Date: May 2015
Version: Final
Recommended Citation: Underhill-Day, J., Gartshore, N. & Liley, D. 2015. Establishing patterns of usage by over-wintering birds within the West Fleet, Chesil Fleet. Report to Natural England

Summary

A survey was carried out of wintering waders and wildfowl on the West Fleet, Chesil between 23rd October2014 and 2nd February 2015. All birds were identified to species and counted within each of 19 imaginary 200 metre bands crossing The Fleet at right angles to the shoreline. The observer took great care to avoid disturbing the birds but some disturbance was inevitable. Birds were also identified and counted on the fields inland of The Fleet and a note kept of the distance at which they flew if disturbed.

An assessment is made of the importance of West Fleet for each of the featured and designated species in the Special Protection Area (SPA), RAMSAR and the Site of Special Scientific Interest (SSSI) and for species occurring in nationally important numbers on the Fleet as a whole. It is concluded that the West Fleet makes a very significant contribution to the nationally important numbers of dark-bellied Brent goose, and a significant contribution to the nationally important numbers of Mute swan and Coot. It also contributes to the regional and locally important populations of a number of species.

The bulk of the population of all species, but particularly those featured species in the SPA and RAMSAR and designated species in the SSSI as well as other nationally important species are found at the eastern end of the West Fleet. The fields at the back of this area are also important foraging sites for dark-bellied Brent and barnacle geese and for roosting lapwings. A formal disturbance study elsewhere on The Fleet found that birds on the water could be disturbed by human activity at up to 170m, and in this study birds would generally fly off from the fields when the observer was 100-300m away depending on topography. There were no observations of birds in fields in the disturbance study and the difference between distance at which birds were disturbed may reflect warier behaviour on land where birds are at risk from ground predators..

Any path would need to be either out of sight of both the shoreline and the fields, or, at a distance where disturbance was unlikely. Any path would need to be fenced from the shoreline fields, with locked gates and signs to minimise the possibility of access by people or dogs and in the longer term, with a double fenced hedge which would also screen the path although this could restrict the areas of fields that grazing or roosting birds would use.

Contents

Acknowledgements

This report was commissioned by Maxine Chavner. Our thanks go to Don Moxon and Ilchester Estates for allowing us access and providing helpful background information and to Maxine Chavner and the staff of Natural England for their advice and guidance.

1. Introduction

1.1 The aim of this project was to determine patterns of usage by over-wintering birds on the West Fleet between Langton Hive Point and Shipmoor Point but including the meadows between the Swannery and Tiny Coppice but not the stretch of water within the bay between Shipmoor Point and Bum Point. (Places mentioned in the text are shown on Map 1).

1.2 Chesil and The Fleet are internationally important for nature conservation and are designated as a Special Protection Area (SPA), Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Ramsar Wetland of International Importance (Ramsar) site. Over-wintering species of interest, either notified species of the SSSI, qualifying species of the SPA and/or qualifying or species of national importance of the Ramsar, are:

- Mute swan
- Wigeon
- Dark-bellied brent goose
- Dunlin
- Lapwing
- Coot

1.3 The north-eastern shoreline of The Fleet is used by dog walkers, walkers, birdwatchers and others. There are a number of access points and a public footpath which is part of the England Coast Path which runs along the Fleet from its mouth at Ferry Bridge to the east to Rodden Hive to the west, where it turns inland.

1.4 As part of the Marine and Coastal Access Act 2009, Natural England has been tasked with extending recreational coastal access by enabling the creation of a continuous access route around the English coast. This is being delivered by Natural England as the England Coast Path under the Coastal Access Scheme.

1.5 Work on the path between Lyme Regis and Rufus Castle is currently being progressed, passing along the north-eastern shoreline of Chesil and The Fleet SSSI, SPA, SAC and Ramsar site. Of primary concern is the shoreline and The Fleet between Rodden Hive and Shipmoor Point at Abbotsbury, which is currently relatively undisturbed as there is no public access. A recent desk study carried out for Natural England (Underhill-Day, Pickess & Lake 2014) considered the current and historic levels of disturbance and reviewed available data on birds in this area. It concluded that this area was most important for mute swan, pochard, coot, red-breasted merganser, little egret and shoveler and that information on disturbance issues on birds in this section of The Fleet was sparse.

1.6 Natural England therefore commissioned Footprint Ecology to carry out further work to establish patterns of use within the West Fleet by bird species of particular relevance

and to investigate whether any potential routes present a threat to their continued successful occupation of the area.

1.7 Apart from a short stretch of shoreline between Langton Hive Point and Rodden Hive, which is fairly well, but not completely, shielded from the Fleet by a line of trees and reedbeds, the whole of the shoreline of the West Fleet is currently closed to the public and the footpath goes inland from Rodden Hive and runs up past Wyke Wood to New Barn Road. At its closest, New Barn Road is some 560 metres from the Fleet shoreline and the road and path are not visible from the Fleet. Therefore there is currently no disturbance to the West Fleet from the land to the north-east.

2. Methods

2.1 Counts and mapping were undertaken from five main locations as shown on Map 2. Where the line of sight was obstructed by a scrub belt, (locations 3 and 4) the observer moved a short distance to count from either end. In addition birds were also counted as the observer moved between the main locations, where it was obvious that birds had been missed because of the topography of the shoreline, in particular waders and waterfowl feeding/roosting on the shoreline. Birds were counted within each of nineteen 200m wide sectors (Map 3) with the identification of the divisions on the ground helped by boundary posts and other features. In addition to the above, a count of the wet meadow at Abbotsbury was made from the hillside to the south of the meadow. A separate count of passage birds was made in early September (Gartshore & Underhill-Day 2014) but is not part of the wintering bird survey described here.

2.2 During the counts the observer moved away from the shore when moving and between locations in order to avoid/reduce disturbance to the birds on the The Fleet and, where possible, used patches of scrub as screening when approaching the locations. The counts were undertaken without accessing the foreshore at any point and the observer kept to the fields on the landward side of The Fleet. Though every care was taken to avoid disturbance to the birds by the observer, some disturbance was inevitable. Any disturbance, resulting in birds moving away caused by the observer (or any other causes of disturbance observed during the count) was noted, but in the event it proved impossible for one observer to count the birds within each section and at the same time record the direction of flight of flushed birds and their eventual settling location. In many cases, when flushed birds took to the air they split into different groups and headed in different directions. When birds were disturbed however, it was possible to assess numbers and note if the birds re-settled nearby, to avoid double counting.

2.3 All species of wildfowl and wader were counted and recorded within each sector. Flocks of birds on the fields to the North-east of The Fleet were also recorded. Start times and weather conditions were also noted. Eight wintering bird counts were carried out between mid-October and early February at approximately two week intervals. Times and days of counts and order of count locations were varied.

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3. Results

3.1 Dates, times and conditions for each count are shown in Table 1. Light rain was recorded on only one occasion and there were no very cold weather conditions during the winter period during which counts took place.

