Thanet Coast Turnstone *(Arenaria interpres)* Monitoring

A Report to Natural England by Ian Hodgson

On behalf of Sandwich Bay Bird Observatory Trust (SBBOT)

SUMMARY

The population of Turnstones within the Thanet and Sandwich Bay SPA in six previous surveys between 2001 and 2010 was found to vary between 1,087 and 1,335, with a mean of 1,227. Against this background, the co-ordinated count of only 620 in the 2013 survey gives significant cause for concern, particularly as numbers were found to be reduced in almost all sections of the coast.

Although disturbance from walkers was found to be reduced, dogs continue to be the primary cause of roost disturbance and this type of disturbance appears to be increasing. This needs to be addressed in any disturbance avoidance measures implemented in future. The current survey reinforced the importance of signage and interpretation as a means of informing beach users about the Turnstones and helping to reduce disturbance incidents has been highlighted in previous reports. Most of the key roost sites are judged to require effective signage / interpretation, backed-up by frequent contact with wardens as the best means of minimising disturbance in future.

SUMMARY OF METHODS

Co-ordinated Turnstone Count

A co-ordinated Turnstone count was undertaken during high tide on 23rd February 2013. 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 European marine site) 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.

Roosting Disturbance Monitoring

Roost disturbance monitoring was undertaken by volunteers from Thanet Coast Project.
The following key Turnstone roost sites were monitored during February 2013:

Pegwell Bay	Margate (particularly harbour slipway roost)
Kinsgate Bay	Minnis Bay
Whiteness Bay	Plumpudding Island
Foreness Point	Coldharbour
Palm Bay	Hampton Pier

Long Rock, Swalecliffe

A minimum of four visits were made to each site during this period, comprising two weekend visits and two week-day visits. 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 3) 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.

RESULTS

Co-ordinated Turnstone Count

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

In 2010 a strong to gale force NE wind with a high spring tide created a significant tidal surge that covered many of the beaches where Turnstones had roosted in previous surveys. As a result, 74% of Turnstones were recorded in Pegwell Bay, which was relatively sheltered, and the distribution of Turnstones within the Thanet and Sandwich Bay SPA in 2010 was very different to the previous five surveys that took place between 2001 and 2008. This year's survey took place during a sustained period of cold, but weather conditions were not out of the ordinary and the distribution of Turnstones around the coast was broadly similar to the surveys conducted prior to 2010.

Table 1. Results of the co-ordinated Turnstone count on Sunday 23rd February 2013 and comparison with results from March 2006, February 2008 and February 2010.

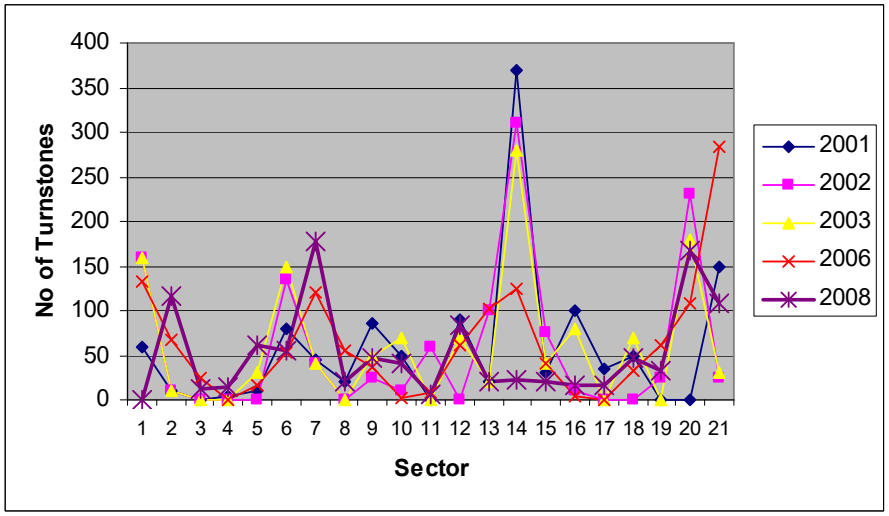
	SECTOR																					
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**TOT**
2013	43	70	11	6	21	9	20	22	59	1	15	13	32	19	6	2	52	38	31	97	53	620
2010	0	**927**	0	2	16	14	0	0	0	0	37	12	0	21	0	8	13	0	8	187	2	1247
2008	0	117	13	14	62	56	177	20	47	41	6	83	20	22	20	17	16	47	32	168	10	1087
2006	133	67	24	0	17	53	120	56	36	2	8	62	102	125	40	4	0	33	61	108	284	1335

