

Otter Estuary Bird Disturbance Monitoring

late October 2022 - mid March 2023

Undertaken as part of the Promoting Adaptation to Changing Coasts (PACCo) initiative



The Otter Estuary, Budleigh Salterton in East Devon



Introduction

The Otter Estuary is a SSSI and is important for some breeding birds and perhaps more significantly, a number of wintering and migrant birds that rely on the greater estuary area to feed and rest before moving on to breeding or wintering grounds. These include important wintering species such as Black-tailed Godwit, Brent Goose, Wigeon and Teal.

Significant changes to the estuary are being carried out through the Lower Otter Estuary Restoration Project (LORP), a managed realignment scheme on the adjacent land that will reconnect it to the estuary and create 28ha of mudflats and 27ha of transitional marsh and salt marsh.

A key part of LORP sets out to create compensatory habitat to mitigate for coastal defence work carried out on the Exe Estuary SPA and the consequent overall reduction in the amount of inter-tidal habitat as a result of coastal squeeze. Therefore, the Otter Estuary should become an outlier of the Exe Estuary SPA and should be linked with the Exe in its international protection for birds.

An important measure of LORP's success will be the number of birds that are attracted to this new habitat for feeding and resting and its ability to provide a safe refuge. During the last few years numerous ad hoc reports of disturbance to birds using the estuary have been received, varying from dogs off leads to inappropriate recreational kite surfing and paddle boarding. This clearly showed the need to record such disturbance events in a more structured way, with the resulting data being valuable for informing the approach to future visitor management in relation to LORP and to help provide evidence for the recreational impact on birds using the site.

This study was set up to test this using snapshot counts, similar to those undertaken as part of recreational disturbance studies on the Exe Estuary.

Method

Fifteen minute 'snapshot' vantage point counts were carried out between October 2022 and March 2023. The same set Vantage Point (VP) was used for each survey, situated near the mouth of the estuary, looking north. From this VP a wide expanse of the estuary was scanned with binoculars and telescope to a distance of around 440 metres.

The survey area boundary is illustrated on the recording form map shown on **appendix 1**.

The Vantage Point location and scanning area is shown on **map 1** overleaf.



MAP 1: location of vantage point

All waterbirds using the site were counted and recorded. In addition to the bird counts, all people, dogs and recreational activities within the survey area were mapped on the recording form for any potential disturbance events.

The response of the birds to any such disturbance events was recorded using the following codes:

Alert: A

Walk/Swim: W or S

Short Flight (less than 50m): SF

Major Flight: MF

Visits were conducted over a range tidal states and weather conditions and across different days of the week. Other information in relation to tide and weather was also recorded and is included in the appendices.

Results

A total of 45 visits were made between the 30th October 2022 and 16th March 2023, equating to 11.25 hours of observation. (December and January counts were fewer compared to other months due to the unavailability of the surveyor.)

Full details of each 15 minute count can be seen in a table (**appendix II**)

Recreational use of the site

- The most commonly recorded activities were walking and dog walking which took place along the edge of the survey area, mostly along the footpath below the shingle ridge just below the VP. This was also the footpath from where most dogs entered the survey area.
- On 11 of the survey visits, people entered the survey area. This amounted to 49 people, of which all but three were on foot. These three relate to two paddle boarders and a kite surfer - See below.
- On 19 of the survey visits, dogs off leads, or on long leads, entered the survey area. This amounted to 41 dogs in total across all visits.
- On two survey visits in March, people were observed within the survey area walking or present on the salt marsh and included a dog off a lead on one occasion.
- Kite surfing and paddle boarding were recorded on single dates, both Sundays, in October and February respectively.
- No other recreational activity was recorded during the VP surveys.



Kite surfer in estuary 30th October 2022 by Chris Townend

Birds' use of the site

- Within the defined survey area, an overall total of 4,784 birds were recorded across all 45 watches, made up of 28 species.
- Of the 28 species recorded, 10 species in particular were considered to be most at risk from disturbance events. This is based on the frequency of sightings and the feeding/ roosting areas recorded during the surveys, as well as from personal observations by the surveyor over the last few years. These 10 species are: Brent Goose, Shelduck, Wigeon, Teal, Little Grebe, Black-tailed Godwit, Curlew, Dunlin, Ringed Plover and Redshank.
- The most commonly recorded species recorded during the survey was Wigeon with a total of 1,942 recorded over the 45 visits and a peak count of 164 birds present on the 12.03.23.
- The second most numerous species was Herring Gull, with a total 954 across the 45 counts and a peak count of 200 on 05.01.23. Black-headed Gull was the third most numerous with a total of 585 birds across all counts and a peak count of 170 on 10.02.23.
- The least common species were Common Gull, Mediterranean Gull, Kittiwake, Kingfisher, Snipe, Golden Plover, Pintail and Grey Heron, each with an overall total of less than five birds across all watches.
- On any single visit, the maximum count of birds present in the survey area was 381 on 05.01.23. The watch with the lowest number of birds was the first visit on 30.10.22 which coincided with a kite surfer on the site.



