

APPENDIX 1 Roost Site tables (copied from main report)

Table 3.1.1 Roost sites in sector 14454 (Littleton Warth).

Roost number	Roost Site Name	Grid reference (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
1A	The pill	ST5867191171	Mixed	Pill; saltmarsh		Yes
1B	Upstream of pill	ST5900091523	Mixed	Saltmarsh		Yes
1C	Downstream of pill	ST5792690592	Mixed	Saltmarsh		Yes
1D	Aust cliffs	ST5697189977	Wildfowl	Rocks/boulders and saltmarsh		Yes

Table 3.2.1 Roost sites in sector 14451 (Severn Beach).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
2A	Cake Pill, Aust Warth	ST5603388501	Mixed	Pill; saltmarsh		Possible
2B	Northwick Warth and flush	ST5519887116	Mixed	Saltmarsh; brackish pools		Yes
2C	Chestle Pill, New Passage	ST5462286451	Mixed	Pill; saltmarsh		Yes
2D	Pilning Wetland	ST5506986371	Mixed	Newly created wetland	Birds from other nearby roosts in the sector may use the wetland during the very highest tides or if disturbed	Yes
2E	Shaft Rocks	ST5387885661	Wader	Rock outcrop		Possible

						(passage)
2F	Severn Beach shore	ST5385484569	Wader	Saltmarsh		Yes
2G	New Pill	ST5363083503	Mixed	Pill; saltmarsh	Site covered briefly during highest tides. Birds circle or go elsewhere	Possible
2H	Stupp Pill, Chittening Warth	ST5284282104	Mixed	Saltmarsh	Can sometimes get all the birds from New Pill (2G) here	Yes

Table 3.3.1 Roost sites in sector 14408 (Severn - Avonmouth).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
3A	Hole's Mouth (Area A8)	ST5187180713	Mixed	Saltmarsh; shingle	Main roost site. On the highest tides, waders move to other roost sites, e.g. Chapel Pill (or to docks/jetties on especially high tides)	Yes
3B	Area A9	ST5228781373	Wader	Saltmarsh	Not identified as a roost site during interviews, but c750 Dunlin observed in this area during site visit. Difficult to access	Possible
3C	Area A6 and A7	ST5148980107	Other (pre-roost)	Saltmarsh	Not identified as a roost site during interviews, not generally a roost site but waders feeding on mud during site visit and often used by birds for feeding close to either side of high tide	No
3D	Area A4	ST5064879241	Other	Rocks	Not identified as a roost site during interviews; Redshank seen here during site visit but this is unusual and probably because they had been disturbed from roost site 3F	No
3E	Main jetty (Area A3)	ST5051179203	Other	Artificial (jetty)	Not identified as a roost site during interviews; 4 Oystercatchers and gulls present during site visit and very occasionally used on highest tides	No
3F	Under lighthouse (Area A2)	ST5027878827	Wader	Artificial (pier)	Not identified as a roost site during interviews; site pointed out during site visit as a small but regular	No

					Redshank roost on a wooden jetty under the lighthouse	
3G	River Avon bank (Area A1a)	ST5082778133	Wildfowl	Rocks/boulders	Not identified as a roost site during interviews; 52 Mallard here during site visit. Counter stated that small numbers are usually present	Possible

Table 3.6.1 Roost sites in sector 14406 (Portbury Wharf).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
6A	Chapel Pill (Area P1)	ST4904077481	Mixed	Pill; Saltmarsh	Main roost site	Yes
6B	East Pier (Area R4)	ST4941578378	Wader	Artificial (pier)	Very occasionally used on highest tides when other areas flooded, especially by Dunlin and Ringed Plover	Possible
6C	Mouth of Avon (Area R2 and R3)	ST5004478421	Other (pre-roost)	Mud	Not a roost site; pre-roost gathering site for gulls and one of the first areas where waders go to feed on mud	No

Table 3.7.1 Roost sites in sector 14415 (River Avon – Sea Mills).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
7A	Horseshoe	ST5435576606	Wader	Saltmarsh	Day time Snipe roost. Birds	No

