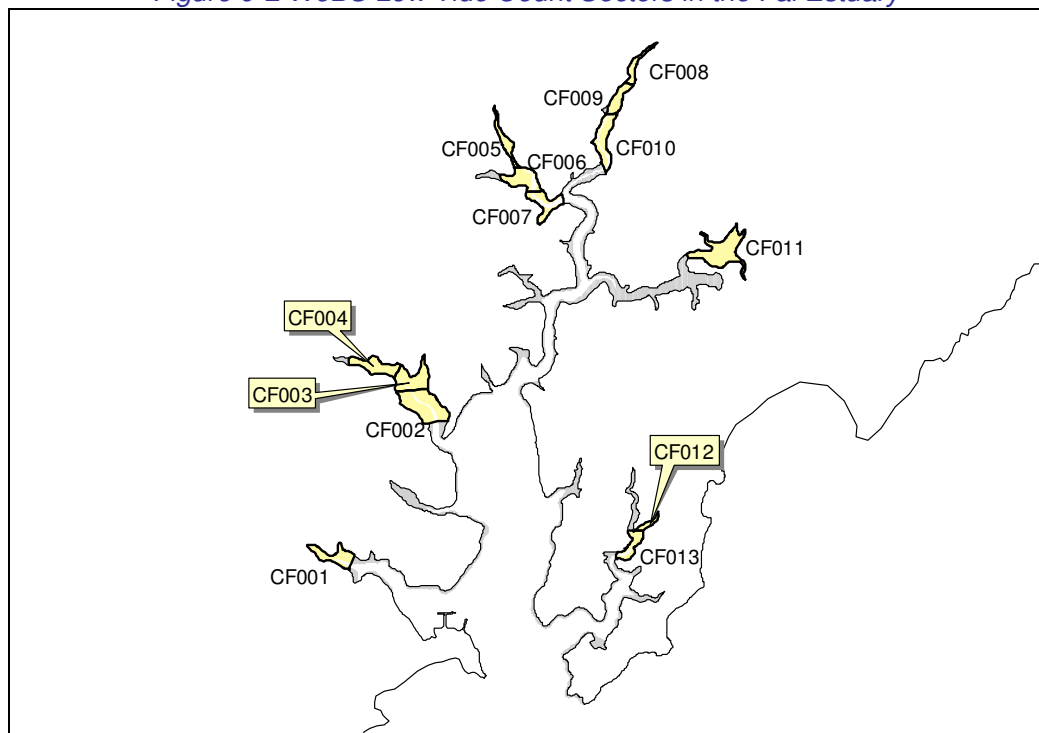
Core Count data was obtained for the period 2001/2006 for the 'Fal Complex' and represents summed data of all of the constituent sectors of the estuary, as illustrated in Figure 9-1. No core count data is available for the estuary inlet where Falmouth Docks is located. This lack of coverage is most likely due to poor volunteer coverage, difficulty in accessing these sites or a reflection of the low bird numbers in this area of the estuary (WeBS, pers. com.).

Low Tide Counts

Low Tide Counts are conducted at least one winter every six years, with up to four counts being made through the period November - February. The exposed substrate at low tide is divided into small count areas (sectors) enabling the distribution of feeding and roosting birds to be determined in fine detail. Low Tide Counts are designed to complement estuarine Core Counts, and are principally concerned with illustrating bird distributions.

Low Count data was obtained for the winter 2004/2005 for seven sectors in the lower Fal Estuary, CF001-CF004 and CF012-CF014, as illustrated in Figure 9-2. (At the time of writing this report data for 2005/2006 had not been published.) This data includes the upper section of the estuary inlet where Falmouth Docks is located.

Figure 9-2 WeBS Low Tide Count Sectors in the Fal Estuary



Wetland Birds Assemblage of the Fal Complex

The Fal Estuary covers a total area of 2,482 ha of which 69.9% is subtidal (Barne *et al.*, 1996). The estuary does not contain extensive tracts of mud or sandflats to support large populations of waders and wildfowl. The upper reaches of the estuary, around Truro, provide the best habitat for wetland birds.

Table 9-1 summarises the overall numbers of wetland birds utilising the Fal Estuary over the period 2001/2002 to 2005/2006 and shows the five-year mean peak for these years as well as the five-year mean autumn (July to October inclusive to describe autumn passage), winter (November to March inclusive to describe the wintering population) and spring (April to June inclusive to describe spring passage) peak figures.