3.2 The figures for each sector on each count date are given in Appendix 1. This also shows total numbers for each sector across all count dates, mean and maximum numbers for each species across all sectors on all dates.

3.3 In the species accounts which follow, a summary is given of the numbers and locations of each species together with the mean and peak numbers for all sectors on all dates, and a comparison with the WeBS maximum and mean monthly figures for The Fleet as a whole 1999-2013, and the peak count during October-February for the Fleet as a whole 2007-2011 from the Dorset Bird Reports (Underhill-Day, Pickess & Lake 2014).

Table 1: Dates and times of count visits to West Fleet, Chesil during winter 2014-15 together with a summary of weather conditions.

Date	23/10/14	14/11/14	21/11/14	04/12/14	15/12/14	07/01/15	20/01/15	02/02/15
Start Time	09:50	08:00	10:00	09:10	03:30	08:40	09:00	08:50
Start point	1	5	3	2	1	3	1	1
Wind speed	SW 4-5	SW 4	E 4	NW 1-2	NW 1-2	SW 5	NW 2	0
Cloud cover (8ths)	8	4	8	8	0	8	8	8 (very thin)
Precipitation	None	None	Rain to 12am	None	None	None	None	none
Precipitation intensity	None	None	Continuous, light	None	None	None	None	none

4. Species accounts

Mute Swan

4.1 Surprisingly there were no counts of more than 10 mute swans between Shipmoor Point and Rodden Hive (points A-O) during the whole period. Greatest numbers were in Rodden Hive Bay with the highest counts of just under 30 in sectors Q, R and S, and a peak count in Sector P of 121 on 15th December. The overall count on this date 1999-2013 was also the highest for the whole section (Shipmoor Point to Langston Hive Point) of 168. The mean total across all sectors for all counts was 44, which is 8% of the mean monthly WeBS figure reported for the whole Fleet 1999-2013, and 5% of the mean peak figure reported from the WeBS counts for the Fleet and Wey 2008/09-2012/13 of 865. The peak count of 121 in December is 16% of the mean peaks for the month of December 2007-2011. The counts suggest that West Fleet is of moderate importance for this species.

Dark-bellied Brent goose

4.2 No Brent geese were recorded in the sectors between Shipmoor Point and the landing stage below South Sleight Coppice (Sectors A-L). Numbers varied across the rest of the sectors from a maximum of just 4 in Sector P to a count of 1,050 in Sector N. The mean total across all sectors for all dates was 443 with a peak of 1,565 on 20/01/2015.

4.3 Chesil Fleet and Wey is the 16th most important site in the UK for dark-bellied Brent geese with a five year peak mean of 2,077 birds, exceeding the threshold for national importance (910) and close to the international threshold (2,400). The mean and peak numbers for the count area in this study (443 and 1,565 respectively) are considerably higher than the 1999-2013 monthly mean of 0.2 and the highest monthly peak of 12 for the WeBS sector between Abbotsbury and Rodden Hive. The peak count of 1,565 on 20/01/2015 is 128% of the mean peak for the whole Fleet for January during 2007-2011, and if perpetuated, would make the West Fleet nationally important in its own right for this species.

Pochard

4.4 Pochard was only recorded on one occasion when a flock of 16 was noted on Sector O – it is likely that these birds were disturbed from the Abbotsbury Bay area by the Environment Agency who were water sampling there. Chesil Fleet is nationally important for pochard. The Abbotsbury to Rodden Hive count area is nationally important for this species on its own as it normally holds over 90% of the population of the whole Fleet so the absence of pochard this winter in the count sectors is surprising and of some concern. It will be necessary to wait for the full WeBS count figures to determine whether the birds normally stay within Abbotsbury Bay or whether this represents a decline or simply a shift in distribution on The Fleet.

Red-breasted merganser

4.5 Red-breasted mergansers were recorded from almost all sectors but with greatest numbers in Sectors M and N. The peak number of red-breasted merganser in this study was 108 birds recorded on 20/01/2015. Mean total from all counts in all sectors was 51, which is much higher than the mean monthly WeBS count for the Abbotsbury to Rodden Hive sector during 1999-2013 of 15.

4.6 Red-breasted merganser populations on the Fleet are of national importance with a mean peak of 291 birds 2008/09 to 2012/13. The Dorset Bird Club records include Portland Harbour with The Fleet so no meaningful comparisons can be made with the figure here. The figures from this study for West Fleet suggest that the area holds some 17.5% of the Fleet population. The national threshold for this species is 84.

Little egret

4.7 Recorded mostly in ones and twos in most sectors. A maximum of 7 was recorded on 07/01/2015 and a total mean of all counts was 5. This is slightly below the monthly mean for 1999-2013 of 7 recorded in the WeBS counts for Abbotsbury to Rodden Hive.

4.8 Mean January peak count for The Fleet during 20017-2011 was 32 so the peak count from this study was 22% of that figure. Chesil Fleet is nationally important for this species with a mean peak of 50 during 208/09-2012/13 against a national GB threshold of 45, so the study area makes a moderate contribution to the overall figure.

Coot

4.9 The Fleet is of national importance for coot with a mean peak of 2,542 during the winters 2007-2011 against a threshold for national importance of 1,800. During this time, the Abbotsbury to Rodden Hive WeBS sector held nearly 90% of the total. In this study there were no, or very low numbers, of coot in Sectors A-I, and reasonable numbers in all other sectors. The highest count was 955 in Sector R on 20/01/2015 and the highest overall count was 1,611 on 04/12/2014. The mean total for all counts in all sectors was 1,300. This compares with a mean monthly peak in WeBS for the Fleet and Wey of 2,245.

4.10 The mean peak counts for December 2007-2011 was 2,008, so the December count was 80% of that figure. Numbers have fallen recently but The Fleet remains of national importance from the figures available and West Fleet contributes very significantly to the overall figure.

Gadwall

4.11 Only nine gadwall were recorded in Sectors K, L and P. This was surprising as gadwall numbers have been increasing on The Fleet as a whole and with a mean peak 2008/09-2012/13 of 252. The threshold for national importance is 250 so The Fleet and Wey now qualifies. There was an average peak of 140 during 2007-2011 on the Fleet alone, of which some 30% were in the Abbotsbury to Rodden Hive count area. It is not yet known

whether numbers were also down on the Fleet as a whole or whether the previous figures reflected a distribution predominantly centred on Abbotsbury Bay.

Wigeon

4.12 Wigeon were scattered through most sectors but with a strong bias towards the eastern end of the West Fleet with the largest number in Sectors K to R. The largest single aggregation recorded was 240 in Sector P and the peak count of 849 was on 23/10/2014. Mean total count for all sectors on all dates was 419. This is far higher than the mean monthly count for WeBS during 1999 to 2013 for the Abbotsbury-Rodden Hive section of the Fleet of 39, although the peak count during this period was 740 in 2001. The mean October peak during 2007-2011 for the whole Fleet was 1,641 and the mean peak for The Fleet and Wey was 4,233 during 2008/09-2012/13, just below the threshold for national importance of 4,400. So the peak count for this project amounted to just over half this figure.

