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### Thanet Coast Turnstone (*Arenaria interpres*) Monitoring

January – February 2016



Turnstone at Sandwich Bay by Margaret Smith

### **A Report to Natural England**

by

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On behalf of

Sandwich Bay Bird Observatory Trust (SBBOT)

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## **1 Summary**

The population of Turnstones within the Thanet and Sandwich Bay SPA in six surveys between 2001 and 2010 was found to vary between 1,087 and 1,335, with a mean of 1,227. This represented a relatively small variation from the average of no more than 11%. Against this background, a co-ordinated count of only 620 in the 2013 survey gave significant cause for concern, particularly as numbers were found to be reduced in almost all sections of the coast.

It was recommended that further co-ordinated counts of the coast be undertaken in winter 2013/14 to establish the accuracy of the 2013 result. It was also suggested that attention should be directed at establishing that all roost sites and areas used for feeding at high tide were being monitored, in case some birds using previously unused sites were missed during the 2013 count. However, totals of 583 and 664 in the two co-ordinated counts in 2013/14 confirmed that numbers had indeed declined seriously.

In 2015 recorders were asked to two co-ordinated counts around the coast at high tide on 31<sup>st</sup> January and 21<sup>st</sup> February. Only partial coverage was achieved in the first visit, but in the second a total of 527 Turnstones was recorded, representing a further reduction in numbers using this part of the coast in winter.

The co-ordinated counts were repeated on 23<sup>rd</sup> January and 20<sup>th</sup> February 2016. Although only 445 Turnstones were counted on the first date, the second resulted in a total of 537, very similar to the second count in 2015.

## **2 Summary of Methods**

### **2.1 Co-ordinated Turnstone counts**

Co-ordinated Turnstone counts were undertaken during high tide on 23<sup>rd</sup> January 2016 and again on 20<sup>th</sup> February 2016. As with previous surveys, the coastline was divided into 21 sections of approximately 2km length (see Appendix 1). Each section was assigned to 1 or 2 volunteers, recruited from the Thanet Coast Project (North East Kent Marine Protected Area) volunteers, and Sandwich Bay Bird Observatory.

Surveyors were instructed to walk the whole length of their allocated stretch of coastline, commencing half an hour before high tide and counting Turnstones occurring in that section. Volunteers were asked to ensure that double-counting was kept to a minimum. Some surveyors were less than confident about identification of other waders so this survey concentrated solely on counting Turnstones.



### 3 Results

#### 3.1 Co-ordinated Turnstone counts

Results of the co-ordinated Turnstone counts are summarised below in Tables 1 and 2.

This year's survey took place during a mostly benign winter, with average temperatures of 8°C in both January and February and double figure values on the count days. The increasingly westerly distribution of Turnstones around the coast was again evident in the first count, with no sector to the east of Westgate Bay holding 10% or more; a feature that had been apparent in the previous three co-ordinated counts, but on the second count 125 Turnstones were found in Botany Bay, representing 23% of the total. A few observers again noted that all pre-roost movement was westerly.

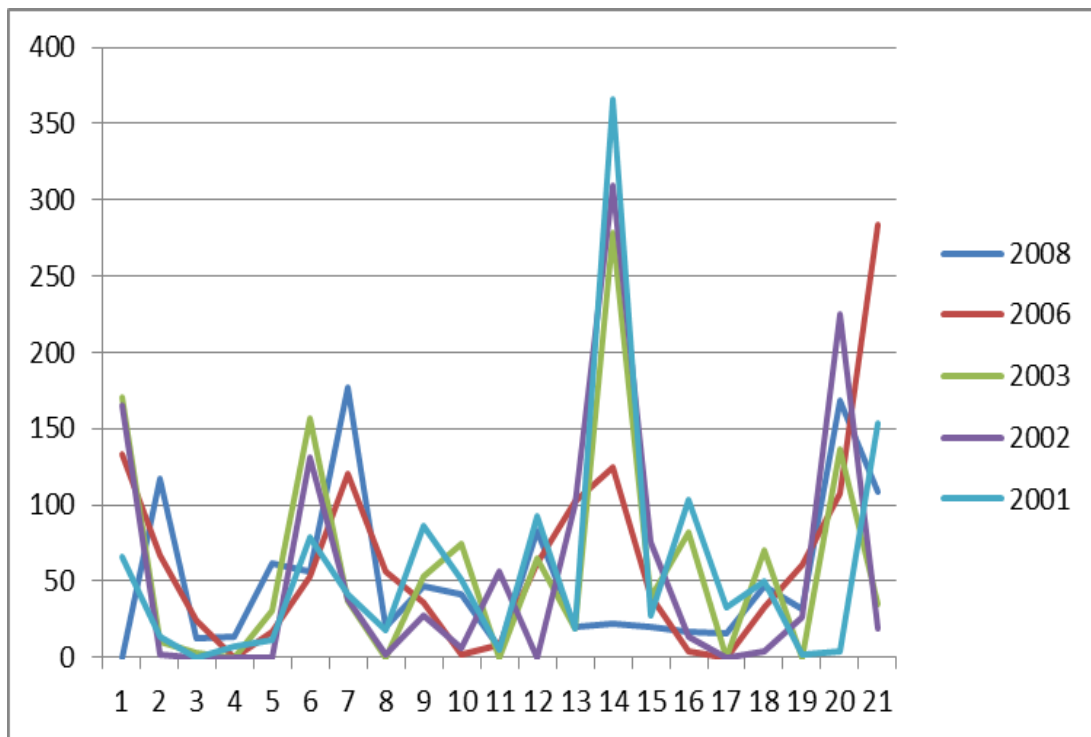
Counts were again lower than those that were evident since February 2013 but were not further reduced from 2015 numbers, in the second count at least.

