

Appendix 2 – Survey data and bird movement plots

Date: 05/12/2008

Surveyor: CB/KD

Low Tide: 14:23 2.3m

Start/Fin: 12:17 16:17

Weather: Rain, cloud, cold
Cloud: 3
Rain: 2
Visibility: 1
Temp: 4°C
Wind direction:
Strength:

Able activity details:

Piling: None.

Dredging: 13:00-16:17..

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 50%
Sector DT017: 0%
Sector DT018: 30%
Sector DT019: 0%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	Comments
13:00	DT017														1					
	DT018			45	16		1				6	1		1			1			
	DT019																			
	DT013														68					
14:00	DT017			1							1				1					
	DT018			48	54		1				4	1		1		1				
	DT019																			
	DT013														56					
15:00	DT017			1							3									
	DT018			52	58		5				2									
	DT019																			
	DT013														62					
16:00	DT017																			
	DT018			48	39	58	2				2	1				1				
	DT019																			
	DT013														57					

TERRC Facility
Bird Monitoring Results
Dec 5B 2008

Date: 06/12/2008	Weather: Clear, no rain
Surveyor: KD	Cloud: 1
Low Tide: 15:31 2.3m	Rain: 1
Start/Fin: 13:24 17:24	Visibility: 1
	Temp: 4°C
	Wind direction: W
	Strength: 2

Able activity details:	
Piling:	13:00-13:30 and 16:15-17:24.
Dredging:	13:24-15:00-17:24.

Bird activity details:	
14:10: 2 peregrines attacked flock of knot c .10 mins. One bird was singled out, killed and eaten.	
14:20/15:10: Peregrines flew to power station. All prey size birds disturbed (Category 2).	

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	
Sector DT017:	
Sector DT018:	
Sector DT019:	

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	Comments
14:00	DT017	5						200	15	20	2	2				20					
	DT018	2	4	60	200		40	40													
	DT019										2										
	DT013															200					
15:00	DT017	5			600	2000	20	150	15	32	2	4				25					
	DT018	18	4	70	1500	1000	35	50							1						
	DT019			3																	
	DT013															200					
16:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
17:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 07/12/2008

Surveyor: KD

Low Tide: 04:10 1.8m

Start/Fin: 02:02 06:02

Weather: Clear, no rain
Cloud: 1
Rain: 1
Visibility: 1
Temp: 4°C
Wind direction: SW
Strength: 1

Able activity details:

Piling: None.

Dredging: 02:02-04:00.

Bird activity details:

02:15 Grey heron flushed 3 redshank from DT017 (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:
Sector DT017:
Sector DT018:
Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	
03:00	DT017	1		1		15		11								5					
	DT018	2	1	25	250	50	5	6	4	3			1					50			
	DT019			1	5			1					2								
	DT013															28					
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 07/12/2008

Surveyor: KD

Low Tide: 16:41 2.2m

Start/Fin: 14:30 18:41

Weather:
Cloud: 2
Rain: 1
Visibility: 1
Temp: 4°C
Wind direction: S
Strength: 3

Able activity details:

Piling: 17:00-18:00.

Dredging: Dredger vessel stationary, workmen left at 15:20 in a small vessel.

Bird activity details:

150-200 gulls moved from south-west corner of Seal Sands towards the sea at 14:30.

~50 Redshank/ringed plover moved from south-east corner of seal sands.

Movement thought to be associated with rising tide at 19:00.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Cullew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	Comments
15:00	DT017	1		1		15		11							5						
	DT018	2	1	25	250	50	6	4	3					1			50				
	DT019																				
	DT013														28						
16:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
17:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
18:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 08/12/2008

Surveyor: KD

Low Tide: 05:15 1.6m

Start/Fin: 03:08 07:08

Weather:
Cloud:
Rain:
Visibility:
Temp:
Wind direction:
Strength:

Able activity details:

Piling: None.

Dredging: None.

Bird activity details:

1 grey heron flushed 5 redshank from DT017 at 06:59. Flew to DT013 (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:
Sector DT017:
Sector DT018:
Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	Comments
03:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 08/12/2008

Surveyor: CB

Low Tide: 17:45 2.0m

Start/Fin: 15:37 19:37

Weather: Clear, dry, calm

Cloud: 1

Rain: 1

Visibility: 1

Temp: 6.5°C

Wind direction:

Strength:

Able activity details:

Piling: 16:30-19:00.

Dredging: 16:50-19:37.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 50%

Sector DT017: 0%

Sector DT018: 30%

Sector DT019: 0%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	
16:00	DT017	2																	1	
	DT018	1		46	20	180	2		3		3				4					
	DT019		1																	
	DT013														25					
17:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
18:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
19:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 09/12/2008

Surveyor: DP

Low Tide: 06:15 1.5m

Start/Fin: 04:08 08:20

Weather:
Cloud: 1
Rain: 1
Visibility: 1
Temp: 1°C- -3°C
Wind direction: West
Strength: 1

Able activity details:

Piling: None.

Dredging: 04:15-04:20.

Other: Small vessel carrying workmen from quay to dredger sailed across channel 3 times.

Bird activity details:

No disturbance recorded. Several species heard calling throughout survey.
Large numbers of gulls moved west to DT017 from first light from another roost.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 50%
Sector DT018: 75%
Sector DT019: 50%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey Plover	Wigeon	Bar tailed godwit	Grey heron	Comments
05:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
06:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
07:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
08:00	DT017	3				150		4											1	
	DT018	7	39	16	12	32	38	40							14	2	64			
	DT019																			
	DT013	6	17		5		6								11	1	31			

Date: 09/12/2008

Surveyor: CB

Low Tide: 18:43 1.7m

Start/Fin: 16:37 20:37

Weather: Fine, clear, cold, slight breeze

Cloud: 1

Rain: 1

Visibility: 1

Temp: 2.5°C

Wind direction: NW

Strength: 2

Able activity details:

Piling: 17:15-18:37

Dredging: None.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 60%

Sector DT017: 50%

Sector DT018: 50%

Sector DT019: 30%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	Comments
17:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				
18:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				
19:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				
20:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				

Date: 10/12/2008

Surveyor: DP

Low Tide: 07:11 1.3m

Start/Fin: 05:05 09:25

Weather:
Cloud: 1
Rain: 1
Visibility: 1
Temp: 1°C-3°C
Wind direction: NW
Strength: 2

Able activity details:

Piling: 07:30-9:25.

Dredging: No dredging, although small vessel sailing out to dredger from 07:30-09:25.

Other: Machines working from 07:30, moved to quay 09:20.

Bird activity details:

Birds feeding on DT019 when piling started and no response.

Several species heard during darkness.

Large congregation of gulls roosting on DT017. Continuous movement of birds dispersing from 1st light.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 100%
Sector DT019: 75%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron	
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
08:00	DT017	58	29	150	300	9	44	25	15	3					21	8		1			
	DT018	18	110				28	110				2			52	17					
	DT019	2	4		250						3										
	DT013	7	58	2	4	1									98						

Date: 10/12/2008	Weather: Light rain, light winds
Surveyor: CB	Cloud: 3
Low Tide: 19:38 1.4m	Rain: 2
Start/Fin: 17:32 21:32	Visibility: 1
	Temp: 5.5°C
	Wind direction: N
	Strength: 2

Able activity details:

Piling: 17:32-17:45 and 17:58-18:35.