4.13 Numbers of wigeon were highest on West Fleet in October and December, falling off in the New Year. Most birds were counted on the south-western shore of The Fleet behind Chesil Bank (Gartshore pers. obs.) suggesting that they were roosting here and possibly flying out at night to feed on grassland to the east.

4.14 Figures from WeBS suggest that wigeon numbers fall slightly short of the threshold for national importance although the trend is upwards and this situation may change in the next few years. Figures from this project suggest that West Fleet can hold a high proportion of the wigeon for The Fleet as a whole on occasion, but that for much of the winter it is of low importance.

Shoveler

4.15 Shoveler were present in 14 of the 19 count sectors at various times during the winter but were most regular and in biggest numbers in Sectors E and F below Chesters Hill and Berry Copse. Numbers were highest in December and the beginning of the New Year with a peak of 96 in January, compared to a mean peak of 85 during January counts of the whole Fleet 2007-2011. Mean total number for all sectors in all months was 59 which also compares well with the monthly mean of 27 for the Abbotsbury to Rodden Hive count sector during 1999 to 2013 and the mean peak for The Fleet and Wey of 145 during 2008/09-2012/13. Numbers of shoveler are increasing and could reach national importance on The Fleet and Wey in the next few years but not on The Fleet alone. The West Fleet clearly makes an important contribution to the numbers on the whole Fleet.

Barnacle goose

4.16 A flock of 17 barnacle geese was recorded in Sector O on 04/12/2014 with another 20 in Sector T on the same count and a further 16 in Sector P on 20/01/2015. Barnacle geese have been recorded before in December and January in 2010 and 2011 with up to 85 at Abbotsbury, 49 at Rodden Hive and 35 at Butterstreet. The mean total for all sectors on

all dates was 7 making the West Fleet of moderate importance for this species in relation to The Fleet as a whole. The Fleet is of regional importance for this species although by national standards the numbers are small.

Tufted duck

4.17 A small flock of 12 birds was recorded on 15/12/14 – it is likely that these birds were disturbed from the Abbotsbury Bay area by the Environment Agency who were water sampling in the area. The Fleet is the most important site in the county for this species and with the Wey is a site of regional importance with a mean peak 2008/9 to 2012/13 of 508 about half the national threshold of 1,100. The mean peak for winters 2009-2011 was 295 for The Fleet as a whole. However, the contribution of West Fleet to the total numbers appears to be low.

Pintail

4.18 Pintail were seen on most dates with the majority of records in Sectors N-O-P. The peak count was 146 on 02/02/2015 and the mean total for all dates in all sectors was 56. This compares with a mean winter peak of 111 during the winters 2009-2011 and a mean peak from WeBS for The Fleet and Wey of 156 during 2008/09-2012/13. The Fleet and Wey is a regionally important site for pintail and the figures suggest that West Fleet makes a significant contribution to The Fleet winter population.

Teal

4.19 Teal were recorded in most sectors and on all dates but with the main population between points M and P. Peak numbers were seen on 04/12/2014 and 15/12/2014 with 959 and 966 respectively. The mean total for all dates in all sectors was 533. The Fleet and Wey is of regional importance for this species with a mean winter count 2008/9-2012/13 of 744, although it is not known how this total is split between the two sites. On The Fleet as a whole during winters 2009-2011 the mean peak count was 456. Teal numbers appear to be increasing and West Fleet makes a very significant contribution to the total numbers for The Fleet and the WeBS count area.

Mallard

4.20 Mallard were recorded in small numbers on four dates between 14/11/2014 and 02/02/2015 with a peak count of 29 on 20/01/2015 and a mean total for all dates in all sectors of 8. On The Fleet as a whole the mean peak for the winters 2009-2011 was 483. The Fleet is the most important site in the County for mallard and is also of regional importance but does not approach the nationally important threshold of 6,800. The contribution of West Fleet to The Fleet as a whole is low.

Goldeneye

4.21 Small numbers of goldeneye were recorded on most dates with a peak of 16 on 02/02/2015. The Fleet is among the top three sites in the county and is regionally important for this species with a mean winter count of 30 in 2010/2011 and a peak

count of 70 in December 2010. The Fleet and Wey WeBS peak count 2008/9-2012/13 is 44. The West Fleet, with a mean total from all counts in all sectors of 4 makes a low contribution to The Fleet as a whole.

Shelduck

4.22 Shelduck were scattered thinly across the sectors with a peak count across all sectors of 58 on 07/01/2015. Mean total for all counts in all sectors was 24 which represents some 120% of the monthly mean recorded for the West Fleet and Abbotsbury 1999-2013. The peak count is 132% of the mean peak for January 2007-2011 for the whole Fleet and the mean total of 24 represents 27% of the mean WeBS count for 2008/09-2012/13. The Fleet is regionally important for shelduck and the figures suggest that West Fleet holds about half the population of the WeBS count sector which includes Abbotsbury and at times, a significant proportion of the population of the whole Fleet.

Great-crested Grebe

4.23 Great-crested grebes were recorded in small numbers in almost all sectors with the largest count of 14 in Sector M and highest count of 35 on 14/11/2014. The highest numbers were at the start of the season with rapidly decreasing numbers from mid-December. The mean total numbers from all sectors from all counts was 15, rather less than the mean monthly winter counts from WeBS from the Abbotsbury to Rodden Hive count sector during 1999-2013 of 19 and about a quarter of the mean peak from WeBS 2008/9-2012/13. The Fleet and Wey is regionally important for this species.

4.24 The highest count was 35 individuals on 14/11/2014 which compares with the mean November total of 23 during 2007-2011. The Fleet is of only local importance for this species but West Fleet makes a significant contribution to this.

Lapwing

4.25 Lapwing are not found on The Fleet although small numbers of birds may be recorded occasionally on the shoreline. However, flocks of birds were recorded on Abbey Meadows and on the fields to the north-east of The Fleet on four occasions with the highest count on the meadows of 122 on 02/02/1015 and on the Fleet fields of 328 in Sector O on 15/12/2014. The highest combined total was on the same date with 457 individuals recorded.

4.26 The mean total count from all sectors on all dates was 85, just above the mean monthly count for the Abbotsbury to Rodden Hive WeBS sector during 1999-2013 of 83. Numbers of lapwings around the Fleet have been declining in common with many other sites, and the highest January count during this study is within the range (28-3,000) seen during that month during 2007-2011, but about 43% of the mean.

4.27 Lapwing numbers around The Fleet are well below the threshold for national importance but are regionally important with a mean peak from the 2008/09-2012/13 WeBS counts of 846 for The Fleet and Wey. West Fleet and particularly Abbey Meadows make a moderate contribution to the numbers.