**Table 1. Results of the co-ordinated Turnstone counts on Saturday 23<sup>rd</sup> January 2016 (total of 445) and Saturday 20<sup>th</sup> February 2016 (total of 537) and comparison with results from February 2001, March 2002, March 2003, March 2006, February 2008, February 2010, February 2013, January and March 2014 and January and February 2015.** Sectors holding 10% or more are highlighted in yellow; those with 20% or more are highlighted in orange. \* The asterisk against the total of 373 on the first of the co-ordinated counts in 2015 indicates that coverage was incomplete.

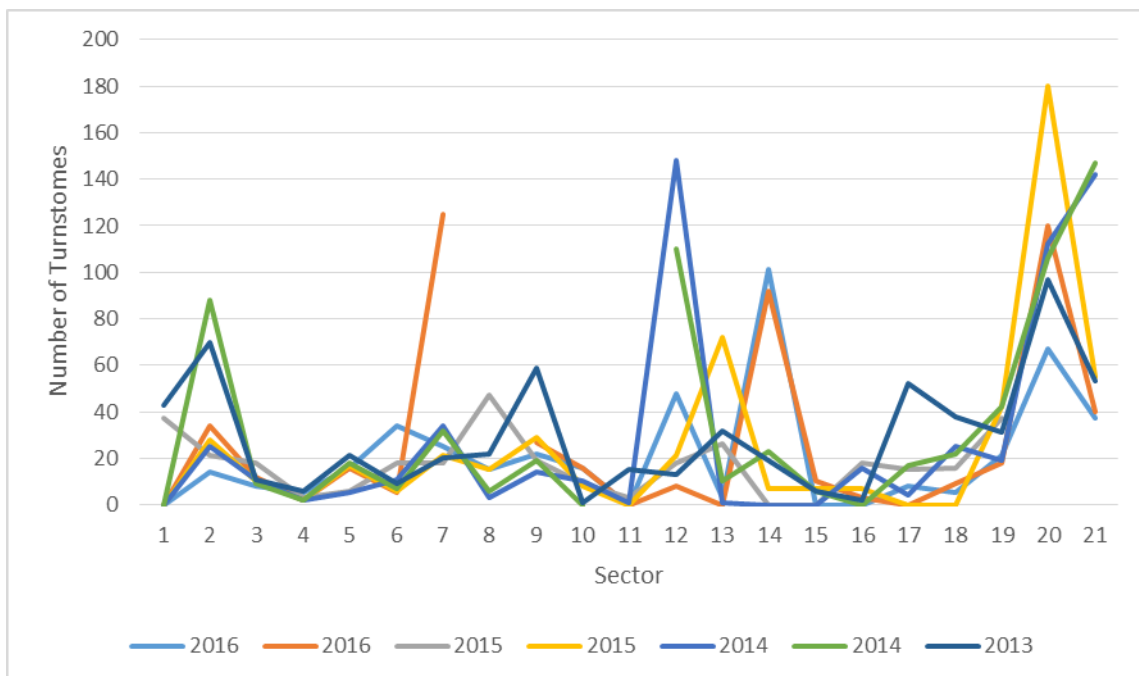
	SECTOR																				TOT	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		21
<b>2016</b>	0	14	8	5	16	34	25	15	22	16	0	48	3	101	0	0	8	5	21	67	37	445
	0	34	12	2	16	5	125	0	27	16	0	8	0	92	10	3	0	9	18	120	40	537
<b>2015</b>	37	21	18	3	6	18	18	47	19	9	3	18	26	0	0	18	15	16	37		44	373 *
	0	28	10	2	17	6	21	15	29	8	0	21	72	7	7	7	0	0	42	180	55	527
<b>2014</b>	0	25	11	2	5	11	34	3	14	10	1	148	1	0	0	16	4	25	19	112	142	583
	0	88	9	2	18	7	32	6	19	0		110	10	23	6	0	17	22	42	106	147	664
<b>2013</b>	43	70	11	6	21	9	20	22	59	1	15	13	32	19	6	2	52	38	31	97	53	620
<b>2010</b>	0	927	0	2	16	14	0	0	0	0	37	12	0	21	0	8	13	0	8	187	2	1247
<b>2008</b>	0	117	13	14	62	56	177	20	47	41	6	83	20	22	20	17	16	47	32	168	109	1087
<b>2006</b>	133	67	24	0	17	53	120	56	36	2	8	62	102	125	40	4	0	33	61	108	284	1335
<b>2003</b>	171	11	3	0	31	157	37	0	53	74	0	65	19	278	39	82	0	70	0	136	35	1261
<b>2002</b>	165	2	0	0	0	131	38	2	28	6	56	0	100	309	76	14	0	4	26	225	19	1201
<b>2001</b>	66	14	0	7	12	79	41	18	86	51	5	93	19	366	28	103	33	50	2	4	154	1231