Dredging: None.

Other: Vessel movement from south bank of estuary to east side of power station (20:48).

Bird activity details:

Little grebe flushed by seal swimming in the sea.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:	90%
Sector DT017:	90%
Sector DT018:	100%
Sector DT019:	90%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Little grebe	Wigeon	Bar tailed godwit	Grey heron	Comments
18:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				
19:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				
20:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																			No count	
	DT018																				
	DT019																				
	DT013																				

Date: 11/12/2008

Surveyor: DP

Low Tide: 08:05 1.1m

Start/Fin: 06:11 10:25

Weather:
Cloud: 2
Rain: 1-3
Visibility: 1-3
Temp: 1°C-3°C
Wind direction: NW
Strength: 1

Able activity details:

Piling: 07:15-10:25.

Dredging: 08:00-10:25.

Bird activity details:

Survey vessel in channel on rising tide from 09:40. Flushed 2 red backed merganser west (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 90%
Sector DT019: 90%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlw	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
06:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
07:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
08:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
09:00	DT017	34	1	11	200	70	350	67	39	9	6		11	2		31	2	1		
	DT018	19	3	67	500	150	200	11	101		2	3	140	1	62	54		1	1	
	DT019	3		2	4	47		4			2									
	DT013	6		27	2		7	4			3				118	1				

Date: 11/12/2008

Surveyor: CB

Low Tide: 20:32 1.1m

Start/Fin: 18:31 22:31

Weather: Calm, clear, cold

Cloud: 1

Rain: 1

Visibility: 1

Temp: 2°C

Wind direction: None

Strength: None

Able activity details:

Piling: None.

Dredging: 18:37 - 22:31.
19:30: not operational for 5 minutes.

Bird activity details:

As the dredger vessel started again after stopping c.70 gulls took flight and landed c. 80 m away (Category 1).
1 oystercatcher flushed by grey heron flying close to it (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100% (poor visibility to south side)

Sector DT017: 100%

Sector DT018: 100%

Sector DT019: 100%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
19:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
20:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
22:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 12/12/2008

Surveyor: DP

Low Tide: 08:56 1.0m

Start/Fin: 06:51 10:51

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 1°C - 2°C
Wind direction: SW
Strength: 1 - 3

Able activity details:

Piling: 09:30-10:51.

Dredging: 07:45-10:51.

Other: Movements of small vessel between berth and dredger vessel.

Bird activity details:

Bait digger observed on east end of DT018. Flushed gulls and waders:
>50 wigeon flushed <200 m and returned (Category 1),
<10 oystercatcher, 6 redshank, 4 curlew and <60 gulls flushed >200 m and did not return (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																		
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit
07:00	DT017	48		9	62	40	18	127	37	1	2		28		19	6		
	DT018	16	1	60	247	109	86	23	6		2		3		242	52	1	10
	DT019	3		2	2	4		3			2							
08:00	DT013	6		26		2		7						36	2			
	DT017																	No count
	DT018																	
09:00	DT019																	
	DT013																	
	DT017																	No count
10:00	DT018																	
	DT019																	
	DT013																	

Date: 12/12/2008

Surveyor: CB

Low Tide: 21:24 0.9m

Start/Fin: 19:23 23:23

Weather: Windy, rainy, wet
Cloud: 3
Rain: 3
Visibility: 2
Temp: 6°C
Wind direction: SW
Strength: 3

Able activity details:

Piling: None.

Dredging: 19:40-22:58.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
20:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
22:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
23:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 13/12/2008

Surveyor: DP

Low Tide: 09:46 0.9m

Start/Fin: 07:45 12:05

Weather:
Cloud: 3
Rain: 3
Visibility: 1
Temp: 3°C
Wind direction: S
Strength: 3

Able activity details:

Piling: In operation intermittently.

Dredging: No dredging until after 08:00 (intermittent).

Other: 08:45-10:00 and 10:50-11:15 bait diggers on tideline.
09:50 person on tideline turning stones over in DT018.

Bird activity details:

No disturbance recorded.
Due to strong winds very few birds were using the mudflats.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Wigeon	
08:00		DT017	16		12	21	12	69	17	17		4	1		1		32		1		
		DT018	21	1	155	174	38	31	3	86		3	1				32		1	150	
		DT019	2				1		1												
		DT013	11		15		1									373					
09:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
10:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
11:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 13/12/2008

Surveyor: DP

Low Tide: 22:17 0.6m

Start/Fin: 20:15 00:15

Weather: Light rain throughout
Cloud: 3
Rain: 3
Visibility: 1
Temp: 3°C
Wind direction: SE
Strength: 3

Able activity details:

Piling: None.

Dredging: 20:15-21:30.

Other: Welding/ cutting on south side of berth above water.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																				
Time (split into hours)																				Comments
	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
21:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
22:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
23:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
00:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 14/12/2008

Surveyor: DP

Low Tide: 10:36 1.0m

Start/Fin: 08:30 12:36

Weather:
Cloud: 3
Rain: 1
Visibility: 2
Temp: 1°C - 3°C
Wind direction: SE
Strength: 2

Able activity details:

Piling: Continued intermittently.

Dredging: 08:30-12:30.

Other: Welding/cutting work above water on piles to south side of berth.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																				
Time (split into hours)		Sector																		
		Curlw																		
		Cormorant																		
		Oystercatcher																		
		Herring gull																		
		Black headed/common gull																		
		Great black backed gull																		
		Redshank																		
		Dunlin																		
		Ringed plover																		
		Red breasted merganser																		
		Eider																		
		Knot																		
		Turnstone																		
		Shelduck																		
		Grey plover																		
		Goldeneye																		
		Bar tailed godwit																		
		Wigeon																		
09:00	DT017	16		12	21	12	69	17	17		4	1		1		32		1		
	DT018	21	1	155	174	30	31	3	86		3	1				82		1	150	
	DT019	2				1		1												
	DT013	11		15		1								373						
10:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
11:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
12:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 14/12/2008

Surveyor: DP

Low Tide: 23:06 0.5m

Start/Fin: 21:06 01:06

Weather:
 Cloud: 3
 Rain: 1
 Visibility: 1
 Temp: 3°C
 Wind direction: Calm
 Strength: Calm

Able activity details:

Piling: Intermittently. Reduced later.

Dredging: Working off berth up to 23:00.

Other: Able service launch sailed from 21:45 until c. 22:10.
 Vessel operating off dredger 22:40.

Bird activity details:

Sailing activity flushed a large flock of roosting black headed gulls from mud in DT018 and feeding waders including curlew, oystercatcher and flock of gulls from sand bank in DT018.

All birds moved west in response (presumably into DT017) and did not return.
 (Category 2/3) disturbance event causing major disturbance and birds to leave.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
 Sector DT017: 100%
 Sector DT018: 100%
 Sector DT019: 100%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron	Comments
21:00	DT017	21		7	59	51	20	89	117	12	1			1	92	34		6		21 Grey seal
	DT018	5	1	30	254	21	115	15	3		2				40	65	200			Yellow legged gull
	DT019	1		1	5	4		7												
	DT013	12		117	9		34								310		16			
22:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
23:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
00:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 15/12/2008

Surveyor: CB

Low Tide: 11:25 1.1m

Start/Fin: 09:24 13:24

Weather: Calm, cold, fine, frosty

Cloud: 1

Rain: 1

Visibility: 1

Temp: 0.5°C

Wind direction:

Strength: 1

Able activity details:

Piling: 13:05-13:24.

