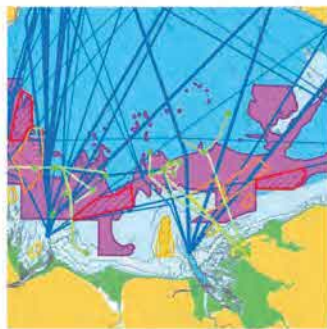
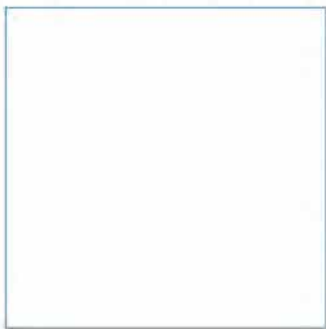
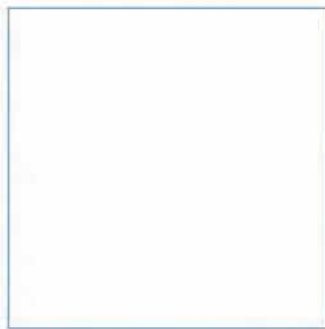


Latham Trust

# Medmerry Park Improvement Project

Winter coastal bird survey 2018/19

April 2019



Innovative Thinking - Sustainable Solutions



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# Medmerry Park Improvement Project




Winter coastal bird survey 2018/19

April 2019



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# 1 Introduction

## 1.1 Project background

To inform proposals for the development and upgrading of the Medmerry Park Holiday Village (MPHV), Latham Trust commissioned ABPmer to undertake baseline coastal bird surveys across the fields surrounding the Park during the 2018/19 winter period. It is proposed that the existing the park (which is currently occupied by chalets and the entertainment complex) will be updated and extended into four surrounding fields while other fields owned by the Latham Trust will also be used for habitat enhancement purposes.

During the scoping work undertaken for this proposal (ABPmer, 2019) it was recognised that there was insufficient data about the existing use of the proposed development areas by coastal birds and by Dark-bellied Brent Goose (*Branta bernicla bernicla*) in particular. During these baseline surveys, therefore waterbird species were recorded in the surrounding fields and also the adjacent Stilt Pools which are part of the RSPB's Medmerry Nature Reserve. Specific emphasis was placed on understanding field usage by Brent Goose in response to advice from Natural England and due to the importance of the Solent for this species.

These surveys were undertaken according to an outline scope that was reviewed with Natural England at the meeting with them on 6 November 2018, and then developed during subsequent discussions between Natural England and ABPmer. The survey plan was then verified within Natural England's advice letter dated 14 November 2018 (Ref DAS/4075/262707).

## 1.2 Report structure

This report is structured as follows:

- Background Information (Section 2). Summary details about the ecology of Brent Geese and the status of Brent Goose populations in the Solent
- Survey Methodology (Section 3). A description of the approach taken for the survey work including the survey areas, surveyor vantage points, and static camera deployment sites;
- Survey Results (Section 4). A review of the findings from each of the survey areas including details about the habitats and management/grazing activities; and
- Conclusions (Section 5). A summary of the results with reference specifically to the value of the survey area for Dark-bellied Brent Goose

## 2 Background Information

### 2.1 Brent Goose ecology

Brent Goose have a circumpolar distribution breeding in the extreme high Arctic in all northern countries. The range extends from Greenland to Svalbard and northern Russia, continuing through Alaska to the Canadian Arctic Archipelago. There are three sub-species, only two of which regularly occur in Europe (Light-bellied *B. b. hrota* and Dark-bellied *B. b. bernicla*). Light-bellied Brent Goose occur in much lower numbers in northern England. The main wintering areas of Dark-bellied Brent Goose in the UK are in England, along the North Sea and Channel coasts, from The Wash south to Poole Harbour. Important concentrations are found around The Wash, along the Norfolk, Essex and north Kent coasts, and in the natural harbours of the south coast.