**Figure 1. Turnstone distribution within the Thanet and Sandwich Bay SPA in five study years 2001-2008.**



**Figure 2. Turnstone distribution within the Thanet and Sandwich Bay SPA 2013 - 16**



### 3.2 Roost disturbance monitoring

Roost disturbance monitoring was undertaken by volunteers from Thanet Coast Project.

The following key Turnstone roost sites were monitored during January and February 2016.

- Pegwell Bay.
- Kingsgate Bay.
- Whiteness Bay.
- Foreness Point.
- Palm Bay
- Margate (particularly harbour slipway roost).
- Minnis Bay.
- Plumpudding Island.
- Hampton Pier.

No volunteers could be found to monitor disturbance at Coldharbour.

A minimum of two visits were made to each site during this period. The following data were collected during these visits:

- Weather and sea conditions.
- The maximum number of Turnstones counted within the period from one hour prior to high tide to one hour after high tide.
- Behaviour of Turnstones (i.e. roosting or actively feeding) and changes to this behaviour.
- Location of roost(s) and/or Turnstones.
- Details of any disturbance or potential disturbance, including the number of people and dogs on the beach or in the vicinity of the birds (counts made at regular intervals where possible).
- Any specific disturbance incident(s), such as a dog chasing the birds, human-turnstone interactions etc.
- The level and location of disturbance(s).
- The response of Turnstones to disturbance(s).

The recording form (see Appendix 2) is based upon the same methods used during the previous studies to record the disturbance data for this study. It includes a guide to the ranking system used to record the level of disturbance and the types of disturbance that the volunteers might encounter.

From the information collected each site was assessed for the type, level and frequency of turnstone disturbance observed.

It seems to be increasingly difficult to attract volunteers to this aspect of the study and at one of the previously monitored sites no volunteer was forthcoming. Although the results, shown in the tables below, suggest that the overall level of disturbance has decreased, this probably reflects the steadily decreasing numbers of Turnstones using these sectors at high tide. The high incidence of dogs off leads and the negative effect this had on roosting flocks was evident in most sectors and remains a significant cause of disturbance.



**Table 3. Summary of disturbance reported for each site in 2013 and 2015**

	No of visits	% of visits on which disturbance was reported (% of such visits in 2013 in brackets)	Maximum level of disturbance reported (Range 0 – 5) (maximum 2013 disturbance levels in brackets)
Pegwell Bay	2	100 % (100%)	3 (5)
Kingsgate Bay	1	100% (75%)	1 (5)
Whiteness Bay	2	50% (75%)	4 (5)
Foreness Point	3	100% (100%)	5 (5)
Margate	2	100% (100%)	2 (5)
Minnis Bay	1	100% (100%)	4 (5)
Plumpudding Island	3	100% (100%)	5 (5)
Coldharbour	2	100% (100%)	5 (5)
Hampton – Long Rock	3	100% (75%)	5 (5)