Dredging: 09:40-11:00 after which dredger vessel is moored to the bank.
13:25 vessel left to deposit dredgings.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%

Sector DT017: 100%

Sector DT018: 100%

Sector DT019: 100%

Bird Census/ Estimates																						
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron		Comments
11:00	DT017	21		30	25	38	29	124	16	4	4	2				21	19	6				
	DT018	1	1	1	49	26	93															
	DT019		1	2	4			2														
	DT013															132						
12:00	DT017																					No count
	DT018																					
	DT019																					
	DT013																					
13:00	DT017																					No count
	DT018																					
	DT019																					
	DT013																					
14:00	DT017																					No count
	DT018																					
	DT019																					
	DT013																					

Date:	15/12/2008
Surveyor:	DP
Low Tide:	23:56 0.5m
Start/Fin:	21:56 01:45

Weather:	
Cloud:	3
Rain:	1
Visibility:	1
Temp:	3°C
Wind direction:	SW
Strength:	3

Able activity details:	
Piling:	No apparent works from start of survey.
Dredging:	Works in mid channel. From start of survey, dredging ceased.
Other:	Able service launch out to dredger and back from berth 22:09. Welding/Cutting: Intermittently.

Bird activity details:	
Local displacement caused by otter running north-west DT017 22:37 (Category 1).	
Fox roaming west along tideline of DT017 at 01:25 caused minor disruption to feeding birds (Category 2).	
Feeding curlew - alarm calls nearby fox. Flew short distance - continued anxiety calls.	

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	100%
Sector DT017:	100%
Sector DT018:	100%
Sector DT019:	100%

Bird Census/ Estimates																						
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron		Comments
22:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
23:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
00:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
01:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					

Date: 16/12/2008

Surveyor: CB

Low Tide: 12:13 1.3m

Start/Fin: 10:12 14:12

Weather: Sunny and windy

Cloud: 2

Rain: 1

Visibility: 1

Temp: 6.5°C

Wind direction: SW

Strength: 3

Able activity details:

Piling: None.

Dredging: 10:12-11:35 and 11:55-14:12.

Other: Short period of welding and cutting near water's edge

Bird activity details:

Oystercatcher chased by herring gull which wanted food that it had collected (Category 1).

Curlew chased another curlew away (Category 1).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%

Sector DT017: 100%

Sector DT018: 100%

Sector DT019: 100%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
11:00	DT017	28		9	26	52	16	78	30	18					16	13				
	DT018	3	3	5	47	68	81	5			5	2								
	DT019			1		3														
	DT013														84					
12:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
13:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 17/12/2008

Surveyor: DP

Low Tide: 00:49 0.6m

Start/Fin: 22:47 02:35

Weather:
Cloud: 1-3
Rain: 1
Visibility: 1
Temp: 3°C
Wind direction: SW
Strength: 3

Able activity details:

Piling: None.

Dredging: Works in operation off berth.

Other: Cutting/welding taking place on berth.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
23:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
00:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
01:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
02:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 17/12/2008

Surveyor: CB

Low Tide: 13:02 1.5m

Start/Fin: 11:01 15:01

Weather: Sunny, slight breeze, cold wind
Cloud: 1
Rain: 1
Visibility: 1
Temp: 4.5°C
Wind direction: SW
Strength: 2

Able activity details:

Piling: None.

Dredging: 11:01-12:05 and 13:05-14:40.
Small vessel sailing near dredger on several occasions.

Other: Digger moving rubble near VP.

Bird activity details:

2 cormorants flushed approximately 180 m by small vessel (Category 1).
They returned to an area in close proximity to original position.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 40-50%
Sector DT018: 40-50%
Sector DT019: 40-50%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Culwew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron	Comments
12:00	DT017	29		3	10	14	9	77	43	14		1			11	24	35			
	DT018	7	5	26	18	49	63	14			2	1					60			
	DT019		1			6	2													
13:00	DT013													95						
	DT017																			No count
	DT018																			
14:00	DT019																			
	DT013																			
	DT017																			No count
15:00	DT018																			
	DT019																			
	DT013																			

Date: 18/12/2008

Surveyor: DP

Low Tide: 01:41 0.8m

Start/Fin: 23:39 03:30

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 6°C-8°C
Wind direction: W
Strength: 3

Able activity details:

Piling: None.

Dredging: Works from 23:30.
Cork Sands vessel sailed west into Seaton Channel 23:20
and moored off berth by dredger vessel.

Bird activity details:

Otter on sandbank of DT018 and in water channel from 01:24 - 01:28.
Caused minor disruption of gulls. Birds returned after 01:30 (Category 1).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 100%
Sector DT019: 100%

Bird Census/ Estimates																						
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron		Comments
00:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
01:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
02:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
03:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					

Date: 18/12/2008

Surveyor: CB

Low Tide: 13:52 1.7m

Start/Fin: 11:52 15:52

Weather: Cloudy, windy, quite mild

Cloud: 3

Rain: 1

Visibility: 1

Temp: 11°C

Wind direction: SW

Strength: 3

Able activity details:

Piling: 11:55 onwards for limited periods.

Dredging: 12:07-15:52.

Vessel active in water channel in DT018 and DT019 for part of survey period.

Other: Welding/ cutting near water's edge by berth.

Bird activity details:

12:20 - jogger running along sector DT017 flushed 17 redshank, 1 curlew and 3 herring gulls >200m (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 80-90%

Sector DT017: 25-30%

Sector DT018: 25-30%

Sector DT019: 25-30%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron	Comments
12:00	DT017	60		4	8	13	2	37		42					3	5	89			
	DT018	5	7	10	12	17	6	4			2	3								
	DT019				5	7														
	DT013													65						
13:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date:	19/12/2008	Weather:	
Surveyor:	DP	Cloud:	2-1
Low Tide:	02:35 1.1m	Rain:	1
Start/Fin:	00:34 04:00	Visibility:	1
		Temp:	3°C
		Wind direction:	NW
		Strength:	1

Able activity details:	
Piling:	None .
Dredging:	Moored off basin. Limited activity.
Other activity: Two bait diggers present from 00:34.	

Bird activity details:	
Otter activity recorded.	
Fox flushed ringed plover off grassed area approx 50m. No return (Category 1).	
Fox seen on water's edge 02:49 flushed ringed plover off exposed mud approx 200m. No return (Category 1).	

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	100%
Sector DT017:	75%
Sector DT018:	75%
Sector DT019:	75%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
01:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
02:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
03:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
04:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 19/12/2008

Surveyor: DP

Low Tide: 14:48

Start/Fin: 12:48 16:30

Weather:
Cloud: 3
Rain: 1
Visibility: 1-3
Temp: 3°C
Wind direction: SW
Strength: 3

Able activity details:

Piling: None.

Dredging: None.
Reduced works possibly due to wind speed.

Other: Crane activity on berth, and welding/ cutting on berth.

Other: Tees Port vessel into Seaton Channel from 14:00.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 75%
Sector DT019: < 50%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
13:00	DT017	19		14	25	50		35	20						11	14				
	DT018	21	4	112	313	31	11	4	51			1	70	2	31	53				1 YL gull, 40 wigeon
	DT019	1		5	3															1 YL gull
	DT013	18		59	3	4							415	2	208	1				
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
16:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 20/12/2008

Surveyor: DP

Low Tide: 03:33 2.2m

Start/Fin: 01:33 05:15

Weather:
Cloud: 1-3
Rain: 1
Visibility: 1
Temp: 6°C
Wind direction: W
Strength: 3

Able activity details:

Piling: None.