Wigeon using the estuary 12th March 2023 by Chris Townend

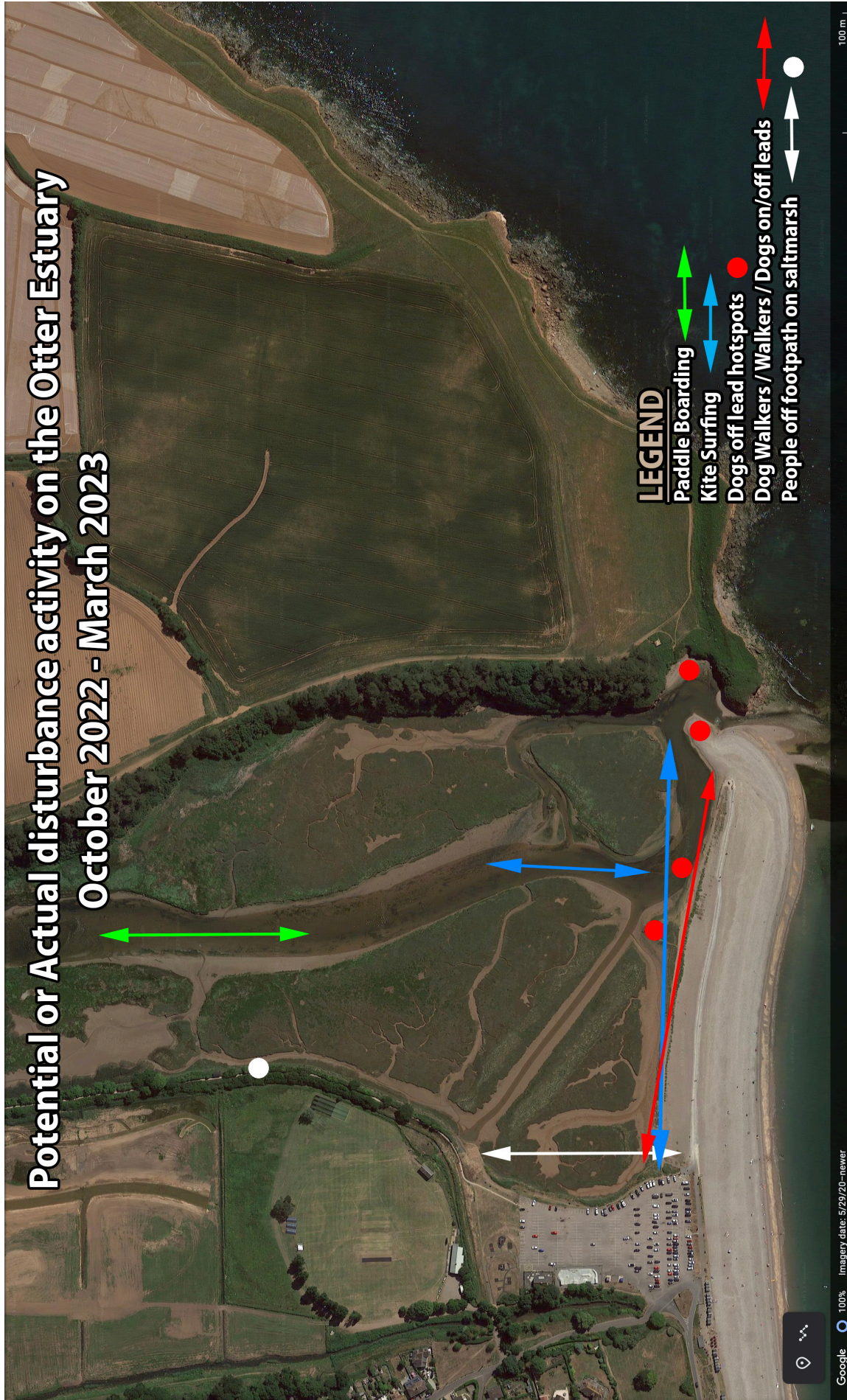
Disturbance events

- Out of the 45 survey visits a total of 271 birds were disturbed. From the total of 4,784 birds recorded, this amounted to a disturbance response from 5.7% of all birds.
- 14 Vantage Point surveys resulted in a total of 271 birds being disturbed.
- There were another 13 surveys which did not result in disturbance and although there were incursions into the survey area and birds were often present nearby, no disturbance was recorded.
- On six occasions birds were disturbed by people and/or dogs simply on the footpath below the shingle ridge that did not venture into the survey area.
- The most common cause of a disturbance response was dogs off leads, which caused a disturbance response during 12 of the 45 watches, most often resulting in a short flight response, though walking/swimming and major flights were also recorded.
- A single kite surfer was present on the first survey visit on 30.10.22. The kite surfer was already present within the site at the start of the watch and remained for the whole 15 minutes. There were just six birds present in the survey area at this time, four of which were flushed, three of them taking a major flight. It was observed that shortly after the 15 minute survey, the kite surfer left the site and groups of wigeon and teal immediately arrived onto the estuary. During the watch, three dunlin were flushed by the kite surfer and were also flushed separately by a dog walker and dog off the lead.
- Two paddle boarders, paddling together, were observed on a single watch on 12.02.23. A total of 111 of the 116 birds present (96%) were disturbed and resulted in a major flight response.