Table 9-1 Summary of the overall numbers of wetland birds utilising the Fal estuary (2001/2002 to 2005/2006)

Year	Peak Monthly Total	Autumn Peak	Winter Peak	Spring Peak
01/02	3822 (JAN)	1954	5035	791
02/03	4841 (JAN)	3724	5922	787
03/04	3567 (JAN)	3669	4598	685
04/05	3428 (DEC)	3361	4190	877
05/06	4459 (FEB)	3813	5818	1285
MEAN		3304	5113	885

Table 9-2 summarises the five-year mean of peak counts for each species of wetland bird recorded in the Fal Complex for autumn, winter and spring. The table also indicates the percentage of the relative qualifying level of national and international importance for each species that this figure represents (e.g. 50% indicates that the five-year mean peak count is half that required for the site to qualify as nationally or internationally important as appropriate for each species).

Table 9-2 Summary of Five-year Mean of Peak Counts and the Percentage of the National and International Thresholds

Species	National Threshold			International Threshold			5 year mean of peaks		
	Autumn	Winter	Spring	Autumn	Winter	Spring	Autumn	Winter	Spring
Mute Swan	8%	9%	9%	10%	10%	11%	31	33	35
Whooper Swan	0%	7%	0%	0%	2%	0%	0	4	0
Canada Goose	N/A	N/A	N/A	N/A	N/A	N/A	97	42	10
Shelduck	7%	37%	24%	2%	10%	6%	58	290	190
Wigeon	1%	8%	0%	0%	2%	0%	26	329	4
Gadwall	0%	0%	1%	0%	0%	0%	0	0	1
Teal	3%	7%	0%	1%	3%	0%	52	137	2
Mallard	3%	7%	1%	1%	1%	0%	104	230	44
Pintail	0%	2%	0%	0%	1%	0%	0	5	0
Eider	0%	0%	0%	0%	0%	0%	0	3	0
Common Scoter	0%	0%	0%	0%	0%	0%	0	1	0
Surf Scoter	N/A	N/A	N/A	N/A	N/A	N/A	0	1	1
Velvet Scoter	*0%	*7%	*0%	0%	0%	0%	0	2	0
Goldeneye	0%	6%	0%	0%	0%	0%	1	16	0
Red-breasted Merganser	6%	82%	18%	0%	5%	1%	6	80	18
Red-throated Diver	*0%	*2%	*0%	0%	0%	0%	0	1	0
Black-throated Diver	*0%	*14%	*0%	0%	0%	0%	0	1	0
Great Northern Diver	*0%	*7%	*3%	0%	4%	2%	0	2	1