Dredging: None.

Other: Some welding/cutting works.

Bird activity details:

Otter moved onto mud of DT017 at 02:58 then into water.

No disturbance observed.

Anxiety calling from curlew.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%

Sector DT017: 75%

Sector DT018: 50%

Sector DT019: 50%

Bird Census/ Estimates																						
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron		Comments
02:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
03:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
04:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					
05:00	DT017																				No count	
	DT018																					
	DT019																					
	DT013																					

Date: 20/12/2008

Surveyor: DP

Low Tide: 15:50 2.6m

Start/Fin: 13:50 17:50

Weather:
Cloud: 3
Rain: 1
Visibility: 2
Temp: 8°C
Wind direction: SW
Strength: 2

Able activity details:

Piling: None.

Dredging: None.

Other: Welding from 15:00 on structure south of berth.
Large steel structure lowered onto berth from start of survey by tallest crane.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 75%
Sector DT017: 10%
Sector DT018: 50%
Sector DT019: 0%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron	
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017	2				12									2					
	DT018	4		110	130	500	40	31	15			1	200		12	9				
	DT019																			
	DT013	20		102	300	150	60	21	15						66	3	500	2		
16:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
17:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 21/12/2008

Surveyor: RA

Low Tide: 04:36

Start/Fin: 02:36 06:36

Weather:

Cloud: 2

Rain: 1

Visibility: 1

Temp: 10°C

Wind direction: SW

Strength: 2

Able activity details:

Piling: None.

Dredging: Continuous interspersed with vessel maintenance.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%

Sector DT017: 100%

Sector DT018: 15%

Sector DT019: 5%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culwew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
03:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 21/12/2008

Surveyor: RA

Low Tide: 16:59

Start/Fin: 14:59 18:59

Weather:
Cloud: 2
Rain: 3/2
Visibility: 1
Temp: 12°C
Wind direction: SW
Strength: 3

Able activity details:

Piling: None.

Dredging: Continuous near entrance to basin.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 15%
Sector DT019: 5%

Bird Census/ Estimates																						
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed/common gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron		Comments
15:00	DT017		3		1										1							
	DT018											8										
	DT019		2		3				6													
	DT013														40							
16:00	DT017																					No count
	DT018																					
	DT019																					
	DT013																					
17:00	DT017																					No count
	DT018																					
	DT019																					
	DT013																					
18:00	DT017																					No count
	DT018																					
	DT019																					
	DT013																					

Date: 22/12/2008

Surveyor: JA

Low Tide: 05:43 1.6m

Start/Fin: 03:43 07:43

Weather: Dry, cloudy
Cloud: 2
Rain: 1
Visibility: 2
Temp: 6°C
Wind direction: NW
Strength: 1

Able activity details:

Piling: None.

Dredging: Ongoing from 03:43.
Stopped c. 05:00. Then 07:15-07:43.

Bird activity details:

Occasional movements of small numbers of birds in/around sectors throughout monitoring period.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 95%
Sector DT017: 50%
Sector DT018: 50%
Sector DT019: 50%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 22/12/2008	Weather:
Surveyor: RA	Cloud: 1
Low Tide: 18:09	Rain: 1
Start/Fin: 16:09 20:09	Visibility: 1
	Temp: 9°C
	Wind direction: SW
	Strength: 1

Able activity details:
Piling: None.
Dredging: From 16:09-17:09. Then restarted at 19:20-20:09.
Other: Aircraft activity.

Bird activity details:
17:39: Birds (including redshank, curlew and gulls) flushed by low flying plane then re-settled (Category 1).
17:49 1000+ black headed gulls took flight and headed up-river where large numbers feeding on mudflats (not thought to be due to disturbance).

Proportion of mudflats visible per sector (% of each mudflat per sector):
Sector DT013: 0%
Sector DT017: 0%
Sector DT018: 0%
Sector DT019: 0%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
17:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
18:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
19:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
20:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 23/12/2008

Surveyor: CQ

Low Tide: 06:45

Start/Fin: 04:45 08:45

Weather: Clear
Cloud: 1
Rain: 1
Visibility: 1
Temp: 6°C
Wind direction: 2
Strength: 1

Able activity details:

Piling: None.

Dredging: None.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017		1		1	80		30	35												
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
08:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 23/12/2008

Surveyor: CQ

Low Tide: 19:11

Start/Fin: 17:11 21:11

Weather: Clear
Cloud: 1
Rain: 1
Visibility: 2
Temp: 6°C
Wind direction:
Strength: 1

Able activity details:

Piling: 19:40-21:11.

Dredging: None.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
18:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
19:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
20:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 24/12/2008

Surveyor: CQ

Low Tide: 07:36

Start/Fin: 05:36 09:36

Weather: Clear
Cloud: 3
Rain: 1
Visibility: 2
Temp: 1°C
Wind direction:
Strength: 1

Able activity details:

Piling: None.

Dredging: 06:18-09:36.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																							
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron		Comments	
06:00	DT017																				No count		
	DT018																						
	DT019																						
	DT013																						
07:00	DT017																						
	DT018		3					50								5							
	DT019																						
	DT013																						
08:00	DT017																					No count	
	DT018																						
	DT019																						
	DT013																						
09:00	DT017																					No count	
	DT018																						
	DT019																						
	DT013																						

Date: 24/12/2008

Surveyor: CQ

Low Tide: 20:01

Start/Fin: 18:01 22:01

Weather: Cool, clear
Cloud: 3
Rain: 1
Visibility: 2
Temp: 4°C
Wind direction:
Strength: 1

Able activity details:

Piling: None.

Dredging: 18:01-22:01.

Bird activity details:

No disturbance observed.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
19:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
20:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
22:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 25/12/2008

Surveyor: CQ

Low Tide: 08:18

Start/Fin: 06:18 10:18

Weather: Foggy
Cloud: 3
Rain: 1
Visibility: 3
Temp: 1°C
Wind direction:
Strength: 1

Able activity details:

Piling: None.

Dredging: 06:18-10:18.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
08:00	DT017																				
	DT018		1		1	20			40							5					
	DT019																				
	DT013																				
09:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
10:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 25/12/2008

Surveyor: CQ

Low Tide: 20:43

Start/Fin: 18:43 22:43

Weather: Cold
Cloud: 3
Rain: 1
Visibility: 3
Temp: 1°C
Wind direction:
Strength: 1

Able activity details:

Piling: None.

Dredging: 18:43-22:43.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culwew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
19:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
20:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
22:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 26/12/2008

Surveyor: CQ

Low Tide: 08:55

Start/Fin: 06:55 10:55

Weather: Poor
Cloud: 3
Rain: 2
Visibility: 3
Temp: 4°C
Wind direction:
Strength: 2

Able activity details:

Piling: None.

Dredging: 07:30-10:55.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
08:00	DT017	4			20		4		40						6						
	DT018															6					
	DT019																				
	DT013																				
09:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
10:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 26/12/2008

Surveyor: CQ

Low Tide: 21:22

Start/Fin: 19:22 23:22

Weather: OK
Cloud: 3
Rain: 1
Visibility: 3
Temp: 0°C
Wind direction:
Strength: 1

Able activity details:

Piling: None.