	Bend				pushed off on highest tides	
7B	Near Horseshoe Bend	ST5450876397	Wader	Saltmarsh	Birds pushed off on highest tides	No
7C	Near Seamills Harbour	ST5479676043	Wader	Saltmarsh	Birds pushed off on highest tides. Normally roost on east bank near harbour but occasionally cross river if disturbed (shown on map as site 7C-1)	Yes
7D	Seamills Harbour	ST5467475991	Gull	Open water		No
7E	rocks	ST5493975134	Wader	Rock outcrop	Common sandpipers are driven onto rocks when mud is covered	No

Table 3.8.1 Roost sites in sector 14411 (Battery Point).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
8A	Battery Point	ST4640077573	Wader	Rock outcrop	Locals report small numbers of Purple Sandpipers have roosted on the point this winter (2015/16)	No

Table 3.9.1 Roost sites in sector 14412 (Battery Point to Redcliff Bay).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
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9A	Woodhill Bay	ST4617977160	Wader	Saltmarsh	c50 Redshank observed during one visit (Aug) when flushed from edge of roost site. May well be present on other occasions as edge is difficult to view. Small numbers of birds did appear on mud shortly after high tide on other visits and were not observed to fly in so may have roosted.	Possible
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Table 3.10.1 Roost sites in sector 14413 (Wain's Hill to Charlcombe Bay).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
10A	Clevedon Marine Lake	ST3971871120	Gull	Open water		No
10B	Clevedon Bay	ST3991171416	Wader	Rock outcrop	Close to main promenade to likely to be prone to high disturbance	No
10C	Walton Bay	ST4283474560	Wildfowl	Boulders	Mallard roosting site	No

Table 3.11.1 Roost sites in sector 13402 (Berrow Flats).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
11A	Brean Sands	ST2950257445	Wader	Sand	Roost is usually towards north end of sands but birds were observed flying and landing further south when	No

					disturbed. Beach is almost fully covered on the highest tides - it is not known where birds go when this occurs.	
11B	Brean Sands (on water)	ST2869058051	Wildfowl and gulls	Open Water		Possible

Table 3.12.1 Roost sites in sector 13415 (Berrow).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
12A	Berrow south	ST2934551251	Wader	Sand and mud	Roost only present on visits when high tide was in early morning; in December birds started circling and disappeared soon after dog walkers appeared so it is feasible to speculate that usage may be limited as a result of disturbance	Possible
12B	Berrow north	ST2878652105	Wader	Sand and mud	Roost only present on visits when high tide was in early morning; in December birds started circling and disappeared soon after dog walkers appeared so it is feasible to speculate that usage may be limited as a result of disturbance	Possible

Table 3.13.1 Roost sites in sector 13411 (Bridgwater Bay).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
13A	Hinkley Point	ST2124846539	Mixed	Rock outcrop; power station outflow	At peak high tides all waders move to other sites. During hard winters more birds present (power station puts warm water out). Gulls feed on outfall esp at low tide	Yes
13B	Stolford	ST2291346137	Mixed	Shingle shore/outcrop		Yes
13C	Catsford Common	ST2390045691	Mixed	Shingle shore		Yes
13D	Wall Common	ST2567145408	Mixed	Shingle shore; (some saltmarsh)	Mainly used during passage when they can hunker down on shingle. Not usually used in winter due to disturbance, but good numbers were present on saltmarsh during Feb site visit 1 hour after high tide. Mainly feeding on exposed mud but c400 Knot and c250 Dunlin were roosting	Yes
13E	Steart	ST2756346550				Yes (passage)
13F	Stert Point	ST2848246849	Mixed	Various		Yes
13F-1	Stert Point - north bank	ST2823147050	Wader	Saltmarsh		Possible
13F-2	Stert Point - point	ST2882247111	Wader	Shingle shore		Yes
13F-3	Fenning Island - brackish pools	ST2857046867	Mixed	saltmarsh; brackish pools		Possible
13F-4	Fenning Island - pill	ST2840746493	Mixed	Pill; saltmarsh		Yes