Grey heron

4.28 There were only 8 records of grey heron from all sectors with a maximum count of 2 on 14/11/2014 and 04/12/2014. The Fleet is of local importance for this species with mean peak counts for November and December during the years 2007-2011 of 5 and 4 respectively. The West Fleet makes a significant contribution but the numbers are very small.

Redshank

4.29 Redshank is the commonest wader on the shoreline of The Fleet and was recorded on every visit. Generally there were one or two birds, with records in most sectors and one record of 12 birds in Sector M. The highest number overall was 21 on 14/11/2014, and the mean total for all sectors for all visits was 11. This was higher than the monthly average 1999-2013 in the Abbotsbury to Rodden Hive WeBS counts of 2, and compares to the November mean for the whole Fleet 2007-2011 of 31. Peak numbers on The Fleet as a whole fall far short of the national importance threshold with numbers highest in December. Numbers in the West Fleet make a moderate contribution to this.

Dunlin

4.30 Only four dunlin were recorded during this study, all in November. Average monthly mean during 1999-2013 was 5 birds in the Abbotsbury to Rodden Hive sector and presumably most of these were at Abbotsbury. Dunlin numbers occur in modest numbers on The Fleet as a whole which is of local importance. The study area contribution to this is low.

Cormorant

4.31 Cormorants were recorded in small numbers on most dates with between one and three in about a third of the sectors and a peak count of 8 on 14/11/2014. Peak numbers in the winter months on the Fleet as a whole during 2009 to 2011 varied between 6 and 45 with a mean of 22. The Fleet is of county importance for this species, but the contribution of West Fleet to the total number, with a mean total for all counts in all sectors of 2, is low.

Little Grebe

4.32 Recorded in small numbers in five sectors with a peak of 13 on 14/11/2014 and a mean total peak for all dates and all sectors of 2. The Fleet is of county importance for this species, with a mean winter peak count during 2009-2011 of 26 but the contribution of West Fleet to this is low.

Other waterfowl species

Canada goose

4.33 Flocks of Canada geese were recorded on three occasions on the water in Sectors O, P and R, with a peak count on 04/12/2014 of 130 (in Sector O). 162 were counted on 21/11/2014 (in the field behind Sector K) and nine were recorded on Abbey meadows on 20/01/2015. This is an introduced species which is a common resident in the County.

Long-tailed duck

4.34 This is a rare winter visitor with only a single previous record during 2009 to 2010 at Abbotsbury in January 2009. This study recorded up to four in Sectors E to I on four dates between 21/11/2014 and 02/02/2015.

Oystercatcher

4.35 Oystercatcher were recorded only once with a flock of 58 seen on the Abbey Meadows on 14/11/2014. This confirms earlier data which found a mean of only one bird/month during the winters 1999 to 2013. This species occurs in very low numbers on The Fleet, and West Fleet makes a low contribution to this figure.

Grey Plover

4.36 A single bird was recorded in Sector E on 23/10/2014

Snipe

4.37 A small flock of 6 was recorded in Sector P on 20/01/2015.

Birds on the fields north-east of The Fleet

Barnacle geese

4.38 Seventeen barnacle geese were seen in the field above View Point (VP) 1 on 04/12/2014, 38 on 15/12/2014 and 16 on 20/01/2015. These flocks were feeding between ¼-¾ of the distance across the field (c. 75-225m) from the shoreline to The Fleet. On 02/02/2015 a flock of 16 Barnacles was recorded behind VP 2. These were less than 50m from The Fleet shoreline. These observations suggest that the fields behind the eastern end of West Fleet are regularly used by small numbers of barnacle geese during December-January.

Brent geese

4.39 A flock of 56 Brent geese were recorded on the field behind Sector K on 21/11/2014 and a further 150 on the field above VP1 on 20/01/2015. In both cases these flocks were 100-150m from the Fleet shoreline. These observations suggest that Brent geese are feeding on the fields to the north-east of the Fleet their presence presumably

depending on the food resources available in The Fleet, the condition of the fields (e.g. suitable sweet, short grass) and the levels of disturbance. Goose droppings were seen on virtually all the fields between VP1 and VP4 but these could have included Canada geese.

Lapwing

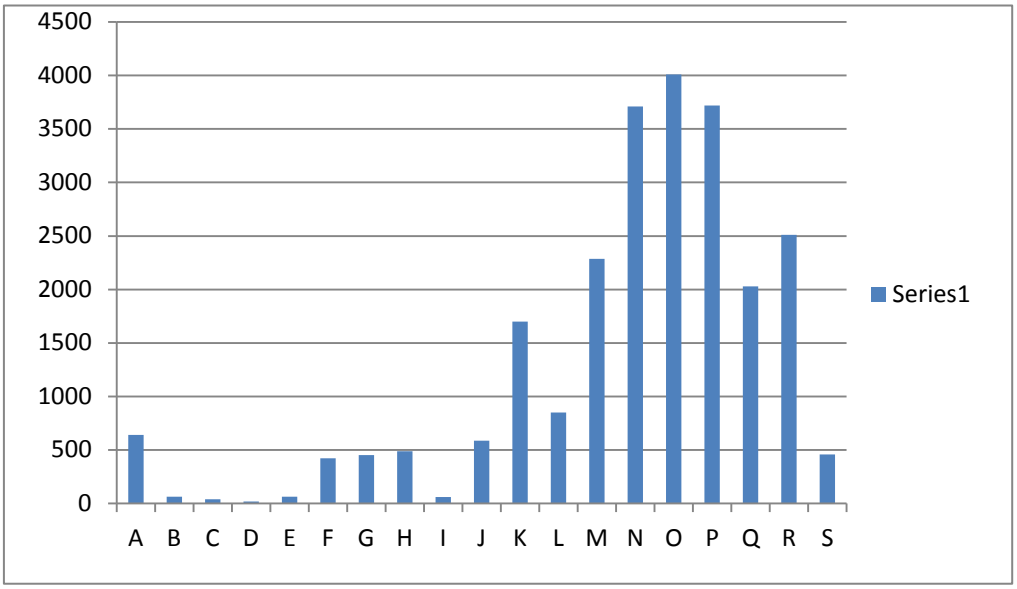
4.40 A flock of 200 lapwings were present on the field above VP1 on 15/12/2015 and the same number on 02/02/2015. It seems probable that these birds were moving through and took advantage of suitable undisturbed conditions to rest and feed.