Table 2 also shows that the overall number of Turnstones recorded within the whole of the Thanet and Sandwich Bay SPA during the 2013 co-ordinated wader count was significantly lower than in any of the five previous surveys.

Table 2. Turnstone numbers found within Thanet and Sandwich Bay SPA in 2013 compared with the six previous surveys.

2001	2002	2003	2006	2008	2010	**2013**	**% change (+/-) from 2010**
1231	1201	1261	1335	1087	1247	620	- 50.5%

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



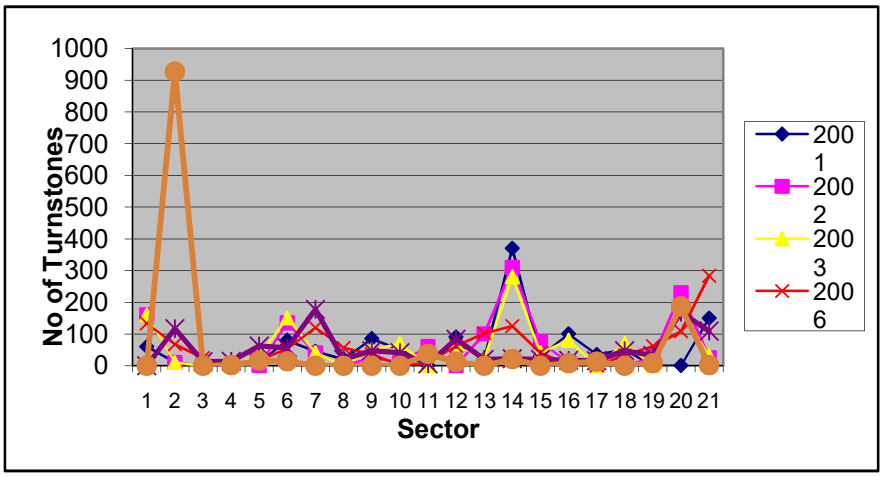
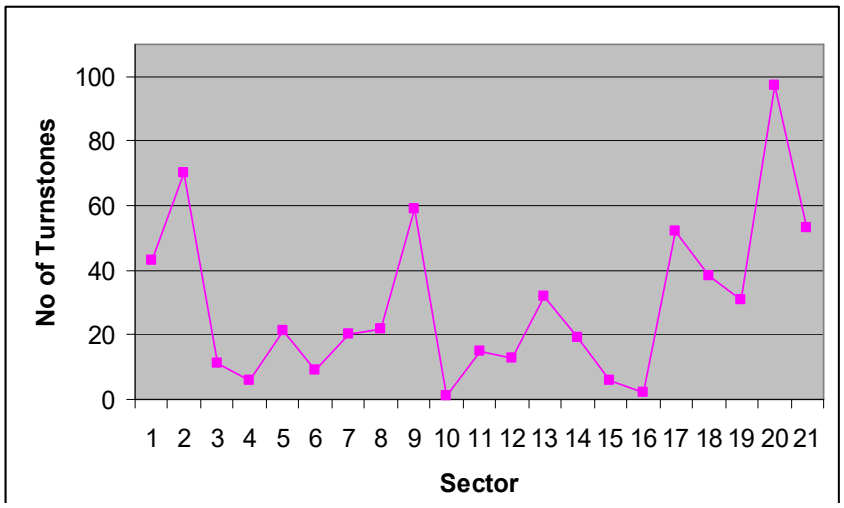


Figure 2. Turnstone distribution within the Thanet and Sandwich Bay SPA 2001 -2010

Figure 3. Turnstone distribution within the Thanet and Sandwich Bay SPA 2013



Roost Disturbance Monitoring

Results of the disturbance monitoring visits are shown in Tables 3 and 4 below. See Appendix 3 for definitions of the disturbance types recorded and an explanation of the ranking system used. Table 3 gives a summary of the data recorded across the visits for each site and Table 4 gives the maximum level for each type of disturbance at each site.