The traditional wintering habitat is mostly shallow coasts and estuaries with extensive mudflats and intertidal areas, as Dark-bellied Brent Goose rarely occur far from the sea and feed on intertidal plants such as *Zostera*, *Enteromorpha* and a small range of littoral plants. Population growth during the 1980s resulted in more rapid seasonal depletion of natural food sources. Thus, since the late 1970s, the geese have adapted to use coastal grasslands and the early growth of cultivated cereal crops (Summers & Critchley, 1990; Madsen & Nugteren 1994; Fox et al., 2010). This pattern is still seen today, with geese using coastal fields during the mid-winter period (November to January), and peak foreshore counts occurring in February or March, when birds flock before migration.

The UK population of overwintering Dark-bellied Brent Goose is estimated to be 98,000, increasing in line with the international population (Fox et al., 2010; Frost et al., 2019); the UK overwintering population is approximately 30 % of the biogeographic population (estimated at 245,000 - 300,000).

### 2.2 Status of Brent Goose in the Solent

Dark-bellied Brent Goose are present throughout the Solent region in numbers regularly surpassing 20,000. A suite of Special Protection Areas (SPAs) have been designated along the length of the southern coast with Dark-bellied Brent Goose as a feature. Alongside the statutory protection within the SPAs the non-statutory Solent Wader and Brent Goose Strategy (SWBGS) was produced to identify main foraging areas and aid protection of these sites (King, 2010; Whitfield, 2017).

The SWBGS focusses on the coastal sites that are outwith SPA boundaries and categorises each field as a Core, Primary Support, Secondary Support, Low Use or Candidate Areas. Categorisation is done by assessing each surveyed field against five metrics. The fields which make up MPHV and the land owned by the Latham Trust are not included within the strategy but the adjacent RSPB Medmerry Nature Reserve has two areas identified as Low Use Areas in the interim report (Whitfield, 2017).

The SPA that supports the largest population, and is within close vicinity of MPHV, is Chichester and Langstone Harbours SPA. Chichester Harbour supports a larger number of birds with the current 5-year Wetland Bird Survey (WeBS) mean peak of 13,168, compared to 5,408 for Langstone Harbour. The population within Chichester and Langstone Harbours SPA has a short term (5 years) 10 % increase in population size, but a long term (up to 25 years) 25 % decrease (Cook et al., 2013). RSPB Medmerry Nature Reserve supports an average of 1,240 birds each year and it is likely that there is interchange with the larger Chichester Harbour population.



## 3 Survey Methodology

### 3.1 Vantage point surveys

The overwinter coastal waterbird survey was undertaken between November 2018 and March 2019. An experienced ornithologist visited the proposed development site twice a month (10 visits in total) and surveyed seven distinct areas of MPHV and the Stilt Pools (Figure 1). This included an area within the Bracklesham Bay Sites of Special Scientific Interest (SSSI).

On each visit, a surveyor counted each area multiple times over a period of four hours from various vantage points. All species of waterbird were recorded alongside a description of behaviour. Most surveys were undertaken at or around high water as these are the most likely times coastal waterbirds would be displaced from intertidal foraging areas onto fields. Some surveys were undertaken outwith the high tide period in order to understand complete tidal cycle usage; this full tidal coverage was suggested by Natural England.

### 3.2 Geese dropping surveys

Alongside visual observations of each area, transects were walked across the fields specifically looking for Dark-bellied Brent Goose dropping (as recommended by Natural England). The presence of droppings can be used as a proxy for the presence of the species in additions to the recordings from the vantage point surveys. Five fields (B, C, D, E and North Enhance) were walked several times during the survey period.

### 3.3 Static wildlife surveillance cameras

Alongside the daytime vantage point surveys and the goose dropping transects an infrared camera (Crenova RD1000 Trail Camera) was deployed in Field E. Field E was chosen due to initial observations indicating that the field type (grazed short grass) was most likely to encourage goose to utilise the area. The camera was fixed to a fencepost, and its position was altered three times through the overwinter period to cover different areas of the field (Figure 2). Period 1 was between 26 November and 13 December 2018, Period 2 covered 12 December 2018 to 31 January 2019, and Period 3 was between 31 January and 20 February 2019. The camera was set on a time lapse with a photo taken every 30 minutes (48 a day).