Table 2. The status of wintering bird species on The Fleet, Chesil and the contribution to recorded peak numbers from the West Fleet between Shipmoor Point and Langton Hive Point defined as: Very significant >60%, significant 30-59%, Moderate 10-29%, low <10%

Species status for The Fleet	Contribution to the numbers on The Fleet from West Fleet population				
	Very significant	Significant	Moderate	Low	
Importance					
International					
Dark-bellied brent			√		
National					
Mute Swan		√		√	
Dark-bellied Brent	√				
Pochard				√	
R-B merganser			√		
Little egret			√		
Coot		√			
Gadwall				√?	
Regional					
Wigeon				√	
Shoveler		√			
Barnacle goose	√				
Tufted duck					
Pintail		√			
Teal	√				
Mallard				√	
Shelduck		√			
Goldeneye				√	
G-C grebe			√		
Lapwing			√		
Local					
Grey heron			√	√	
Redshank			√		
Dunlin				√	
Cormorant				√	
Little Grebe				√	

5. Waterfowl count by sector

Figure 1.Total numbers of waders and wildfowl counted in each sector on Chesil Fleet during October-February 2014-2015



5.1 Figure 1 shows the total numbers of wildfowl and waders recorded within each sector in all counts. It is clear that the majority of the records are in Sectors M-R with highest numbers in N-O-P. This is the widest part of the Fleet between Shipmoor Point and Langton Hive Point and is closer to the entrance and therefore more saline than The Fleet further west. The Bay between Sectors O-P-Q is also the point at which freshwater discharges into Chesil Fleet from the Rodden Stream and birds are known to gather here to bathe, preen and drink. This distribution may therefore reflect more favourable foraging, drinking and preening conditions or lower disturbance.

Figure 2. Numbers of SPA and RAMSAR qualifying species and SSSI notified species and species of national importance counted in each sector on Chesil Fleet during October-February 2014-2015[1]

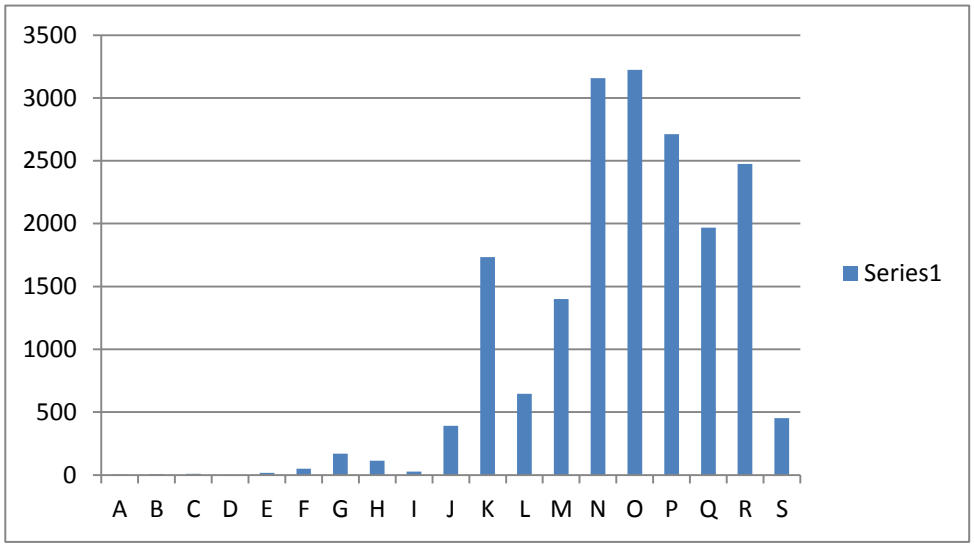
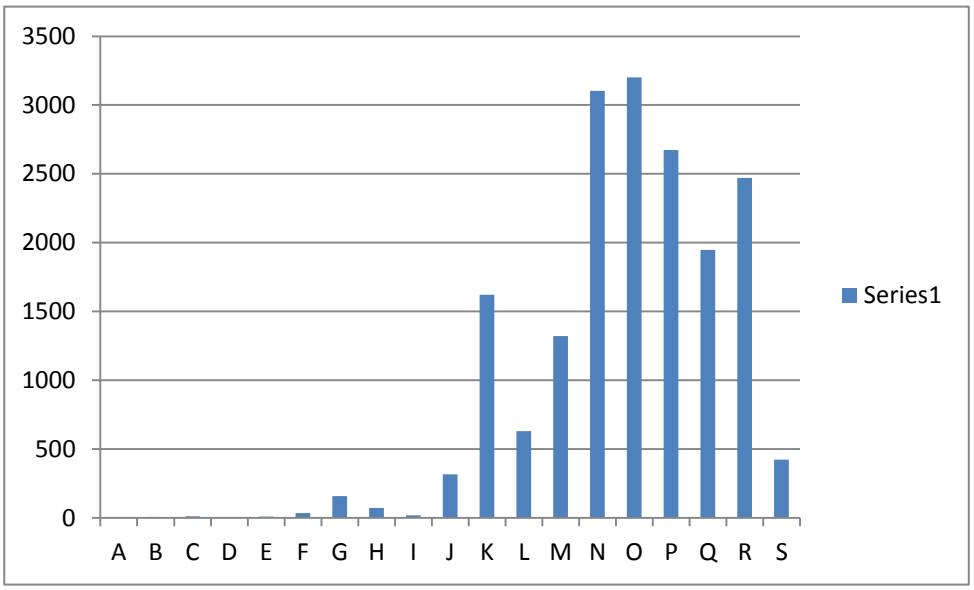


Figure 3. Numbers of SPA and RAMSAR qualifying species and SSSI notified species counted in each sector on Chesil Fleet during October-February 2014-2015[2]



5.2 Figures 2 and 3 show the distribution of all SPA, Ramsar and SSSI species including other species occurring in nationally important numbers in Figure two and with these latter species omitted in Figure 3. However the pattern is similar to the total species number

[1] Species included are: mute swan, dark-bellied Brent goose, wigeon, dunlin, lapwing, coot, pochard, red-breasted merganser, little egret and gadwall

[2] Species included are: mute swan, dark-bellied Brent goose, wigeon, dunlin, lapwing and coot.

shown in Figure 1 with Sectors K to R holding most of the birds and with highest numbers in Sectors N to R.

Table 3. Numbers of birds in Sectors K-R and M-R and as a percentage (in parentheses) of total numbers in all sectors, Chesil Fleet Oct-Feb 2015

Species	Sectors K-R	Sectors M-R	All sectors
All	20,818 (83.6)	18,267 (73.3)	24,907
SPA/RAMSAR/SSSI/Nat Imp	17,316 (93.3)	14,936 (80.5)	18,562
SPA/RAMSAR/SSSI	16,969 (94.2)	14,715 (81.7)	18,010

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5.3 Although the pattern of distribution is similar for all three categories, the percentages of the total number of birds within Sectors K-R and M-R is higher for the SPA/RAMSAR/SSSI category than for all species and also higher with a similar pattern if species of national importance are added. Some 93-94% of all these most important species were found within the Sectors K-R.

6. Discussion

Distribution

6.1 The distribution shown in figures 1-3 above show that there is a strong concentration of birds at the eastern end of West Fleet, a pattern which is even more marked for the SPA and RAMSAR featured, SSSI designated and nationally important species. This area, in which over 90% of all records of important species were noted, extends from slightly north-west of Langton Hive Point to the landing stage south of South Sleight Coppice.