Species	National Threshold			International Threshold			5 year mean of peaks		
	Autumn	Winter	Spring	Autumn	Winter	Spring	Autumn	Winter	Spring
Little Grebe	10%	24%	4%	0%	0%	0%	8	19	3
Great Crested Grebe	0%	1%	0%	0%	0%	0%	0	2	0
Red-necked Grebe	*0%	*50%	*0%	0%	0%	0%	0	1	0
Slavonian Grebe	*0%	*29%	*0%	0%	4%	0%	0	2	0
Black-necked Grebe	*400%	*2300%	*100%	0%	1%	0%	4	23	1
Cormorant	15%	14%	8%	3%	3%	2%	34	33	18
Shag	N/A	N/A	N/A	1%	1%	1%	20	24	18
Little Egret	N/A	N/A	N/A	5%	4%	3%	60	46	36
Grey Heron	N/A	N/A	N/A	1%	1%	1%	32	29	30
Water Rail	N/A	N/A	N/A	0%	0%	0%	0	2	1
Moorhen	0%	0%	0%	0%	0%	0%	6	13	5
Coot	0%	0%	0%	0%	0%	0%	1	1	0
Oystercatcher	5%	4%	1%	2%	1%	0%	161	137	33
Avocet	*0%	*6%	*0%	0%	0%	0%	0	2	0
Little Ringed Plover	N/A	N/A	N/A	0%	0%	0%	2	0	0
Ringed Plover	4%	1%	1%	2%	0%	1%	13	3	4
Golden Plover	0%	1%	0%	0%	0%	0%	0	20	0
Grey Plover	0%	0%	0%	0%	0%	0%	1	0	0
Lapwing	0%	1%	0%	0%	1%	0%	5	144	0
Knot	0%	0%	0%	0%	0%	0%	1	6	0
Little Stint	N/A	N/A	N/A	0%	0%	0%	2	0	0
Curlew Sandpiper	N/A	N/A	N/A	0%	0%	0%	1	2	0
Dunlin	1%	8%	0%	1%	3%	0%	76	450	25
Ruff	*14%	*0%	*0%	0%	0%	0%	1	0	0
Snipe	N/A	N/A	N/A	0%	0%	0%	2	21	0
Black-tailed Godwit	38%	86%	5%	12%	27%	2%	57	129	8
Bar-tailed Godwit	0%	1%	0%	0%	1%	0%	2	8	0
Whimbrel	N/A	N/A	N/A	0%	0%	0%	3	2	17
Curlew	37%	33%	5%	7%	6%	1%	556	502	80
Common Sandpiper	N/A	N/A	N/A	0%	0%	0%	9	2	2
Green Sandpiper	N/A	N/A	N/A	0%	0%	0%	3	1	0
Spotted Redshank	N/A	N/A	N/A	1%	1%	0%	6	5	0
Greenshank	*650%	*600%	*233%	2%	2%	1%	39	36	14
Redshank	23%	22%	2%	10%	10%	1%	278	267	23
Turnstone	0%	2%	2%	0%	1%	1%	2	9	8
Black-headed Gull	9%	N/A	1%	9%	N/A	1%	1733	(2281)	124
Mediterranean Gull	N/A	N/A	N/A	N/A	0%	0%	(0)	1	1
Common Gull	0%	0%	0%	0%	0%	0%	0	34	0
Lesser Black-backed Gull	8%	6%	6%	1%	1%	1%	41	29	29
Herring Gull	N/A	12%	9%	N/A	9%	7%	(342)	536	408
Great Black-backed Gull	7%	33%	7%	1%	3%	1%	26	131	28
Sandwich Tern	N/A	N/A	N/A	0%	0%	0%	0	1	0
Common Tern	N/A	N/A	N/A	0%	0%	0%	1	0	0

* indicates species where the qualifying threshold for a species is less than 50 (e.g. the qualifying threshold for red-necked grebe is 2 therefore the winter 5 year peak of 1 bird represents 50%).

Distribution of Wetland Birds in the Lower Fal Estuary

Table 9-3 summarises the peak and mean Low Tide Counts for individual species recorded in the lower sections of the Fal Estuary that are WeBS sectors (see Figure 9-2) providing an indication of the distribution of individual species.

Table 9-3 Peak and Mean (in brackets) Low Tide Counts for Individual Species in the Lower Fal Estuary Count Sectors for 2004/2005.

Species	WeBS Low Tide Count section						
	CF001	CF002	CF003	CF004	CF012	CF013	CF014
Little Grebe						3 (1)	
Cormorant	3 (1)	4 (3)	2 (1)	1 (0)		1 (0)	
Little Egret	3 (2)	11 (6)	11 (4)	1 (0)	4 (3)	2 (2)	7 (3)
Grey Heron	1 (1)	3 (1)	2 (1)		2 (1)	2 (2)	1 (1)
Mute Swan	9 (5)	24 (8)			2 (1)	2 (1)	
Shelduck	2 (1)	10 (4)	35 (14)		5 (3)	15 (13)	6 (2)
Wigeon				12 (3)			
Teal				12 (3)			
Mallard	12 (6)	12 (5)	4 (3)	5 (2)	7 (4)	27 (19)	9 (2)
Red-breasted Merganser						2 (1)	
Oystercatcher	2 (1)	1 (0)	2 (1)	2 (1)		9 (6)	11 (7)
Ringed Plover				2 (1)			
Lapwing	1 (0)		14 (7)			42 (21)	
Dunlin			25 (6)	125 (64)			
Black-tailed Godwit			7 (3)	49 (32)			
Whimbrel			11 (3)				4 (2)
Curlew	9 (6)	11 (6)	22 (8)	33 (19)	15 (4)	52 (25)	3 (1)
Spotted Redshank			4 (2)	1 (0)	2 (1)		
Redshank	17 (10)	28 (8)		63 (52)	5 (3)	15 (7)	6 (3)
Greenshank	2 (1)	1 (0)	1 (1)	2 (2)	9 (3)	9 (5)	3 (2)
Common Sandpiper					1 (0)		
Turnstone	8 (2)		3 (1)				
Kingfisher					1 (1)		

None of the Annex 1 listed species of grebe or divers were recorded in the lower estuary sectors during the 2004/2005 Low Tide Counts. This is probably due to the nature of the survey and the behaviour of this type of bird; Low Tide Counts survey the exposed foreshore at low tide and grebes/divers remain on the water to feed and rarely come onto land.