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
13G	Stert Island	ST2908648340	Mixed	Mixed	View from Stert Point and Burnham to see both sides; distant so difficult to count. Birds used to go to this site from other roost on the highest peak tides. Now they tend to go to the WWT reserve instead (roost site 13K)	Yes
13H	The Brue	ST3024747664	Wader	Saltmarsh; mud		Yes
13I	West Huntspill Sluice	ST2902246062	Mixed	Saltmarsh		Yes
13J	River Parrett	ST2733844271	Mixed	Mud		Yes
13K	Stearth Marshes WWT	ST2670244621	Mixed	Newly created wetland	Birds now often move onto the reserve especially during the highest tides. A large Curlew roost is now regular here (Map 21).	Yes

Table 3.14.1 Roost sites in sector 13404 (River Parrett at Combwich and Pawlett).

Roost Number	Roost Site Name	Grid ref (site centroid)	Roost Type	Description	Comments	SPA Primary Roost?
14A	Combwich west bank	ST2631942138	Mixed	Mud; saltmarsh		Possible
14B	Combwich east bank	ST2632042953	Mixed	Saltmarsh		Possible
14C	Brickyard Farm north bank	ST2935442290	Wildfowl	Saltmarsh; open water		Possible

14D	Brickyard Farm south bank	ST2915942223	Wildfowl	Saltmarsh; open water		Possible
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APPENDIX 2 Comparison of roost site species estimates with five-year mean peak counts in WeBS sectors

Table A2. Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 14454 (Littleton Wharf), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector				Five Year Mean Peak for sector (2009/10 – 2013/14)
	1A	1B	1C	1D	
Shelduck		80 (50-120)	20 (5-30)	15 (10-30)	53
Wigeon		20-400	80 (20-500)	100-500	612
Teal	200 (80-300)	50 (15-100)	50 (30-200)	25 (10-50)	324
Mallard	6 (3-15)	6 (3-15)	6 (3-15)	40 (30-60)	84
Shoveler					1
Tufted Duck					1
Grey Plover					10
Ringed Plover					10
Lapwing					191
Whimbrel					5
Curlew		50-100	6 (1-15)	1-10	239
Dunlin	200 (20-750)	100-1,000	50-200		680
Redshank	50 (30-100)	15-20	1-5	2 (1-5)	94

Table A2.2 Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 14451 (Severn Beach), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector								Five Year Mean Peak for sector (2009/10 – 2013/14)
	2A	2B	2C	2D	2E	2F	2G	2H	
Shelduck	5 (1-20)	50 (1-200)	6 (0-30)				15 (0-60)	10 (0-20)	120
Wigeon	50 (10-200)	100 (0-2,500)	50 (0-300)			2 (0-20)			916
Gadwall				12 (10-35)				8 (0-15)	9
Teal	25 (10-200)	20 (0-300)	20 (0-100)	50 (0-300)			6 (0-40)	15 (0-30)	230
Mallard				15 (10-40)	2 (0-10)		20 (1-40)	10 (1-20)	110
Pintail									1
Shoveler				25 (0-60)					10
Tufted Duck				10 (6-30)					4

Grey Plover									1
Ringed Plover					5 (0-50)	20 (0-400)			87
Lapwing		20 (0-250)		5 (0-400)					306
Whimbrel									8
Curlew		50 (0-300)		20 (0-180)			10 (0-200)	12 (0-20)	234
Dunlin	20 (10-70)	200 (50-4,000)		10 (0-3,000)	30 (0-350)	10 (0-500)	20 (0-1,000)	10 (0-800)	1,656
Redshank	20 (0-100)	40 (0-250)	40 (0-200)	6 (0-200)		5 (0-40)	5 (0-150)	12 (0-20)	184

Table A2.3 Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 14408 (Avonmouth), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector							Five Year Mean Peak for sector (2009/10 – 2013/14)
	3A	3B	3C	3D	3E	3F	3G	
Shelduck			0					47
Wigeon								3
Gadwall	20-30							23
Teal	c50							70
Mallard	c100						20 (1-75)	111
Tufted Duck								1
Ringed Plover			0					13
Lapwing								1
Whimbrel								1
Curlew	2 (0-5)		0					17
Turnstone	15 (1-40)		0					
Dunlin	50-100	250 (0-750)	0					265
Redshank	c200		0	0		c15		178