Dredging: 19:30-23:21.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culwew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
20:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
21:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
22:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
23:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 27/12/2008

Surveyor: DP

Low Tide: 09:32 1.6

Start/Fin: 07:32 11:32

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 1°C-3°C
Wind direction: E
Strength: 3

Able activity details:

Piling: None.

Dredging: Activity off berth.

09:30: Cork Sands vessel and dredging platform moved out into channel.

09:50: Returned to berth (No disturbance).

Bird activity details:

Grey seal surfaced and flushed 2 red breasted mergansers <100 m (Category 1).

07:30: Gull roost dispersed gradually possibly to nearby landfill sites.

Local feeding movements observed of gulls and waders plus wildfowl.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%

Sector DT017: <75%

Sector DT018: <75%

Sector DT019: <75%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Teal	
08:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
09:00	DT017	50		3	52	25	92	62	158	9	2			1	52	28			5	
	DT018	22	1	143	89	83	171	17			3				9	11	89	2		
	DT019	3		3	4	14	2	7												
	DT013	55		119				4						124						
10:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
11:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 27/12/2008

Surveyor: RA

Low Tide: 22:00

Start/Fin: 20:00 00:05

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 0°C
Wind direction: N
Strength: 3

Able activity details:

Piling: None.

Dredging: 20:00-21:00.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 15%
Sector DT019: 5%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 27/12/2008

Surveyor: CQ

Low Tide: 10:05

Start/Fin: 08:05 12:05

Weather: Poor
Cloud: 3
Rain: 3
Visibility: 2
Temp: 2°C
Wind direction:
Strength: 1

Able activity details:

Piling: None.

Dredging: 08:14-12:05.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:

Sector DT017:

Sector DT018:

Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
	DT017		2		1	20		2								7					
	DT018																				
	DT019																				
	DT013																				
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 28/12/2008

Surveyor: RA

Low Tide: 22:35

Start/Fin: 20:35 00:35

Weather:
Cloud: 3
Rain: 2
Visibility: 1
Temp: 5
Wind direction: SE
Strength: 3

Able activity details:

Piling: None.

Dredging: 20:35-00:35.

Bird activity details:

23:20: 200 black headed gulls arrived just after low tide. They took flight and re-landed - reason unknown (not thought to be due to disturbance).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 15%
Sector DT019: 5%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
20:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
21:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
22:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
23:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date:	29/12/2008	Weather:	
Surveyor:	DP	Cloud:	1-3
Low Tide:	10:39 1.5m	Rain:	1
Start/Fin:	08:30 12:39	Visibility:	1
		Temp:	3°C
		Wind direction:	SE
		Strength:	2-3

Able activity details:	
Piling:	None.
Dredging:	Cork Sands vessel and dredging platform in channel. Ceased operations at 08:30 and moved into basin and commenced dredging. 10:00 - 10:30: small Able vessel sailed east-west transects.
Other:	10:25 - 10:40: PDTEESPORT vessel sailed into channel from Seaton River channel. Bait digger on far east of mussel bed just outside DT018.

Bird activity details:	
11:15: Peregrine caused flock of 150+ wigeon to be flushed and leave site (Category 3) and feeding waders and gulls in DT018 AND DT013 to be displaced (Category 2). 14 birds flushed from DT018 by bait digger (Category 1).	

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	100%
Sector DT017:	75%
Sector DT018:	75%
Sector DT019:	75%

Bird Census/ Estimates																					
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Common gull	Turnstone	Shelduck	Grey plover	Mallard	Bar tailed godwit	Wigeon	Grey heron	
09:00	DT017	31		31	4	17	21	79	87	7	4		9		41	30	2	1			
	DT018	12	1	85	39	20	41	18		44			9	1		44			150		
	DT019	2		3	3			7													
	DT013	13		45											87						
10:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
11:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
12:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 29/12/2008

Surveyor: DP

Low Tide: 23:09 1.2m

Start/Fin: 21:09 01:09

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 1°C
Wind direction: SW
Strength: 3

Able activity details:

Piling: None.

Dredging: Dredging platform in channel at start of survey.
21:10: Cork Sands vessel sailed into channel and joined dredging platform.
21:30: Dredging commenced.

Bird activity details:

Massive gull roost on DT017. Some minor disturbance probably caused by grey seals.
21:20: Increase in anxiety calls by curlews.
21:24: Otter swimming along creek towards culvert. Moved onto seaweed rock bank.
22:08 and 23:54: Otter on tideline of DT017 and swimming in creek. Caused anxiety to curlews.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 75%
Sector DT019: 75%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
10:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
11:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
12:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
13:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 30/12/2008

Surveyor: DP

Low Tide: 11:14 1.5m

Start/Fin: 09:14 13:14

Weather:
Cloud: 3
Rain: 1
Visibility: 1-2
Temp: 3°C
Wind direction: SW
Strength: 2

Able activity details:

Piling: None.

Dredging: Off berth from 09:14-13:14.

Other: 09:14 - 10:45: Smal vessel sailing east-west transects in mid channel DT017.

Bird activity details:

09:18: 3 red breasted mergansers flushed off basin by Able boat. Flew to W area of DT017.
Gradually moved back to channel (Category 1).

Movement of other birds mostly related to feeding movements.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 75%
Sector DT019: 75%

Bird Census/ Estimates																					
Time (spilt into hours)		Sector	Curlw	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Common gull	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Teal	Comments
10:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
11:00	DT017	36		6	11	20	14	41	28	19	8	1	4	1	12	24		3	8		
	DT018	16	1	84	68	17	49	29	7		8	1	6		12	34	60				
	DT019	2		4	11		1	8													
	DT013	7		77				7							180						
12:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
13:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 30/12/2008

Surveyor: RA

Low Tide: 23:44

Start/Fin: 21:34 01:34

Weather:
Cloud: 3
Rain: 3
Visibility: 1-2
Temp:
Wind direction: Varied
Strength: 1

Able activity details:

Piling: None.

Dredging: 21:34-22:04 and 23:32-01:34.

Bird activity details:

23:32: c. 250 herring gull were disturbed and circled though returned within 200m due to dredging (Category 1).
Curlews calling as a result of seal activity in area which may have disturbed gulls.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 20%
Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
22:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
23:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
00:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
01:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 31/12/2008

Surveyor: RA

Low Tide: 11:49

Start/Fin: 09:49 13:49

Weather:
Cloud: 3
Rain: 3
Visibility: 1
Temp: 0°C
Wind direction: W
Strength: 2

Able activity details:

Piling: 09:49-13:49.

Dredging: 10:44-13:49.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 20%
Sector DT019: 10%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
10:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
11:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
12:00		DT017	22		8	15	2	1	41	28						23					
		DT018	7	6	118	51		11	17										12		
		DT019																			
		DT013														18					
13:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 01/01/2009

Surveyor: RA

Low Tide: 12:25 1.6m

Start/Fin: 10:25 14:25

Weather:
Cloud: 3
Rain: 3
Visibility: 1-2
Temp: 0°C
Wind direction: W
Strength: 2

Able activity details:

Piling: None.