On several occasions the camera was, however, knocked out of position by cows grazing within Field E. Usually this occurred after a few days and resulted in the camera being moved from forward facing (into the field) to facing the scrub. This reduced the amount of useable data in each period of recording. Despite these limitations, the images collected from the cameras gave a useful extra insight into the usage of the field.



Figure 1. Medmerry Park Holiday Village (MPHV) and count areas used in the overwinter bird surveys



Figure 2. Locations of static camera deployment in Field E

## 4 Survey Results

### 4.1 Overview

Over the course of the 10 survey visits a total of 12 species were observed using the MPHV areas, with an additional 18 species recorded within the Stilt Pools only (Table 1). As anticipated, the peak counts of all species occurred within the Stilt Pools. Eurasian Teal was the most common species present on all 10 visits. Numerous other species were present during nine out of 10 visits; again, this was predominately within the Stilt Pools.

Table 1. Summary of species present

Species	Number of Visits Present (MPHV Areas)	Number of Visits Present (Stilt Pools)	Peak Count Observed
Eurasian Teal	1	10	78
Common Coot	1	9	16
Eurasian Wigeon	1	9	91
Black-headed Gull	4	9	139
Great Cormorant		9	7
Herring Gull	2	9	192
Mallard	1	9	41
Northern Shoveler		9	8
Tufted Duck		7	11
Gadwall		6	19
Grey Heron	5	6	1
Little Egret	1	6	1
Northern Lapwing	1	6	55
Canada Goose		5	23
Common Moorhen	1	5	2
Great Black-backed Gull		5	3
Common Shelduck		4	4
Mute Swan		4	2
Common Greenshank		3	1
Dark-bellied Brent Goose	1	3	132
Dunlin		3	26
Mew Gull	1	3	7
Avocet		2	54
Ringed Plover		3	16
Lesser Black-backed Gull		2	1
Mediterranean gull		2	22
Common Gull		1	3
Common Snipe		1	2
Eurasian Oystercatcher		1	1
Greylag Goose		1	1

The most common species using the MPHV areas was Grey Heron on five occasions, and Black-headed Gull on four visits. The largest counts during the survey period were of Herring Gull with 192 present in the Stilt pools in March, followed by 139 Black-headed Gull in the Stilt Pools in February and March, and 132 Brent Goose in the Stilt Pools in January. The largest counts recorded on the fields were 54 Black-headed Gull (Field E in December), 53 Dark-bellied Brent Goose (Field E in January) and 33 Northern Lapwing (Field E in December).

During the survey visits, it was noted that large numbers of geese were seen flying into Medmerry Nature Reserve, arriving from the north east (Chichester Harbour direction), passing over MPHV. This peaked during the January survey with approximately 600 arriving within 10 minutes from the northeast. These observations reinforce the potential that there is interchange between the Medmerry Nature Reserve and Chichester Harbour populations.

The following sections provide an area by area breakdown of results, including information derived from the three different survey methods.

## 4.2 Field B

Field B (Image 1) is present to the north of MPHV and is the area furthest away from the coast (approximately 500 m). It is surrounded by small roads on the west and south boundary, an arable field to the north and farm buildings to the west. No livestock was present in the area with the grass left to grow consistently up to 10 cm by the end of winter.

No coastal waterbird species were observed using Field B. No goose droppings were present during any of the transect surveys.



Image 1. Field B (looking east)

### 4.3 Field C

Field C (Image 2) is to the northeast of MPHV, and is bisected by a small track leading to farm buildings. Grazing, mowing or human activity was not noted during the survey period. The south side of the field is bordered by a main track of MPHV.

One species of coastal waterbird was recorded; a single Black-headed Gull was loafing in December 2018. No goose droppings were observed during the transect surveys.



Image 2. Field C (looking north)

### 4.4 Field D

Field D (Image 3) is to the southeast of MPHV, it is well screened from the track but is advertised as a dog walking field, with obvious usage at the edges as a walking path. Field D overlooks the RSPB Medmerry Nature Reserve's Stilt Pools. There is no grazing of this field, and grass was left to grow all winter.