Table A2.4 Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 14454 (Portbury Wharf), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector	Five Year Mean Peak for sector
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	6A	6B	6C	(2009/10 – 2013/14)
Shelduck	30 (10-60)		0	72
Wigeon	75 (25-150)			98
Gadwall				6
Teal	200-300			275
Mallard				43
Shoveler				4
Tufted Duck				1
Ringed Plover		10 (0-30)		39
Lapwing				23
Whimbrel				1
Curlew	10-30		0	68
Dunlin	c500 (up to 1,000)	500-1,000	0	620
Redshank	150-200		0	205

Table A2.5 Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 14415 (Sea Mills), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector					Five Year Mean Peak for sector (2009/10 – 2013/14)
	7A	7B	7C	7D	7E	
Shelduck						3
Wigeon	0-300					4
Teal						3
Mallard						45
Lapwing		c50				106

Curlew						2
Dunlin			c15			24
Redshank			c60			145

Table A2.6 Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 13415 (Berrow), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector		Five Year Mean Peak for sector (2009/10 – 2013/14)
	12A	12B	
Shelduck			44
Teal			1
Mallard			1
Ringed Plover			155
Whimbrel			6
Curlew			16
Turnstone			1
Dunlin	0-3,000	0-2,000	1,906

Table A2.7 Comparison between the estimated numbers of SPA Qualifying Species and SPA Assemblage Species using each roost site in WeBS sector 13411 (Bridgwater Bay), and the five-year mean peak count for the whole sector for the period 2009/10 to 2013/14. Each WeBS year runs from July to June.

Species Name	Estimated numbers for each roost site in sector											Five Year Mean Peak for sector (2009/10 – 2013/14)
	13A	13B	13C	13D	13E	13F	13G	13H	13I	13J	13K	
Shelduck	20-150	Up to 500	20-40	50-400	10-1,500	60-700	100-400	c20	30 (5-80)	20-240		2,703
Wigeon	60		10-20			150 (50-400)	10 (0-30)	10-30	10-50		150 (50-400)	1,040
Gadwall										0-13		1
Teal	20		10-20			c150 (80-250)		10-50			40-240	932
Mallard		10-20	10-20			10 (5-30)		10-30	10 (5-20)	4-20	10-30	153
Pintail	100 (60-120)	100 (60-120)	10-20			5 (0-25)						79
Shoveler						6 (1-25)					10-30	18
Tufted Duck												26
Grey Plover		1-20	10	10-30		100 (80-120)	0-30		2 (0-10)	20-60		163

Species Name	Estimated numbers for each roost site in sector											Five Year Mean Peak for sector (2009/10 – 2013/14)
	13A	13B	13C	13D	13E	13F	13G	13H	13I	13J	13K	
Ringed Plover	20-30	c6		1-400			4					414
Lapwing	50-60									100 (50-1,500)	1,000 (800-2,000)	4,513
Whimbrel	20 (5-30)		0-40	0-50	10-50	5-10						40
Curlew	40-50	1-40	6-40	20-40	10-900	600 (50-1,000)	50 (10-400)	20-50	10 (5-60)	40 (0-150)	300-600	1,029
Turnstone	60 (10-130)	c20	10s	20-100			10-50	30				
Dunlin		150-200	400-500	50-500		c5,000	1,000-2,000		80 (20-200)	2,000-4,000	400 (100-5,000)	13,471
Redshank	20	c24	c10	10-100	10-100	550 (100-1,000)		1,000 (600-1,600)	400 (200-1,110)		300 (100-700)	1,409
Spotted Redshank								1 (1-5)	1 (1-5)			6

APPENDIX 3 Copies of the Interview and Site Visit forms

SEVERN ROOST LOCATION PROJECT – INTERVIEW QUESTIONNAIRE

ROOST SITE NUMBER (as recorded on map) _____

1 GENERAL INFORMATION

Name of WeBS counter:	WeBS count area:
Date form completed:	
Roost site name (optional):	Approximate grid reference (if known):
Current or historical roost site? (if historical note approximate date last used, if known)	
Notes about survey coverage Please comment about any constraints/difficulties encountered when covering your WeBS area, e.g. land access, health and safety issues. If there are any parts of your count area that you are unable to cover, please mark these on the site map.	
Access to the WeBS count area Is the area (or part of the area) accessible to the public via formal or informal rights of way? If not, who uses the area?	