Dredging: 10:25-14:25.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 40%
Sector DT019: 30%

Bird Census/ Estimates																							
Time (spilt into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron		Comments	
10:25	DT017																				No count		
	DT018																						
	DT019																						
	DT013																						
11:25	DT017		5			8	2		14							14							
	DT018				36	130		92	5			2						95					
	DT019		1		1	1	6		5														
	DT013															181							
12:25	DT017																				No count		
	DT018																						
	DT019																						
	DT013																						
	DT017																				No count		
	DT018																						
	DT019																						
	DT013																						

Date: 02/01/2009

Surveyor: RA

Low Tide: 00:54 1.3m

Start/Fin: 22:40 02:40

Weather:
Cloud: 3
Rain: 2
Visibility: 2
Temp: 1°C
Wind direction: 0
Strength: 0

Able activity details:

Piling: None.

Dredging: 22:40-02:40.

Bird activity details:

No disturbance recorded.

One large flock of gulls (several hundred) arrived at low tide and left after 15 mins.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 25%
Sector DT019: 10%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
23:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
00:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
01:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date:	02/01/2009	Weather:	
Surveyor:	DP	Cloud:	2
Low Tide:	13:03 1.8m	Rain:	1
Start/Fin:	11:03 15:03	Visibility:	1
		Temp:	3°C
		Wind direction:	E
		Strength:	2

Able activity details:	
Piling:	None.
Dredging:	In channel towards eastern end of berth. 14:30: Vessel 'Marlin' moved from west end of quay into channel. Small vessel operating between berth and dredger.
Other:	12:00-14:00: Three bait diggers on tideline DT019.

Bird activity details:	
11:04:	Peregrine flushed small numbers of waders on DT018 (Category 1).
12:22:	Large group of waders flushed East by herring gull chasing curlew for food (Category 3).
13:24:	Peregrine flew over DT018 flushed knot, dunlin, oystercatcher and redshank (Category 1).

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	100%
Sector DT017:	75%
Sector DT018:	75%
Sector DT019:	75%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Wigeon	Knot	Turnstone	Shelduck	Grey plover	Mute swan	Bar tailed godwit	Grey heron	Comments
12:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
13:00	DT017	31		17	3	8	1	64	94	10		6	432	5	8	50	1			
	DT018	8	2	137	36	5	12	28	350		5	150	506	1	17	89		6		
	DT019			2																
	DT013	18		97			36	4				4			392					
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 03/01/2009

Surveyor: RA

Low Tide: 01:34 1.4m

Start/Fin: 11:47 03:47

Weather:
Cloud: 3
Rain: 1
Visibility: 1-2
Temp: 3°C
Wind direction:
Strength:

Able activity details:

Piling: None

Dredging: 11:47-03:47.

Bird activity details:

12:01 Curlew alarm at otter.
Lots of seal activity on spit. Few birds.
200 - 300 gulls at low tide on spit edge of DT018.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:
Sector DT017:
Sector DT018:
Sector DT019:

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
00:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
01:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
02:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
03:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 03/01/2009

Surveyor: DP

Low Tide: 13:46 1.9m

Start/Fin: 11:46 15:46

Weather:
Cloud: 1-2
Rain: 1
Visibility: 1
Temp: 3°C-1°C
Wind direction: NW
Strength: 3

Able activity details:

Piling: None.

Dredging: 11:46-15:46.
14:30: moved position just off berth.

Other: 13:00-15:00: Bait digger on tideline/ rock bank.

Bird activity details:

Bait digger flushed 2 curlew and 1 herring gull >200 m to DT018 (Category 2).
Many local feeding movements by waders and gulls.
Herring gulls chasing oystercatchers frequently for food.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: <50%
Sector DT018: <50%
Sector DT019: <50%

Bird Census/ Estimates																				
Time (spilt into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Knot	Turnstone	Shelduck	Grey plover	Common gull	Bar tailed godwit	Wigeon	Comments
12:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
13:00	DT017	27	1	17	31	342	19	38		3	3	1		1	17		7	3		
	DT018	19		52	245	25	21	9	38		1		81	1	34	26	17		180	
	DT019	2		3	1	9		5												
	DT013	29		84	32	11	21	6							342	1	6			
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 04/01/2009

Surveyor: RA

Low Tide: 02:21 1.5m

Start/Fin: 00:20 04:30

Weather:
Cloud:
Rain:
Visibility:
Temp:
Wind direction:
Strength:

Able activity details:

Piling: None.

Dredging: 00:20-04:30.

Bird activity details:

No disturbance observed.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 20%
Sector DT019: 10%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
01:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
02:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
03:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 04/01/2009

Surveyor: DP

Low Tide: 14:37 2.0m

Start/Fin: 12:37 16:37

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 3°C - - 1°C
Wind direction: NW
Strength: 2

Able activity details:
Piling: None.
Dredging: 12:37-16:37.
Vessel 'Marlin' left berth prior to survey.
Cork Sands vessel arrived at berth prior to survey.
Other: Five people on far west bank.

Bird activity details:
Prior to survey 2 peregrines flew over DT013 and DT018. Minor disturbance only.
People flushed flock of curlew roosting on mud into DT018 (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):
Sector DT013: 100%
Sector DT017: <50%
Sector DT018: <50%
Sector DT019: <50%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Common Gull	Bar tailed godwit	Wigeon	Comments
13:00	DT017	36	1	3	7	264	4	61	63	1	3		11	5	17	3				
	DT018	10	1	99	96	47	6	21	82		2	1	9	1		23	8	3	6	
	DT019	2		4		5		1												
	DT013	114		112	9	1									351	2			241	
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
16:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 05/01/2009

Surveyor: RA

Low Tide: 03:15 1.6m

Start/Fin: 01:15 05:15

Weather:
Cloud: 1
Rain: 3
Visibility: 1
Temp: 4°C
Wind direction: E
Strength: 5

Able activity details:

Piling: None.

Dredging: 01:15-05:15.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 100%
Sector DT018: 15%
Sector DT019: 10%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 05/01/2009

Surveyor: CB

Low Tide: 15:41 2.1m

Start/Fin: 13:41 17:41

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 4°C
Wind direction: E
Strength: 2

Able activity details:

Piling: 13:41-14:20 and 15:20-15:45 and 17:20-17:41.

Dredging: 13:41-16:15.

Other: Welding/cutting on land on bank near dredge. Small Able vessel active around dredger.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 75%
Sector DT017: 20%
Sector DT018: 25%
Sector DT019: 10%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culw	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
14:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
15:00	DT017	38		5	94	217	33	28	50				2			19	14				
	DT018	7	4	11	168	67	115	6	13					125							
	DT019			3																	
	DT013															71					
16:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
17:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 06/01/2009

Surveyor: CB

Low Tide: 04:21 1.7m

Start/Fin: 02:12 06:21

Weather:
Cloud: 1
Rain: 1
Visibility: 2
Temp: 0°C
Wind direction: E
Strength: 1

Able activity details:

Piling: None.

Dredging: 06:15-06:21.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 90%
Sector DT017: 50%
Sector DT018: 50%
Sector DT019: 20%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
03:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 06/01/2009

Surveyor: DP

Low Tide: 16:54 2.1m

Start/Fin: 14:54 18:54

Weather:
Cloud: 3
Rain: 1-2
Visibility: 1
Temp: 1°C-3°C
Wind direction: NW
Strength: 2

Able activity details:

Piling: 18:00-18:09 limited activity.

Dredging: Activity off berth.

Other: Welding/ cutting operations.