Black-tailed godwit, of which the Fal Estuary population is considered to be of national importance, was recorded in two eastern sectors of the lower estuary (sectors CF003 and CF004). Red-breasted merganser was recorded to be present in low numbers in only one sector (CF013).

The most widespread and numerous bird species of the lower Fal Estuary in the year 2004/2005 were redshank, curlew and mallard. Little egret and greenshank were

recorded in small numbers throughout all sectors. The highest peak count for any species occurring in the lower sectors of the estuary was for dunlin in sector CF004 (125).

Twelve species of wetland bird were recorded in the estuary inlet closest to Falmouth Docks (CF001). The majority of these were recorded in low numbers with only redshank and mallard having peak counts into double figures. Turnstones were recorded as being more prevalent in this sector than in any of the other lower sectors, although their numbers were still low.

9.3.3 *Terrestrial Birds*

Scrub habitat within the harbour provide sub-optimal foraging habitat for common breeding birds (as described in Section 10).

9.4 POTENTIAL IMPACTS DURING THE CONSTRUCTION PHASE

9.4.1 *Temporary Loss of Breeding and Foraging Habitat due to Construction*

Scrub habitats within the dock will be removed for the duration of the construction period 26 weeks. This will result in a reduction in low quality breeding and foraging habitat for common bird species.

All wild birds are afforded protection under the Wildlife and Countryside Act 1981 (as amended). It is an offence to:

- intentionally kill, injure or take any wild bird;
- take, damage or destroy a nest (whilst in use or under construction);
- take, damage or destroy its eggs; and
- possess wild birds (dead or alive) or their eggs.

In order to avoid prosecution under the Wildlife and Countryside Act 1981 (as amended) it will be necessary to remove any potential nesting habitat that lies within the footprint of the works outside the breeding bird period (March-August).

The scrub habitats within the dock are small and are not of high quality, in addition, good quality scrub habitat is present in the wider area, particularly at Pendennis Point. Furthermore, on completion of the construction period it is likely that this habitat will recolonise within the dock. The impact is considered to be a short term, reversible impact of negligible significance.

Mitigation and Residual Impact

No mitigation measures are recommended and there will be a negligible residual impact.

9.4.2 *Noise Disturbance to Waterbirds due to Construction*

Each of the elements of construction will result in noise which has the potential to disturb wildfowl and waterbirds in the Fal Estuary. It should be noted that there is no intertidal habitat adjacent to the docks and that the optimal feeding habitat is located many kilometres distant, near Truro. Noise associated with construction will include piling to construct the new cruise quay between the Queens and Northern Wharves. As noted in

Section 17.4.1, piling noise will affect receptors within Falmouth and Trefussis Beach. These locations do not provide suitable intertidal foraging areas for wildfowl and waterbirds, and therefore the impact to ornithology is considered to be negligible.

Mitigation and Residual Impact

No mitigation measures are recommended and there will be a negligible residual impact.

9.4.3 *Light Disturbance to Waterbirds due to Construction*

It is anticipated that the treatment of contaminated dredged material will be undertaken 24 hours a day, six days a week for up to 30 weeks. Night time operations will require lighting, which has the potential to disturb wildfowl and waterbirds in the Fal Estuary. However, the existing dock operations are currently 24 hours and lighting is common overnight, particularly when vessels are being repaired in the dry dock. Given the existing level of lighting within the docks estate, the lighting for construction will have a negligible impact on birds.

Mitigation and Residual Impact

No mitigation measures are recommended and there will be a negligible residual impact.

9.5 **POTENTIAL IMPACTS DURING THE OPERATIONAL PHASE**

9.5.1 *Disturbance to Feeding and Roosting Waterbirds due to Increased Shipping Activity*

Shipping activity can disturb birds, through noise generated by the vessels. The impact of ship-generated noise on human receptors is addressed in Section 17.5 and concluded that the only significant impact will be from the public address system on vessels, which could affect receptors in Falmouth and Trefussis Beach. These locations do not provide suitable intertidal foraging areas for waterbirds, therefore the impact to birds is considered to be negligible.

Mitigation and Residual Impact

No mitigation measures are recommended and there will be a negligible residual impact.