Patterns of roost site usage Are you aware of any general patterns that affect the usage of the roost by most species using the roost (e.g. tide-related or weather-related patterns of usage)? Is it used on all tides, just spring tides or just neap tides?

2. HABITAT DETAILS

HABITAT TYPE	Tick if present	Description	Describe any other features present which may affect usage of the roost site (e.g. creek; outfall)
Mudflats			
Sandflats			
Upper Saltmarsh			
Lower Saltmarsh			
Rock Outcrop			
Boulder/shingle shore			
Artificial structure			

Open water			
Other (please specify):			

ROOST SITE NUMBER _____

LIST OF SPECIES RECORDED

Please list any species that uses this roost site (or has used it over the last five years), and provide the best answers you can for the questions listed. Your estimates should relate to the last five years (i.e. since 2010/11). If numbers using the site are variable, it is fine to submit a range (e.g. 50-100) rather than an exact estimate for the numbers using the roost site. Use the comments box to note any other relevant information about roost usage patterns or behaviour for each species (e.g. 'only uses roost on passage'; 'only uses roosts on peak tides'; 'numbers were higher before 2010/11' etc).

SPECIES	HOW OFTEN PRESENT (% of visits present)	APPROXIMATE NUMBERS USING ROOST SITE		Typical roost site behaviour(s) (e.g. roosting; feeding; bathing; preening)	COMMENTS
		Typical High Tide	Peak High Tide		

(Include additional pages as necessary)

4. DISTURBANCE

DISTURBANCE EVENTS				
Sources of potential disturbance	Description	Frequency disturbance event occurs	Approximate Duration of disturbance event (on average)	Effects of disturbance event on roosting birds (specify if event affects all species or only particular species)
<i>e.g. Presence of WeBS counter</i>				

Describe possible measures that could potentially mitigate disturbance:

SEVERN ROOST LOCATION PROJECT – SITE VISIT FORM

ROOST SITE NUMBER (as recorded on map) _____

1 GENERAL INFORMATION

Name of WeBS counter:	WeBS count area:
Date of site visit:	
Roost site name (optional):	Approximate grid reference:
Start time:	End time:
Time of high water:	Is tide a 'typical' or a 'peak' high tide?
Additional notes about survey coverage i.e. to clarify or add to interview questionnaire	
Additional notes about Access:	
Additional notes about Patterns of roost site usage:	

General observations about roost site made during visit (e.g. sightlines)

2. HABITAT DETAILS (run through answers given during interview; double check details on ground and mark different habitats on the map)

HABITAT TYPE	Tick if present	Map ref.	Description	Describe any other features present which may affect usage of the roost site (e.g. creek; outfall)
Mudflats				
Sandflats				
Upper Saltmarsh				
Lower Saltmarsh				
Rock Outcrop				
Boulder/shingle shore				
Artificial structure				

Open water				
Other (please specify):				

ROOST SITE NUMBER _____

LIST OF SPECIES RECORDED

Review and annotate answers provided during interview, in particular ask about typical roost site behaviours and whether WeBS counter is aware of any significant changes since 2005/06 – 2010/11 (or more recent or more historical changes). Record and map species present at the time of the visit and details of their behaviour.

SPECIES	MAP REF.	COUNT	Behaviour(s) observed (e.g. roosting; feeding; bathing; preening)	COMMENTS e.g. factors affecting behaviour; does WeBS counter think current visit is typical.

(Include additional pages as necessary)

4. DISTURBANCE

Review and annotate answers provided on interview questionnaire. Record details of any disturbance event observed during the site visit.

DISTURBANCE EVENTS				
Sources of disturbance	Description	Frequency during visit	Approximate Duration	Effects of disturbance event on roosting birds (specify if event affects all species or only particular species)
<i>e.g. Presence of WeBS counter</i>				

Describe possible measures that could potentially mitigate disturbance:

5. ANY OTHER INFORMATION