6.2 All records of dark-bellied Brent and barnacle geese and lapwing were in fields above much the same sectors from K to P, although goose droppings were seen to the West as far as View Point 4. These may have been Canada geese or may have included the other species. The prevalence of grazing geese and foraging or roosting lapwings in this area may also have reflected the relatively short grass here compared to the rougher pasture further west.

Disturbance

6.3 Details of disturbance distances are contained in a separate report based on a series of measured observations from parts of The Fleet which abut public paths and open spaces (Liley, Underhill-Day & Gartshore 2015). The observer who carried out these counts did not undertake a formal study of disturbance but did make a number of observations when counting birds on and above West Fleet, mostly from disturbance caused by his own activities, despite considerable care being taken to avoid disturbing birds on the water. It proved impossible to avoid disturbing flock of geese or lapwings on the grass fields above The Fleet as these had to be crossed or walked through to reach the count locations.

6.4 The only other disturbance noted was on 15th December when the Environment Agency were carrying out water sampling and some birds moved away and were counted in adjoining sectors.

6.5 Mostly coot and teal were disturbed on the water if a vehicle approached The Fleet down the High Barn track to park in the small quarry about 50m from the shoreline to The FleetCoot generally swam out from the eastern edge of The Fleet if an observer was seen near the shore, but flew off if an observer suddenly appeared e.g. in a gap in the vegetation. Teal, which often clustered under the eastern bank, flew off if an observer approached and shoveler were easily disturbed at a greater distance wherever they were on the water.

6.6 Wigeon however tended to stay under the Bank of the south western side of the Fleet and were not easily disturbed. Wigeon were not seen feeding on the fields but might do so if conditions were right (short, sweet grass). As it is, they probably fly out at night to feed elsewhere. Both Brent and barnacle geese tended to slowly swim away from an observer and red-breasted merganser did the same, surfacing further way after a dive. Mute swans ignored an observer on the bank.

6.7 Both dark-bellied Brent geese and barnacle geese would usually fly off from the fields when an observer approached within 100-300 metres (depending on where they were), usually settling on the water.

6.8 If they saw an observer, redshank, which tended to feed in small numbers on the shoreline, would fly along the shore and settle again 100 or more metres away, although in many places, the observer could not be seen from the shoreline and could pass a feeding redshank below without it being aware of their presence. On the fields, lapwings would fly off when an observer came within 100-300 metres (depending on the topography and where they were).

6.9 It should be noted here that at no time was the observer accompanied by a dog, and that a walker with a dog, or a dog by itself could cause greater disturbance than a walker alone (Taylor, Green & Perrins 2007).

6.10 Given the distribution of the birds on West Fleet noted above, it is clear that the risk of disturbance to the more important species both on the water and on fields above the Fleet is far greater at the eastern end of West Fleet.

6.11 The disturbance study which took place contemporaneously with this study on that stretch of The Fleet further south where there is a public path on or close to the shoreline, recorded disturbance responses by birds on the water at up to 170m (Liley, Underhill-Day & Gartshore 2015). However their report noted that:

- The study did not examine the levels of disturbance or the distances involved where birds were foraging or loafing on the fields above The Fleet as none were observed during their study. This may, for example, have been due to the arable nature of the adjoining fields or the regular use of the shoreline path.
- Much of The Fleet between Rodden Hive and Shipmoor Point is 100-150 m wide so it would be expected that for much of this length of West Fleet could be disturbed by walkers or dogs on a path along the shoreline. At most points along this shoreline, the ground rises so that if they moved inland walkers or dogs would become more visible to birds on the water (whereas nearer The Fleet shoreline they would not be on the skyline and in places, would be shielded by vegetation. It is not known how this might affect the birds.

6.12 The observations of disturbance to birds recorded during the counts suggest that walkers and dogs (which may cause disturbance at a greater distance than walkers alone) could cause unacceptable disturbance from a path on the shoreline of The West Fleet both to birds on the water and on the fields above the shoreline to the east.

6.13 The difference in maximum disturbance distances between the disturbance report (170m)for birds on the water and the observations of the count observer (300m) for birds on the fields could be because birds grazing on the fields are more at risk from mammalian predators, particularly on smaller fields or close to cover such as woods or hedges, whereas out on the water there is little risk from mammalian predators. The

birds are therefore warier when on land and show a response to a potential predator (a human or dog) at a greater distance than when they are on the water.

6.14 Any path would need to be either out of sight of both the shoreline and the fields, or, at a distance where disturbance was unlikely. Disturbance noted by the observer to feeding or roosting birds on the fields from his own activities took place at a distance of 100-300m. No locations of the feeding or roosting birds within the fields were recorded although birds were likely to have been in open areas, away from woods or hedges where predators could find cover and with unobstructed access to the safety of the water.

6.15 There is also a danger of walkers, and particularly their dogs, leaving the path and going down to the shore. A loose dog along the shoreline could disturb all the birds on the field and on the water. Any path would need to be fenced from the shoreline fields, with locked gates and signs to minimise the possibility of this happening. In the longer term, a double fenced hedge which would also screen the path, would form the best barrier against people and dogs, and could also add to the wildlife interest and landscape. However there is a risk that additional hedges would further restrict the areas of fields that grazing or roosting birds would use as they tend to stay away from any cover that might hide a predator.

6.16 Finally, while this study has concentrated on the inner shoreline and fields to the North-east of The Fleet, no observations have been made of disturbance by people and dogs from the bank on the seaward side. It may be that this is minimal (and no-one was seen during these counts), but any disturbance here could be more damaging as there is no fringing vegetation to obscure activity. If such disturbance was combined with inland activity and was regular, then, given that The West Fleet is less than 200m (as little as 140m wide) for much of its length, a substantial length would be seriously affected. Moreover, species such as wigeon which currently spend much of their time under the bank further away from potential inland disturbance would be more vulnerable from disturbance on the seaward side.

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7. References

Gartshore, N. & Underhill-Day, J. (2014) *A Brief Assessment of Visible Migration at The Fleet, Chesil*. Unpublished Report to Natural England, Footprint Ecology.