Two species were recorded within Field D, a single Black-headed Gull in December and January and a single Lesser Black-backed Gull in December. No goose droppings were observed during the transect surveys.



Image 3. Field D (looking south)

## 4.5 Field E

Field E (Image 4) is to the southwest of MPHV. It has a small track running down the eastern boundary and a farm track at the north. This field was grazed by approximately 15 cattle all winter, maintaining a short grass height.



Image 4. Field E (looking northwest)

Field E had the largest usage of all fields in both the abundance and diversity of species. Six species were observed using the field during the survey period (Table 2 and Image 5). Black-headed Gull was the most numerous species, being recorded on three visits, followed by Grey Heron which was recorded on two visits. All other species were recorded on one visit.

Table 2. Max counts of each species in Field E

Species	2018			2019		
	20 Nov	13 Dec	20 Dec	07 Jan	20 Feb	21 Feb
Black-headed Gull		6	54		5	
Dark-bellied Brent Goose				53		
Grey Heron	1					1
Herring Gull			1			
Mew Gull			5			
Northern Lapwing		33				

Dark-bellied Brent Goose were recorded during the January survey, foraging in a flock of up to 53 birds (Image 5). These were encountered close to the end of survey with larger flocks flying low over the field but not landing.



Image 5. A selection of the 53 Dark-bellied Brent Goose foraging on Field E in January 2019

Alongside the visual observations during the January survey, fresh geese droppings were recorded during both January transect surveys (Image 6). The presence of droppings was recorded subsequently on each visit, but the freshness was not ascertained and may have been from the flock of geese that used Field E in January.



Image 6. An example of fresh goose droppings found on Field E

Field E was chosen as the location of the static cameras (Figure 2). Over the survey period the camera took photos every 30 minutes between 26 November 2018 and 20 February 2019; this resulted in 4,131 photos being taken. Of these photos, coastal waterbirds were recorded on 5 % of the photos (214). This relatively low number may be attributed to cows moving the position of the camera away from the field (see Section 3.3).

The most numerous species observed was Black-headed Gull (Image 7) with the vast majority of photos assigned “waterbirds present” containing Black-headed Gull. Of particular interest to the survey scope, several images recorded large flocks of Dark-bellied Brent Goose (Image 8). Flocks of Dark-bellied Brent Goose were recorded between 6 to 26 January 2019, but were not present on the static cameras outwith this period; this coincided with the presence of fresh goose droppings and visual observations.





Image 7. Static camera image with Black-headed Gull (20 December 2018)



Image 8. Static camera image with ~100 Dark-bellied Brent Goose (7 January 2019)

## 4.6 'North Enhance' field

The 'North Enhance' area (Image 9) is one of two locations where development is not currently proposed but habitat enhancement measures could be carried out. This lies to the south of Field E, with the grazing cattle able to move between the two areas with feed station within this field. There was however much fewer bird observations with just a single Black-headed Gull recorded in December.



Image 9. North Enhance (looking northwest)

## 4.7 'South Enhance' field

The other identified habitat enhancement area is the 'South Enhance' field (Image 10) which lies to the southeast of the MPHV area and is to the south of Field D. This area is dominated by scrub with two to three sheep and one cow present throughout the winter. Given these factors and the small area available there were no observations of coastal waterbirds.



Image 10. South Enhance (looking west)

## 4.8 Site of Special Scientific Interest (SSSI)

The SSSI area runs along the southern boundary of MPHV. The area was characterised by scrub and larger bushes, with a deep channel running through the area (Image 11). The channel had a very slow flow with reeds either side; all bird observations were recorded in this channel.



Image 11. Channel running through SSSI with Little Egret (looking southeast)

Seven species of coastal waterbird were observed using the SSSI area, Grey Heron was the most common, present on four visits, and the largest count occurred of Eurasian Teal when 11 were recorded in November 2018 (Table 3).