**Table 4. Maximum level of each type of disturbance at each site in 2015**

	Type of Disturbance														
	1	2A	2B	2C	3	4	5	6	7	8	9	10	11	12	13
Pegwell Bay			3												
Kingsgate Bay	1														
Whiteness							4								4
Foreness Point	1	2	3	5			2								
Margate	2									5					1
Minnis Bay	4		3	4											
Plumpudding Is	4	3	3	5	5			2							5
Coldharbour			5	5											
Hampton – Long Rock	4	4	5	5											

**Table 5. Summary of disturbance reported for each site in 2016**

	No of visits	% of visits on which disturbance was reported	Maximum level of disturbance reported (Range 0 – 5)
Pegwell Bay	2	100 %	4
Kingsgate Bay	3	100%	5
Whiteness Bay	2	0%	0
Foreness Point	2	100%	5
Margate	1	100%	1
Minnis Bay	2	100%	4
Plumpudding Island	4	75%	5
Coldharbour	NOT SURVEYED		
Hampton – Long Rock	2	100%	4

**Table 6. Maximum level of each type of disturbance at each site in 2016**

	Type of Disturbance														
	1	2A	2B	2C	3	4	5	6	7	8	9	10	11	12	13
Pegwell Bay			1					4		4		2	2		
Kingsgate Bay	3			4									5		
Whiteness															
Foreness Point	3	1	5	5											
Margate	1										1				
Minnis Bay	4		3	5											
Plumpudding Is	5		3	5									5		
Coldharbour	NOT SURVEYED														
Hampton – Long Rock	4		4	4							3		2		





## 4 Discussion

### 4.1 Current Thanet Turnstone population and distribution

In 2013 the population of Turnstones within the Thanet and Sandwich Bay SPA was found to be significantly lower than the totals that were evident in the six surveys carried out between 2001 and 2010. Despite concerns that some birds may have been missed in the 2013 survey, results from two co-ordinated counts in 2014, supported by a programme of roost site monitoring, confirmed that the apparent decrease was genuine. This conclusion was supported by the results of the co-ordinated counts carried out in January and February 2015 and results from the second of two co-ordinated counts in 2016 seem to confirm that the population has stabilised at these more recent lower levels.

The reasons for the fall to lower numbers that first became apparent in 2013 are no clearer than when the decline was first noted. Weather does not appear to be a factor: the surveys in 2013 and 2014 took place during one winter that was very cold (2012/13) and one that was very mild (2013/14), while the 2014/15 winter was fairly normal, with average temperatures of 7°C in both January and February. Further afield, recent winters in Greenland have been very cold. The majority of Turnstones wintering around the Thanet coast originate from Greenland and although wildfowl and waders are known to be encouraged by relatively mild conditions in the Baltic to spend the winter further north, this will probably not have affected the majority of the Turnstone population.

The increased willingness of Turnstones to tolerate humans continues to be apparent and this was also evident in other species, as the photograph (taken by Martin Sutherland in 2015) of Redshanks and Turnstones remaining within a few feet of passing walkers demonstrates.





However, observers continue to comment upon the high incidence of dogs off leads and the negative effect this had on roosting flocks in particular. This continues to be the main cause of disturbance and is likely to be a significant factor in the decline of the wintering Turnstone population of the Thanet and Sandwich Bay SPA. The disparity between the two co-ordinated counts in 2016 may have reflected the high level of disturbance, or at least the number of dogs off leads during the first count (remarked upon by several volunteers when sending in results), and possible movement of birds out of the area to the west. There is a known roost at Seasalter, about 2.5km to the west of Whitstable Harbour, at which 500 Turnstones roosted in September 2011, for example (Kent Ornithological Society).

As has been previously noted, there has been a national decline in winter Turnstone numbers. However, national WeBS (Wetland Bird Survey) counts indicate that the decline here has been different to the deterioration noted at national level, which involves a 41% decline over 25 years between 1986/87 and 2011/12 and, more recently, an 11% decline in the ten years between the 2001/02 and 2011/12 winters (WeBS). The co-ordinated counts carried out around Thanet since 2001 suggest that the Thanet population was insulated from the national decline until 2013 when the population fell by 50%.