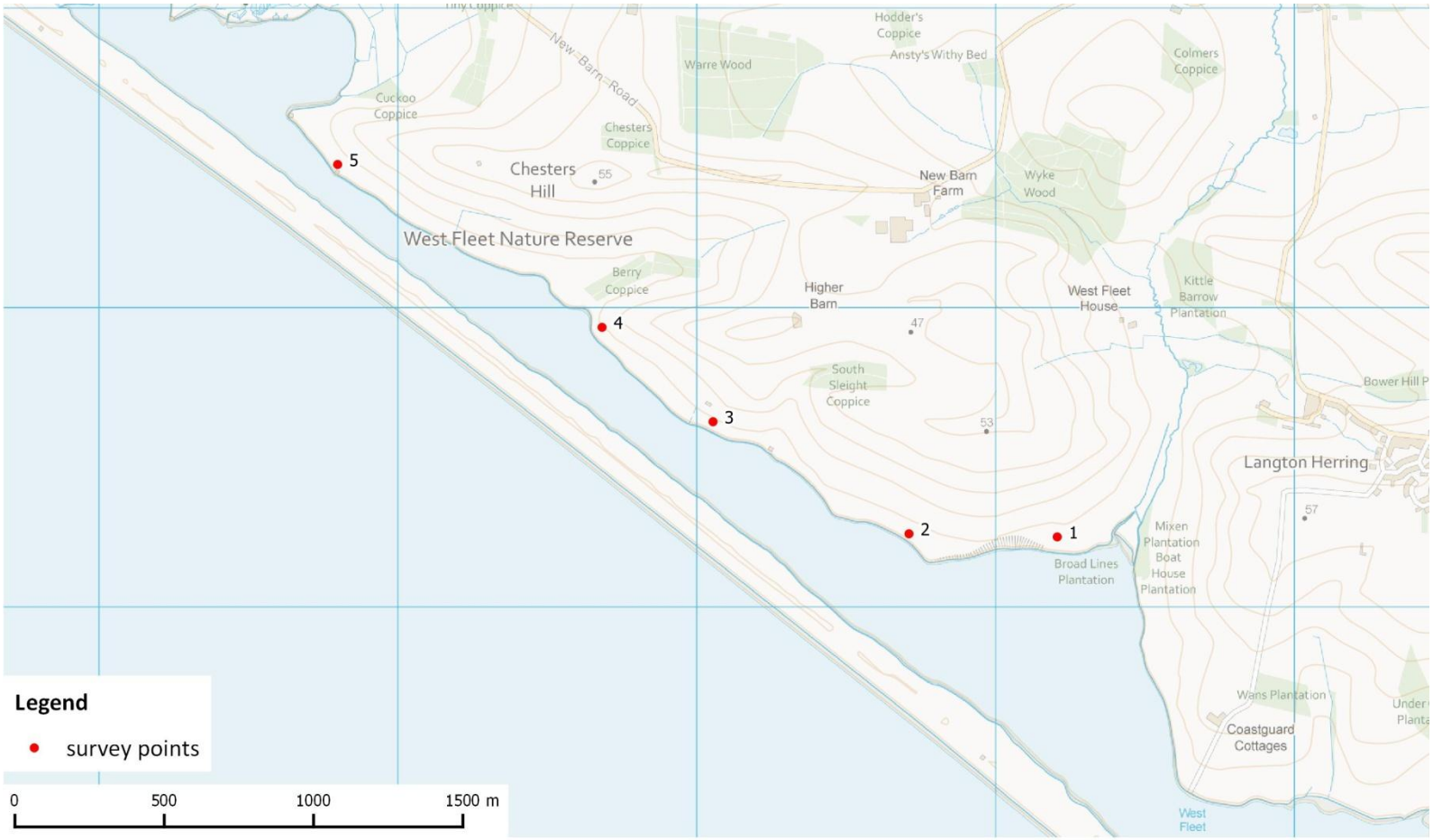
Liley, D., Underhill-Day, J. & Gartshore, N. (2015) *The Fleet Bird Disturbance Survey.* Unpublished Report to NE, Wareham.

Taylor, E.C., Green, R.E. & Perrins, J. (2007) Stone-curlews Burhinus oedicnemus and recreational disturbance: developing a management tool for access. *Ibis*, **149**, 37–44.

Underhill-Day, J.C., Pickess, B. & Lake, S. (2014) *A Literature Review of the Birds of Chesil Fleet between Abbotsbury and Rodden Hive*. Unpublished report to Natural England, Footprint Ecology, Wareham Dorset.

8. Maps

Map 1. Study area with locations and place names mentioned in the Text.



Map 2. Observation points used for the wintering wildfowl and wader counts on West Fleet, Chesil.

Map 3. Boundaries and lettering of 200m count sectors for wintering wildfowl and wader survey at West Fleet, Chesil

Survey points & survey sections

9. Appendix 1

Barnacle Goose																								
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	20	0	0	37			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	16			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.625	37	6

Canada Goose																								
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0	0	0	0	0	130			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	0	0	0	0	116			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31.88	130	5

Coot																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOT.**	Mean	Max	No of blank days
23/10/2014	0	0	0	1	7	0	0	0	0	12	83	122	176	140	360	60	30	50	10	0	1051			
14/11/2014	0	0	0	0	0	0	0	0	0	98	187	86	212	270	107	260	140	50	20	0	1430			
21/11/2014	0	0	0	0	0	0	0	5	3	124	25	107	64	170	200	150	250	150	30	0	1278			
04/12/2014	0	0	0	0	0	0	0	0	0	14	87	156	165	206	250	192	220	275	46	0	1611			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	18	200	350	540	250	150	50	0	1558			
07/01/2015	0	0	0	0	0	0	0	0	0	0	1030	0	0	0	0	0	475	0	0	0	1505			
20/01/2015	0	0	0	0	0	0	0	0	0	0	1	0	0	0	193	0	0	955	30	0	1179			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	1	271	480	14	14	10	0	790	1300.25	1611	0

Cormorant																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1			
14/11/2014	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	3	0	0	0	0	8			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1			
04/12/2014	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
15/12/2014	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2			
07/01/2015	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	8	1

Curlew																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8

Dark-Bellied Brent Goose																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	15	0	35			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0	130			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	34	0	0	42			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	65	141	0	0	217			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	290	850	240	0	56	50	0	0	1486			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	200	1050	300	3	6	0	6	0	1565			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	28	17	6	4	0	0	0	0	55	442.625	1565	0

Dunlin																								
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
04/12/2014	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3	6

Gadwall																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4			
20/01/2015	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	1.125	4	5

Goldeneye																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2			
04/12/2014	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13			
02/02/2015	0	0	0	0	0	0	0	0	6	0	0	3	7	0	0	0	0	0	0	0	16	4.375	16	4

Grey Heron																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2			
15/12/2014	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2

Grey Plover																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	1	7

Gt Crested Grebe																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	6	0	0	0	0	7	0	0	0	0	0	0	3	3	4	0	0	0	0	0	23			
14/11/2014	1	0	1	3	3	0	0	1	0	4	6	2	3	2	5	3	1	0	0	0	35			
21/11/2014	0	0	0	1	3	1	0	1	0	1	5	0	0	4	3	0	0	3	0	0	22			
04/12/2014	0	0	0	0	0	0	2	0	0	0	0	1	14	5	0	2	0	0	0	0	24			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	2	1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	9			
02/02/2015	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15	35	1

Lapwing																								
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	58	59			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	328	41	0	0	0	88	457			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	39			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122	122	84.625	457	4