Table 3. Summary of disturbance reported for each site

	No of visits	No of visits on which disturbance was reported (number of such visits in 2010 in brackets)	Maximum level of disturbance reported (Range 0 – 5) (differing 2010 disturbance levels in brackets)
Pegwell Bay	4	2 (4)	5
Kingsgate Bay	4	3 (3)	3 (5)
Whiteness Bay	4	3 (0)	5 (0)
Foreness Point	4	4 (4)	5
Palm Bay	4	4 (4)	5
Margate	4	4 (4)	5
Minnis Bay	4	4 (4)	5
Plumpudding Island	4	4 (4)	4 (5)
Coldharbour	4	4 (4)	5
Hampton Pier	3	4 (3)	5 (4)
Long Rock	4	3 (2)	5

Table 4. Maximum level of each type of disturbance at each site

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

Roost Disturbance Types

The main types of disturbance were, in order of the number of sites on which Turnstones were disturbed to level 4 (high) or 5 (very high): dogs – off leads (affecting eight of the eleven sites; the same as in 2010) and walkers / dog-walkers (creating high to very high levels of disturbance at five sites; two fewer than in 2010). It is interesting to note that while disturbance from walkers' remains significant it was reduced in frequency at most sites and high levels of disturbance continue to be

associated most strongly with dogs off leads. There were incidents of high disturbance from kite boarding at two sites and isolated incidents of high to very high levels of disturbance from joggers, vehicles, birds of prey (increased to two incidents in this survey, compared to none in 2010), cyclists and unpowered boats, affecting five sites on single occasions.

43 visits were made to the 11 sites in Table 4 and disturbance was noted on 81% of visits (an increase on 75% in 2010). All but one of the sites experienced disturbance to a least level 4 (the same as in 2010) and the same number experienced at least one event that was rated as level 5 (very high – an increase from 9 of the 11 sites in 2010). Only in the Hampton Pier sector could levels of disturbance be described as low.

DISCUSSION

Current Thanet Turnstone population and distribution

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.

There has been speculation in previous studies that Turnstones are becoming more tolerant of humans than previously and there was anecdotal evidence from the Disturbance Monitoring part of the survey that this continues to be the case. Several observers commented on the apparent willingness of Turnstones to continue feeding when walkers passed by within 40 metres or so, and while disturbance from walkers' remains significant it was reduced in frequency at most sites. As has been previously noted, they continue to feed inside the covered fish market at Whitstable Harbour and are very tolerant of humans on piers at Deal and Dover, where they associate closely with walkers and fishermen.

Roost Disturbance

By comparison with previous studies, disturbance from walkers was less significant, but dog-walkers and dogs remain the most common causes of disturbance, with dogs off the lead creating more disturbance than those kept on the lead. Several observers in the 2010 survey felt that Turnstones seemed to discriminate between types of dog; those that they considered threatening and those that they felt could be tolerated, but this was not commented upon in this year's survey. Measures to encourage dog-walkers to act responsibly and consider the birds' needs, by keeping dogs on a lead and avoiding key roost sites, continue to be less than wholly effective.

This study suggests that in spite of provision of signage there has been little or no alteration in the behaviour of dog-walkers since proposals were made to reduce or minimise roost disturbance in 2006. Volunteers did suggest that there may be more opportunities, where the opportunity arises, for a direct approach by volunteer wardens, who can actively speak to users of the beaches and hand out leaflets explaining the need to minimise disturbance of roosting birds.

One of the Turnstone roost sites had disappeared completely. This was on Margate seafront where the brand new coastal flood defence scheme now allows public access from the beach on to the new flood defence steps. The end of the bay had been surprisingly popular with waders and had been one of the three main roost sites in the Margate area.

Seven surveys have now been conducted since 2001 and results from this year's survey are of particular concern. The apparent serious decline in Turnstone numbers does not seem to be matched by increased numbers elsewhere around the Kent coast, so it does not appear that the missing birds have moved to other sites away from the Thanet and Sandwich Bay SPA. However, the only sure way in which it can be established that this decline is not temporary is to repeat the co-ordinated count in subsequent winters.