## **Acknowledgements**

The following people and organisations deserve special thanks for their considerable assistance in undertaking and helping to organise this survey, principally as volunteer surveyors for the roost disturbance monitoring and co-ordinated wader counts:

- Volunteer surveyors from among the NEKMPA Coastal Wardens (Thanet District Council).
- North East Kent Marine Protected Area (NEKMPA) Officer Tony Child.
- Sandwich Bay Bird Observatory Trust volunteer surveyors.

## **References**

Kent Ornithological Society (2013) Kent Bird Report.

Sutherland M.P. (2015) Findings of a survey of Turnstones and other wader species between St.Mildred's Bay, Westgate and Grenham Bay, Birchington, January to March 2015.

WeBS. Waterbirds in the UK 2012/13. The Wetland Bird Survey. Published by British Trust for Ornithology, Wildfowl & Wetlands Trust, Royal Society for the Protection of Birds and Joint Nature Conservation Committee.



## Appendix 1 - Details of co-ordinated wader count sectors.

Sector #	Sector	From	To
1	<b>Pegwell Bay</b>	TR342628: South end of Pegwell Bay Nature Reserve, where coastal path turns sharply north along bay	TR354644: Opposite old hoverport road, west of Little Cliffsend Farm
2	<b>Pegwell – West Cliff</b>	TR354644: Opposite old hoverport road, west of Little Cliffsend Farm	TR377642: Western limit of Ramsgate Harbour, eastern limit of West Cliff
3	<b>Ramsgate</b> (harbour & beach)	TR377642: Western limit of Ramsgate Harbour, eastern limit of West Cliff	TR392655: By large groin at north end of Ramsgate main beach
4	<b>Dumpton / Dumpton Bay</b>	TR392655: By large groyne at north end of Ramsgate main beach	TR398673: South end of Louisa Bay south of Viking Bay
5	<b>Broadstairs</b>	TR398673: South end of Louisa Bay south of Viking Bay	TR401694: South of Joss Bay & North Foreland Lighthouse, opposite Convent
6	<b>North Foreland / Kingsgate Bay</b>	TR401694: South of Joss Bay & North Foreland Lighthouse, opposite Convent	TR393711: Botany Bay, by public toilet block
7	<b>Botany Bay – Palm Bay</b>	TR393711: Botany Bay, by public toilet block	TR372715: Bathing Pool / Jet Ski hire
8	<b>Margate east</b>	TR372715: Bathing Pool / Jet Ski hire	TR354712: Main Pier at Margate Harbour
9	<b>Margate</b> (Westbrook Bay & Margate Bay)	TR354712: Main Pier at Margate Harbour	TR335705: Small slipway at west end of Westbrook Bay, east of 'Sunken Gardens' by shelter
10	<b>St Mildred's Bay</b>	TR335705: Small slipway at west end of Westbrook Bay, east of 'Sunken Gardens' by shelter	TR321705: Westgate Pavilion ('Ledge Point' on O/S map)
11	<b>Westgate Bay</b>	TR321705: Westgate Pavilion ('Ledge Point' on O/S map)	TR308699 Eastern limit of Epple Bay
12	<b>Grenham Bay / Birchington</b>	TR308699: Eastern limit of Epple Bay	TR291701: Western limit of Grenham Bay
13	<b>Minnis Bay</b>	TR291701: Western limit of Grenham Bay	TR273694: Western end of small groins at 'Plumpudding Island', opposite mussel bed & public path leading south
14	<b>Plumpudding Island – Cold Harbour</b>	TR273694: Western end of small groins at 'Plumpudding Island', opposite mussel bed & public path leading south	TR252694: Cold Harbour, opposite mussel beds & lagoons
15	<b>Cold Harbour – Reculver east</b>	TR252694: Cold Harbour, opposite mussel beds & lagoons	TR230694: Western end of shellfish hatchery
16	<b>Reculver west</b>	TR230694: Western end of shellfish hatchery	TR211687: Car park near 'Bishopstone Manor'
17	<b>Herne Bay east ('Beltinge Cliff')</b>	TR211687: Car park near 'Bishopstone Manor'	TR191685: Half-way along cliff, opposite 'Wantsum Walk' on O/S map
18	<b>Herne Bay</b>	TR191685: Half-way along cliff, opposite 'Wantsum Walk' on O/S map	TR172683: Herne Bay Pier
19	<b>Hampton / Hampton Pier</b>	TR172683: Herne Bay Pier	TR157679: Small slipway to west of Hampton Pier
20	<b>Long Rock (Swalecliff) – Hampton</b>	TR157679: Small slipway to west of Hampton Pier	TR137678: Long Rock, opposite sand spit
21	<b>Whitstable / Tankerton</b>	TR137678: Long Rock, opposite sand spit	TR108670: Whitstable Harbour