Little Egret																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	2	0	0	0	0	0	0	1	0	4	0	1	0	0	0	8			
14/11/2014	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2			
04/12/2014	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	1	0	0	5			
15/12/2014	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0	4			
07/01/2015	0	1	0	0	0	0	0	0	0	2	1	1	0	0	1	0	0	0	1	0	7			
20/01/2015	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	5			
02/02/2015	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4	4.625	8	0

Little Grebe																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5			
14/11/2014	0	0	9	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	13			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.25	13	6

Long-tailed Duck																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
04/12/2014	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3			
02/02/2015	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1.625	4	4

Mallard																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	3	0	0	0	0	2	0	2	0	5	0	0	0	0	2	0	0	0	0	0	14			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	10	0	0	0	3	0	0	0	0	4	12	0	0	0	0	0	0	29			
02/02/2015	0	0	0	0	13	3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	18	7.75	29	4

Mute Swan																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	17	0	0	0	0	18			
14/11/2014	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
21/11/2014	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7	0	0	28	0	37			
04/12/2014	0	0	5	0	0	1	0	0	0	0	0	4	0	0	7	29	8	29	0	0	83			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	2	0	9	121	27	9	0	0	168			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	24	0	0	0	36			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	6	43.75	168	1

Oystercatcher																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.25	58	7

Pintail																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	20	30	0	0	0	0	0	50			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	20	50	30	0	0	0	0	100			
07/01/2015	0	0	0	0	0	12	0	0	0	1	0	0	0	0	6	6	0	0	0	0	25			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	102	22	0	0	0	0	0	124			
02/02/2015	0	0	0	0	0	0	0	0	18	0	0	0	0	101	23	4	0	0	0	0	146	55.875	146	2

Pochard																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	16			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16	7

Red br. Merganser																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	3	0	0	1	0	0	0	20	2	15	0	0	0	0	1	0	0	0	0	0	42			
21/11/2014	0	0	0	0	6	5	11	1	0	4	5	1	0	0	0	0	0	0	0	0	33			
04/12/2014	0	0	0	0	0	0	0	7	0	3	0	0	8	0	0	0	0	0	0	3	21			
15/12/2014	0	0	0	0	0	2	0	0	2	0	0	0	51	0	0	0	0	0	1	0	56			
07/01/2015	0	0	0	0	0	0	0	14	0	8	7	2	0	4	0	0	6	0	6	0	47			
20/01/2015	0	0	0	0	0	0	0	0	0	5	0	5	0	48	0	38	12	0	0	0	108			
02/02/2015	0	0	0	0	0	4	0	0	4	34	0	8	16	1	2	0	0	2	28	0	99	50.75	108	1

Redshank																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	1	0	0	0	0	13			
14/11/2014	0	2	0	0	1	1	0	0	1	0	0	1	1	2	10	2	0	0	0	0	21			
21/11/2014	0	0	0	0	0	2	0	0	0	0	0	1	0	0	2	2	0	0	0	0	7			
04/12/2014	2	0	0	0	0	2	0	0	0	0	1	2	0	0	0	2	0	0	0	0	9			
15/12/2014	2	1	0	0	1	0	0	4	1	1	2	1	0	0	0	5	0	0	0	0	18			
07/01/2015	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2			
20/01/2015	2	0	0	0	0	1	0	0	0	0	1	0	0	2	0	1	0	0	0	0	7			
02/02/2015	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	1	0	0	9	10.75	21	0

Shelduck																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
21/11/2014	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
04/12/2014	0	22	0	0	0	0	6	0	0	0	0	0	0	0	0	2	0	0	0	17	47			
15/12/2014	10	2	12	0	0	6	1	1	0	0	2	2	0	0	0	1	0	0	0	0	37			
07/01/2015	0	0	2	0	0	5	33	0	0	18	0	0	0	0	0	0	0	0	0	0	58			
20/01/2015	12	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	28			
02/02/2015	0	0	0	0	0	6	3	0	0	0	0	0	1	0	0	0	2	0	0	0	12	23.75	58	1

Shoveler																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	26	0	0	0	1	32			
14/11/2014	0	0	0	0	0	0	4	1	2	0	2	0	25	0	0	4	0	0	0	2	40			
21/11/2014	2	0	0	0	0	22	0	2	0	2	0	8	0	0	14	0	0	0	0	0	50			
04/12/2014	0	27	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	46			
15/12/2014	33	0	0	0	0	0	38	4	0	0	0	0	0	0	0	4	0	0	0	0	79			
07/01/2015	0	0	0	0	0	59	22	1	0	0	12	0	0	0	0	0	2	0	0	0	96			
20/01/2015	1	0	0	0	0	59	0	0	0	0	0	0	0	0	0	0	0	11	0	0	71			
02/02/2015	0	0	0	0	0	10	47	0	0	0	0	0	0	0	0	0	0	0	0	0	57	58.875	96	0

Snipe																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75	6	7

Teal																								
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOT.**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	30	0	0	0	38	72			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	340	400			
21/11/2014	160	0	0	0	0	0	6	0	0	0	0	86	300	0	40	0	0	0	0	0	592			
04/12/2014	380	0	0	0	0	0	47	0	0	92	2	0	350	0	28	46	0	0	0	14	959			
15/12/2014	3	0	0	0	0	0	0	305	0	0	0	0	120	50	200	250	38	0	0	0	966			
07/01/2015	0	0	0	0	0	8	2	42	0	62	30	75	0	100	150	90	0	0	0	0	559			
20/01/2015	8	0	0	2	18	9	0	0	0	0	0	0	0	0	0	137	10	0	0	0	184			
02/02/2015	0	0	0	0	0	147	32	0	0	2	0	0	45	106	38	158	4	0	0	0	532	533	966	0

Tufted Duck																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	12			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	12	7

Turnstone																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOTAL**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
21/11/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
04/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15/12/2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
07/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20/01/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
02/02/2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8

Wigeon																							
Date	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**Abb Mead**	**ROW TOT**	Mean	Max	No of blank days
23/10/2014	0	0	0	0	2	0	0	0	0	2	4	34	39	18	120	240	180	180	30	0	849			
14/11/2014	0	0	0	0	0	0	0	0	0	11	202	90	12	17	6	70	0	0	0	2	410			
21/11/2014	0	0	0	0	0	0	14	0	0	3	0	4	70	45	104	84	33	50	0	0	407			
04/12/2014	0	4	0	0	0	0	62	14	0	5	0	4	0	0	120	66	22	160	6	0	463			
15/12/2014	0	0	0	0	0	0	28	36	0	0	0	0	0	50	120	130	100	150	0	0	614			
07/01/2015	0	0	10	0	0	32	48	17	0	38	0	22	20	0	6	12	0	0	0	0	205			
20/01/2015	0	0	0	0	0	0	5	0	0	0	0	0	0	46	32	52	11	0	0	0	146			
02/02/2015	0	0	0	0	0	0	0	0	12	8	0	0	25	23	60	102	26	0	0	0	256	418.75	849	0