UKD 'Marlin' vessel sailed into channel as survey finished.

Bird activity details:

Gull roost forming from start of survey with birds arriving mainly from the west. Occasional movements.
Between 17:50 and 18:15 gulls left eastwards possibly due to rising tide.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: <50%
Sector DT018: <50%
Sector DT019: <50%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
15:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
16:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
17:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
18:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 07/01/2009

Surveyor: CB

Low Tide: 05:32 1.7m

Start/Fin: 03:32 07:32

Weather:
Cloud: 3
Rain: 1-2
Visibility: 2
Temp: 2.5°C
Wind direction: W
Strength: 1

Able activity details:

Piling: None.

Dredging: 03:32-05:40 and 04:00-04:20.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 60-70%
Sector DT017: 50%
Sector DT018: 40%
Sector DT019: 20%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 07/01/2009

Surveyor: DP

Low Tide: 18:08 1.9m

Start/Fin: 16:08 20:08

Weather:
Cloud:
Rain:
Visibility:
Temp:
Wind direction:
Strength:

Able activity details:

Piling: At west end of berth.

Dredging: Activity off berth.

Other: Cutting and welding operations on berth.

19:35-end: Small Able vessel sailing transects in channel. End of survey: 'Marlin' sailed into channel.

Bird activity details:

No disturbance observed.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 50%
Sector DT018: 50%
Sector DT019: 50%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
17:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
18:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
19:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
20:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 08/01/2009	Weather:
Surveyor: CB	Cloud: 3
Low Tide: 06:43 1.6m	Rain: 1
Start/Fin: 04:43 08:43	Visibility: 2
	Temp: 2°C
	Wind direction: SW
	Strength: 1

Able activity details:
Piling: 04:50-05:15 and 05:40-06:15 and 07:45-08:43.
Dredging: None.

Bird activity details:
Disturbance to 50 gulls caused by grey seal (Category 2).
1 curlew chased another curlew from sector DT017 to DT018 (Category 1).
2 curlew chased by great black backed gull from DT018 to DT017 (>200m) (Category 2).
Approximately 150 gulls flushed by 2 carrion crows. Majority left survey area (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):
Sector DT013: 100%
Sector DT017: 70%
Sector DT018: 70%
Sector DT019: 70%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Little grebe	Bar tailed godwit	Grey heron	
04:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
05:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
06:00	DT017	22		10	49	290	26	19	7	16	4			1	73	31				
	DT018	5	1	29	104	17	39	16	68			4		2	24					
	DT019	2				77														
	DT013													39						
07:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 08/01/2009

Surveyor: DP

Low Tide: 19:17 1.6m

Start/Fin: 17:17 21:17

Weather:
Cloud: 1-3
Rain: 1
Visibility: 1
Temp: 1°C
Wind direction: NW
Strength: 2

Able activity details:

Piling: Intermittent piling activity until 18:30.

Dredging: Off berth throughout survey.
18:30: Cork Sands vessel and dredging platform moved position to west end of berth.

Other: Cutting/welding operations.

Bird activity details:

19:24: 75% of gull roost moved east, leaving in small numbers (not thought to be due to disturbance).

19:50: Further large groups of gulls left roost areas and moved east (no disturbance).

20:08: Further large groups of gulls left roost to the east. Small numbers remained (no disturbance).

20:53-21:00 small groups of gulls leaving east (no disturbance) Note: Seal activity during survey.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: >50%
Sector DT018: >50%
Sector DT019: >50%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Cullew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
04:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
05:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
06:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
07:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 09/01/2009

Surveyor: CB

Low Tide: 07:49 1.4m

Start/Fin: 05:49 09:49

Weather:
Cloud: 1
Rain: 1
Visibility: 1
Temp: -1°C
Wind direction: SW
Strength: 1

Able activity details:

Piling: 08:25-08:45 by entrance of basin.

Dredging: 05:40-06:15 and 07:40-09:49.

Other: Welding and cutting on berth.

Bird activity details:

Disturbance activities below caused by piling activity:

08:25: 490 gulls disturbed >200m and left survey area when piling started (Category 3).

08:25: 1 eider disturbed >200m but remained in survey area (Category 2).

08:25: 12 red breasted merganser disturbed >200m but remained in the survey area (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 75%
Sector DT019: 75%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culw	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Little grebe	Bar tailed godwit	Grey heron	Comments
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
08:00	DT017	35		13	44	174	29	107		18	12					79		1			
	DT018	15		19	330	49	160	11	42			1									
	DT019	1		1		17		3													
	DT013															22					
09:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 09/01/2009

Surveyor: DP

Low Tide: 20:22 1.2m

Start/Fin: 18:22 22:22

Weather:
Cloud: 3-1
Rain: 1
Visibility: 1
Temp: 1°C--3°C
Wind direction: W
Strength: 1-3

Able activity details:

Piling: None.

Dredging: 19:30-19:50: Cork Sands vessel changed position after which dredging commenced.

Other: 18:30 and intermittently: Able vessel active off berth.

Bird activity details:

20:12 and 20:20: Massive movement east of gulls leaving roosting areas.

20:30-20:40, 21:00, 21:20, 22:00: subsequent departure of groups of gulls, much interchanging.

Reasons unknown though increase in wind speed and decrease in temp may be a factor.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%

Sector DT017: 75%

Sector DT018: 75%

Sector DT019: 75%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culwew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
19:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
20:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
21:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
22:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 10/01/2009

Surveyor: DP

Low Tide: 08:48 1.2m

Start/Fin: 06:48 10:48

Weather:
Cloud: 1-3
Rain: 1
Visibility: 1
Temp: -3°C
Wind direction: W
Strength: 2

Able activity details:

Piling: None.

Dredging: 07:30-10:48.

Other: Small Able vessel off berth intermittently.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 75%
Sector DT019: 75%

Bird Census/ Estimates																					
Time (spilt into hours)		Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Wigeon	Comments
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
08:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
09:00	DT017	48		3				46	279	4						39	8				
	DT018	9		97				43	8		1		179			19	55		2	200	
	DT019			5				12													
	DT013	3		31				6								86	4				
10:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 10/01/2009	Weather:
Surveyor: DP	Cloud: 3
Low Tide: 21:20 0.8m	Rain: 1
Start/Fin: 19:20 23:20	Visibility: 1
	Temp: 3°C
	Wind direction: SW
	Strength: 3

Able activity details:	
Piling:	None.
Dredging: Commenced just after start of survey until 22:55. Cork Sands vessel left berth at end of survey period (23:21).	

Bird activity details:	
Large gathering of gulls on sandbank of DT018. 20:41: flock lifted, not thought to be due to disturbance. Several groups left north.	

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	100%
Sector DT017:	75%
Sector DT018:	75%
Sector DT019:	75%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Comorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 11/01/2009

Surveyor: DP

Low Tide: 09:41 1.1m

Start/Fin: 07:41 11:41

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 4°C-3°C
Wind direction: SW
Strength: 3

Able activity details:

Piling: 08:45 intermittently.

Dredging: 07:41-11:41.

Other: Welding and cutting on berth.

Other: Vessel MSV Wilton sailed into channel (11.25).