Table 3. Max counts of each species in the SSSI Area

Species	2018			2019		
	20 Nov	26 Nov	13 Dec	20 Dec	31 Jan	18 Mar
Common Coot			2			
Common Moorhen	2					
Eurasian Teal	11					
Eurasian Wigeon	2					
Grey Heron	1	1		1	1	
Little Egret					1	
Mallard						2

## 4.9 RSPB-managed stilt pools

Alongside the core areas of MPHV, an opportunity was taken to survey the Stilt Pools (Image 12) which are part of the RSPB-managed Medmerry Nature Reserve. These shallow water lagoons (with islands) comprise a freshwater flood accommodation area that was designed specifically with the intention of providing appropriate habitat for waterbirds and a large variety and diversity of birds present within this area (Table 4 and Image 13). A total of 30 species of coastal waterbird were recorded using the Stilt Pools for both foraging and roosting.

Table 4. Max counts of each species in the Stilt Pools

Species	2018					2019				
	20 Nov	26 Nov	13 Dec	20 Dec	07 Jan	31 Jan	20 Feb	21 Feb	18 Mar	20 Mar
Avocet									47	54
Black-headed Gull		11	31	21	24	31	59	139	139	126
Canada Goose		4				23	14	13		2
Common Coot		16	7	5	8	4	2	2	2	3
Common Greenshank	1	1						1		
Common Gull						3				
Common Moorhen						1	1	1	2	1
Common Shelduck							1	1	1	4
Common Snipe		2								
Dark-bellied Brent Goose					132	1		2		
Dunlin								13	7	26
Oystercatcher								1		
Eurasian Teal	6	23	4	33	78	3	38	26	12	14
Eurasian Wigeon	50		91	19	53	4	32	9	8	15
Gadwall				5	19		4	8	4	2
Great Black-backed Gull		1			1	1	3	2		
Great Cormorant	2	2	1		2	1	2	5	7	6
Grey Heron	1			1		1	1		1	1
Greylag Goose						1				
Herring Gull		8	14	2	14	11	24	81	51	192
Lesser Black-backed Gull			1				1			
Little Egret	1	1			1	1			1	1
Mallard		4	2	41	7	17	6	5	3	8
Mediterranean gull									22	11
Mew Gull							6	7		2
Mute Swan						2		1	2	2
Northern Lapwing	8	9		2		55		1	2	
Northern Shoveler	3	8	5	8	6		2	1	2	2
Ringed Plover								5	2	16
Tufted Duck		1		2	3		10	10	11	7



Image 12. Stilt Pools (looking west, with MPHV in the background)



Image 13. Photos of waterbird species at the Stilt Pools in the March 2019 surveys<sup>1</sup>

<sup>1</sup> (a) Teal, (b) Avocet, (c) Shelduck, (d), Heron (e), Mediterranean Gulls and a Black-headed Gull, (f) Ringed Plover.

## 5 Conclusions

As intended, this winter coastal bird survey work (including the application multiple survey techniques) has provided greater clarity on the value of the fields surrounding the MPHV. It has verified pre-survey expectations that the Stilt Pools are the most valuable area that had the largest abundance and diversity of species of any survey area. Of the fields surrounding MPHV, Field E had the largest usage by Dark-bellied Brent Goose, as well as by other species. All other surveyed fields surrounding MPHV had lower usages by coastal waterbird species.

It is likely that the higher numbers of Dark-bellied Brent Goose in Field E, compared with other fields, is due to cow grazing and the resulting shorter grass height in the area. Dark-bellied Brent Geese are known to prefer this type of habitat. This information is useful in the context of possible enhancement measures that could be incorporated as part of the development and upgrade of MPHV, to provide a beneficial environment for Brent Goose.

In the context of the wider area (specifically Chichester and Langstone Harbours SPA and RSPB Medmerry Nature Reserve) a small flock of up to 100 birds represents <1 % of the local population of Dark-bellied Brent Goose. The usage of Field E would therefore be classed as "Low Use", following the SWBGS criteria (Whitfield, 2017).

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## 7 Abbreviations/Acronyms

BTO	British Trust for Ornithology
MPHV	Medmerry Park Holiday Village
RSPB	Royal Society for the Protection of Birds
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWBGS	Solent Wader Brent Geese Strategy
UK	United Kingdom
WeBS	Wetland Bird Survey

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated.



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