Dark-bellied Brent Geese using the estuary 13th March 2023 by Chris Townend

Map 2: Locations of all potential and/or actual disturbance events



Conclusions

People generally kept to footpaths, though on two occasions people were seen on or walking onto the salt marsh.

Most of the disturbance incidents were a result of dogs off leads running into habitat from the lower path that runs below the shingle ridge. The response by the birds was generally a short flight or walking/swimming away.

Kite surfing, while only present on a single watch, was associated with a lack of birds in the estuary, with birds returning after the activity had ended. It is assumed that the arrival of the kite surfer had displaced birds away from the estuary prior to the survey starting. Birds later returned when the kite surfing activity ended. Therefore, while this activity was not frequently recorded, when it did occur, it resulted in a very high disturbance event.

There was also just one incident involving paddle boarders, but nearly all the birds present responded with a major flight, again, suggesting that when this activity does occur, it creates a very high level of disturbance.

Both these highly disturbing activities occurred at the weekend.

Recommendations

Further disturbance monitoring would certainly be worthwhile during the summer months on the estuary when recreational activity increases. Although wintering birds such as Wigeon and Teal will be absent from the site during this period, other species such as Shelduck do breed nearby and use the site. It is during this time when Shelduck are very susceptible to disturbance events as they bring very young chicks to the estuary to feed. Disturbance events from recreation at this time become more critical if adults are flushed and the chicks can then be predated on by gulls.

Any future monitoring of disturbance must also include the newly created habitat areas from the Lower Otter Restoration Project.



Shelduck family on the Otter estuary, May 2019 by Chris Townend

Chris Townend, Freelance Ornithologist, March 2023

APPENDIX I: Recording Form (Back)

Appendix I Continued					
ACTIVITY CODES:			DISTURBANCE CODES:		
Intertidal activities	Dog on lead	DI	Alert	A	
	Dog off lead	Dx	Walk/Swim	W or S	
	Dog walker	DW	Short flight	SF	
	Jogger	J	Major flight	MF	
	Fishing	F	No response	NR	
	Walker (without dog)	W			
	Kids playing	KP			
	Picnic/sitting on beach/bench	P			
	Bird/wildlife watcher	BR			
Waterbased	Wind surfer on water	WS			
	Rowing boat	Rb			
	Kite surfer on water	Ks			
	Canoe/kayak on water	Ca			
	Stand Up Paddle board on water	SUP			
	Swimmer	Sw			
Please note details of any other activities as relevant.					
Please record the number of each - e.g. 3DW, 2Dx, 1DI					
(3 dog walkers with 2 dogs off lead and 1 dog on lead)					
DISTURBANCE EVENT - Y if activity coincides with birds being present within the count area and occurred within 200m of birds; or there was a behavioural response recorded for birds					
CLOUD COVER: measured on an eight point scale, 0 Oktas being clear sky, one Octa being 1/8 of the sky covered in cloud, and so on up to 8 Oktas - completely overcast.					
WIND SPEED					
Force	Description	Speed km	knots	Specification	
0	Calm	<1	1-3	Smoke rises vertically	
1	Light Air	1-5	4-6	Direction shown by smoke drift but not wind vanes	
2	Light Breeze	6-11	7-10	Wind felt on face; leaves rustle; wind vane moves	
3	Gentle Breeze	12-19	11-16	Leaves and small twigs in constant motion; light flags extended	
4	Moderate Breeze	20-28	17-21	Raises dust and loose paper; small branches moved	
5	Fresh Breeze	29-38	22-27	Small trees in leaf sway; crested wavelets form on inland water	
6	Strong Breeze	38-49	28-33	Large branches in motion	
7	Near Gale	50-61	34-40	Whole trees in motion; difficult walking against the wind	
8	Gale	62-74		Twigs break off trees; generally impedes progress	
ENTIRE AREA VISIBILITY - N if fog/mist/rain means poor visibility					

LEGEND TO APPENDIX II

BTO CODE	SPECIES
BG	Brent Goose
CG	Canada Goose
MS	Mute Swan
SU	Shelduck
WN	Wigeon
MA	Mallard
T.	Teal
PN	Pintail
LG	Little Grebe
H.	Grey Heron
ET	Little Egret
CA	Cormorant
KF	Kingfisher
MH	Moorhen
RP	Ringed Plover
CU	Curlew
BW	Black-tailed Godwit
DN	Dunlin
SN	Snipe
RK	Redshank
GP	Golden Plover
BH	Black-headed Gull
GB	Great Black-backed Gull
CM	Common Gull
MU	Mediterranean Gull
HG	Herring Gull
LB	Lesser Black-backed Gull
KI	Kittiwake
Peak Species Counts in Red	Bird counts (part or all) involved in a disturbance event.
Potential Disturbance Activities Numbers in Pink	Disturbance activity that arose from people and/or dogs remaining <u>on public footpath</u> and outside of red survey area.