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 75%
Sector DT018: 75%
Sector DT019: 75%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
08:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
09:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
10:00	DT017	26		5	41	39	21	17	126	6	1			1	25	17		2		
	DT018	11	1	147	509	301	86	7			1		11		12	53				
	DT019	2		5	13	5		2												
	DT013	16		31	17	15	4	4						459	1					
11:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

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Date: 12/01/2009

Surveyor: CB

Low Tide: 10:30 1m

Start/Fin: 08:30 12:30

Weather:
Cloud: 3
Rain: 1
Visibility: 2
Temp: 7°C
Wind direction: SW
Strength: 2

Able activity details:

Piling: 08:40-12:30 (intermittent).

Dredging: None.

Other: Welding and cutting on berth. Vessel moved from berth into basin carrying metal tubes for piling.

Bird activity details:

10:00: Walker on bank of DT017 flushed several birds including 32 redshank, 4 curlew and 2 oystercatchers.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 80%
Sector DT018: 80%
Sector DT019: 80%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Teal	Grey heron	Comments
09:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
10:00	DT017	26		29	2	2		91	56	19	2	5			37	44	6	3			
	DT018	10	2	40	96	19	49	9			1					2					
	DT019	2		4	1	3		8													
	DT013														103						
11:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
12:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

Date: 13/01/2009

Surveyor: CB

Low Tide: 11:16 1m

Start/Fin: 09:16 13:16

Weather:
Cloud: 3
Rain: 1-3
Visibility: 2
Temp: 6°C
Wind direction:
Strength: 1

Able activity details:

Piling: 09:16-13:16 (intermittent).

Dredging: None.

Other: Cutting and welding on berth. Small Able vessel active around basin entrance.
Survey vessel also present measuring water depth.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 80%
Sector DT018: 80%
Sector DT019: 80%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Culw	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Knot	Turnstone	Shelduck	Grey plover	Wigeon	Bar tailed godwit	Grey heron	Comments
10:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
11:00	DT017	49		16	32	78	9	81	77	9	1			1	59	1				
	DT018	13	1	82	190	12	73	18	62	11		2				45	42			
	DT019	1		2	5	9		8												
	DT013														221					
12:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
13:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 14/01/2009

Surveyor: CB

Low Tide: 12:00 1m

Start/Fin: 10:00 14:00

Weather:
Cloud: 1
Rain: 1
Visibility: 2
Temp: 2°C
Wind direction: SW
Strength: 1

Able activity details:

Piling: 11:15-14:00 (intermittently) and movement of piling vessels in the basin.

Dredging: None.

Other: Small Able vessel active around basin entrance.

Other: Small vessels sailed into the basin and also small planes flying overhead.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 90%
Sector DT018: 90%
Sector DT019: 90%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Teal	Bar tailed godwit	Wigeon	Comments
10:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
11:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
12:00	DT017	54		41	39	78	14	88	74	3	7	1			34	29	4		12	
	DT018	24	1	95	302	79	86	45	52				21		23	43		1	134	
	DT019	3		3	9			9				1								
	DT013														342					
13:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 15/01/2009

Surveyor: CB

Low Tide: 12:40 1.2m

Start/Fin: 10:40 14:40

Weather:
Cloud: 3
Rain: 1-2
Visibility: 2
Temp: 7°C
Wind direction: S
Strength: 3

Able activity details:

Piling: None.

Dredging: None.

Other: Small Able Teer 6 vessel active near basin entrance.

Bird activity details:

No disturbance recorded

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 90%
Sector DT018: 90%
Sector DT019: 90%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culw	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Elder	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Wigeon	Comments
04:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
05:00	DT017	33		23	18	3	5	104		21	2					23	5				
	DT018	23	1	36	210	6	77	11								17	7			38	
	DT019	1		1	7	9		2													
	DT013															254					
06:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				
07:00	DT017																				No count
	DT018																				
	DT019																				
	DT013																				

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Date: 16/01/2009

Surveyor: JA

Low Tide: 13:21 1.4m

Start/Fin: 11:21 15:21

Weather:
Cloud: 3
Rain: 1
Visibility: 1
Temp: 7.5°C
Wind direction: NW/W
Strength: 3

Able activity details:

Piling: 14:00-14:15 at quay and 14:40-14:50 at basin entrance.

Dredging: None .

Other: MSV Wilton vessel active in channel.

Bird activity details:

Flock of gulls in DT018 disturbed >200m by MSV Wilton stopping and starting engines and sailing close and zig zagging about. Birds moved to DT013. (Category 2).

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:
Sector DT017:
Sector DT018:
Sector DT019:

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curllew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
12:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
13:00	DT017	22		3				20		1	2				40	60				
	DT018	6	5		250	30	30					1			5					
	DT019										1									
	DT013	11					14			18						50				
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 17/01/2009

Surveyor: CB

Low Tide: 14:03 1.7m

Start/Fin: 12:03 16:03

Weather:
Cloud:
Rain:
Visibility:
Temp:
Wind direction:
Strength:

Able activity details:

Piling: 12:55-13:20 and 14:20-14:40.

Dredging: None.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013: 100%
Sector DT017: 60-65%
Sector DT018: 60-65%
Sector DT019: 60-65%

Bird Census/ Estimates																					
Time (split into hours)		Sector	Culwew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Wigeon	
15:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
16:00		DT017	48		14	45	250	15	38			2	4			41					
		DT018	17	1	58	390	40	95		300						6	1			150	
		DT019	2	1	1	35	3		9												
		DT013														194					
17:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			
18:00		DT017																			No count
		DT018																			
		DT019																			
		DT013																			

Date: 18/01/2009	Weather:
Surveyor: CB	Cloud: 1
Low Tide: 14:52 2m	Rain: 1
Start/Fin: 12:52 16:52	Visibility: 2
	Temperature: 5°C
	Wind direction: SW
	Strength: 2

Able activity details:

Piling: 13:05-13:20 and 14:00-14:10 and 15:50-16:00 and 16:25-16:52.

Dredging: None.

Bird activity details:

No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):

Sector DT013:	40%
Sector DT017:	0%
Sector DT018:	2%
Sector DT019:	0%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	
13:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
14:00	DT017	3		2	8	3	2								1					
	DT018	2	1	41	44		2													
	DT019			1	4							1								
	DT013														129					
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
16:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			

Date: 19/01/2009	Weather:
Surveyor: CB	Cloud: 3
Low Tide: 15:57 2.2m	Rain: 3
Start/Fin: 13:57 17:57	Visibility: 2
	Temperature: 4°C
	Wind direction: S
	Strength: 2

Able activity details: Piling: None. Dredging: None. Other: Welding/ cutting on berth. Other: MSV 'Wilton' vessel active in channel on boundary of Sectors 019 and 018 for a limited time.
Bird activity details: No disturbance recorded.

Proportion of mudflats visible per sector (% of each mudflat per sector):	
Sector DT013:	60%
Sector DT017:	5%
Sector DT018:	15%
Sector DT019:	0%

Bird Census/ Estimates																				
Time (split into hours)	Sector	Curlew	Cormorant	Oystercatcher	Herring gull	Black headed gull	Great black backed gull	Redshank	Dunlin	Ringed plover	Red breasted merganser	Eider	Knot	Turnstone	Shelduck	Grey plover	Goldeneye	Bar tailed godwit	Grey heron	Comments
13:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
14:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
15:00	DT017																			No count
	DT018																			
	DT019																			
	DT013																			
16:00	DT017	4	1	2	30	20	7	17		21	3				3	12				
	DT018	8		56	752	50	67						1		6					
	DT019			1							1									
	DT013													179						