March 2014



## Appendix 2 – Recording form used during roost disturbance monitoring.

<b>TURNSTONE &amp; WADER DISTURBANCE MONITORING FORM</b>															
Survey Site / Area(s):						Recorder(s):						Date:			
Start Time:						Finish Time:									
High tide time:						High tide height (if known):									
<b>WEATHER:</b>															
Temperature: (°C)						Wind direction:									
<i>Please circle appropriate numbers</i>												<i>Notes:</i>			
Wind	1	None	2	Light	3	Moderate	4	Strong							
Rainfall	1	None	2	Light	3	Moderate	4	Heavy							
Sea condition	1	Calm	2	Swell	3	Large swell	4	Rough							
<b>ADDITIONAL INFORMATION:</b>															
<b>DISTURBANCE:</b> <i>(Please complete, even if no disturbance occurred on site)</i>															
<b>Indicate Level, Type &amp; Location of disturbance at observation site(s) during different time periods:</b>															
<b>Level</b> (see Table 2 in survey instructions for definitions of scores): 0 None, 1 Low, 2 Moderate, 3 Moderate-High, 4 High, 5 Very High															
<b>Type:</b> 1 Walkers, 2 Dogs, 3 Anglers, 4 Bait diggers, 5 Unpowered boats, 6 Powered boats, 7 Vehicles, 8 Aircraft, 9 Kite flying, 10 Birds of prey, 11 Others (please specify)															
<b>Location:</b> 1 Within Intertidal Zone, 2 Above Intertidal Zone <i>(Please also estimate Proximity of disturbance to main roost (metres or feet) if possible)</i>															
SITE(S):	1 hr Pre high tide			0.5 hr Pre high tide			High tide			0.5 hr Post high tide			1 hr Post high tide		
	Level	Type #	Loc'n	Level	Type #	Loc'n	Level	Type #	Loc'n	Level	Type #	Loc'n	Level	Type #	Loc'n



**ADDITIONAL INFORMATION:**

*Use space to write notes on disturbance, bird behaviour etc – e.g specific disturbance incident(s). Please indicate when disturbance occurred (i.e. throughout entire observation or during a single time period) and how the birds reacted. Use additional space overleaf if necessary.*



HIGH TIDE WADER COUNTS:						
Site:					Date:	
	1 hr pre high tide	0.5 hr pre high tide	High tide	0.5 hr post high tide	1 hr post high tide	Notes (eg behaviour etc)
Turnstone						
Sanderling						
Redshank						
Ringed plover						
Dunlin						

**Guide to the ranking system used for Turnstone disturbance monitoring.**

Rank:	Definition of Disturbance (turnstones' response to disturbance):	
<b>0</b>	<b>None</b>	No discernible effect on Turnstones' normal behaviour.
<b>1</b>	<b>Low</b>	Increased vigilance, but no movement away from human activity. Feeding of majority of group normal.
<b>2</b>	<b>Moderate</b>	Considerable increase in vigilance throughout group, combined with walking movement away from human activity. Feeding rate decreased significantly from normal.
<b>3</b>	<b>Moderate -High</b>	Considerable increase in vigilance, followed by short flight, (or flights) of some of the birds away from the human activity. Feeding only occasional.
<b>4</b>	<b>High</b>	Considerable increase in vigilance, combined with whole flock taking flight and moving a short distance away from the human activity. Distance moved less than 100m.
<b>5</b>	<b>Very High</b>	Whole group vigilant and flock forced to move considerable distance out of the way of the human activity. Distance moved usually in excess of 100m.

**Guide to the types & location of Turnstone/wader disturbance recorded.**

#	Type of Disturbance:
1	Walkers (with or without dog(s))
2 A	Dogs - on lead
2 B	Dogs - off lead, <i>not pursuing turnstones</i>
2 C	Dogs - off lead, <i>actively pursuing turnstones</i>
3	Anglers
4	Bait diggers / shellfish / crab harvesting (including fossil collecting)
5	Joggers
6	Cyclists
7	Unpowered boats (e.g sailing / windsurfing)
8	Powered boats (including jet skis)
9	Motor vehicles (including cars, motorbikes/mopeds, quad bikes)
10	Aircraft
11	Kite boarding / carting
12	Birds of prey
13	Others (incl. kite flying)
	Location / proximity of Disturbance:
1	Within Intertidal Zone
2	Above Intertidal Zone