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 count on 23rd February 2013:

- Volunteer surveyors from among the Thanet Coastal Wardens (Thanet District Council)
- North East Kent European marine site (Thanet Coast Project) Officer Tony Child, with particular thanks for commenting on an earlier draft of this report.
- Sandwich Bay Bird Observatory Trust volunteer surveyors

REFERENCES

WeBS
Waterbirds in the UK 2005/06
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, November 2007.

APPENDICES:

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

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

Appendix 2 - Numbers assigned to roost sites.

1. Pegwell Bay
2. Ramsgate Main Beach
3. Dumpton Bay
4. Viking Bay
5. Joss Bay
6. Kingsgate Bay
7. Whiteness Bay
8. Botany Bay South
9. Botany Bay North
10. Foreness Point
11. Palm Bay
12. Margate Main Beach
13. Leisure Time Rocks
14. Westbrook Bay
15. St Mildred's Bay
16. Westgate Bay
17. Epple Bay
18. Grenham Bay
19. Minnis Bay
20. Plumpudding Island

21. Coldharbour
22. Herne Bay
23. Hampton Pier
24. Long Rock, Swalecliffe

Appendix 3 – Recording form used during roost disturbance monitoring.

TURNSTONE & WADER DISTURBANCE MONITORING FORM

Survey Site / Area(s):	Recorder(s):	Date:
Start Time:	Finish Time:	
High tide time:	High tide height (if known):	

WEATHER:

Temperature: (0C)	Wind direction:

Please circle appropriate numbers — *Notes:*

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*

ADDITIONAL INFORMATION:

DISTURBANCE: *(Please complete, even if no disturbance occurred on site)*

***Indicate Level, Type & Location of disturbance at observation site(s) during different time periods*:**

Level *(see Table 2 in survey instructions for definitions of scores)*:
0 *None*, 1 *Low*, 2 *Moderate*, 3 *Moderate-High*, 4 *High*, 5 *Very High*

Type: 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)*

Location: 1 *Within Intertidal Zone*, 2 *Above Intertidal Zone*
(*Please also estimate Proximity of disturbance to main roost (metres or feet) if possible*)

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#	Location	Level	Type #	Location	Level	Type #	Location	Level	Type #	Location	Level	Type #	Location

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.

TURNSTONE & WADER DISTURBANCE MONITORING FORM

Survey Site / Area(s):	Recorder(s):	Date:
Start Time:	Finish Time:	
High tide time:	High tide height (if known):	

WEATHER:

Temperature: (0C)	Wind direction:

Please circle appropriate numbers — *Notes:*

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*

ADDITIONAL INFORMATION:

DISTURBANCE: *(Please complete, even if no disturbance occurred on site)*

***Indicate Level, Type & Location of disturbance at observation site(s) during different time periods*:**

Level *(see Table 2 in survey instructions for definitions of scores)*:
0 *None*, 1 *Low*, 2 *Moderate*, 3 *Moderate-High*, 4 *High*, 5 *Very High*

Type: 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)*

Location: 1 *Within Intertidal Zone*, 2 *Above Intertidal Zone*
(*Please also estimate Proximity of disturbance to main roost (metres or feet) if possible*)

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 #**	**Location**	**Level**	**Type #**	**Location**	**Level**	**Type #**	**Location**	**Level**	**Type #**	**Location**	**Level**	**Type #**	**Location**

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** *(e.g. 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):
0	**None**	No discernible effect on Turnstones' normal behaviour.
1	**Low**	Increased vigilance, but no movement away from human activity. Feeding of majority of group normal.
2	**Moderate**	Considerable increase in vigilance throughout group, combined with walking movement away from human activity. Feeding rate decreased significantly from normal.
3	**Moderate-High**	Considerable increase in vigilance, followed by short flight, (or flights) of some of the birds away from the human activity. Feeding only occasional.
4	**High**	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.
5	**Very High**	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, *not pursuing turnstones*
2 C	Dogs - off lead, *actively pursuing turnstones*
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