















POST-BREEDING TERN REPORT 2016







Version 2

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Summary

- In August and September 2016, a selection of sites along the east and south coasts of Ireland were surveyed for post-breeding tern aggregations by I-WeBS counters, coordinated through the I-WeBS Office. As well as identifying important sites, we also set out to identify a suitable methodology for censusing these post-breeding aggregations of terns.
- Counters were asked to undertake a number of visits (two or more) to known and suspected
 tern sites between mid-August and early September, when numbers of congregating terns
 were expected to be at their peaks. When the importance of a site was unknown, counters
 were asked to undertake at least one of the counts at dusk, when the tide was rising and
 approximately mid-way between low and high tide, when the terns were pushed into a
 smaller area of the beach and closer to the observer and hence easier to count.
- Counters recorded total tern numbers, numbers of each species (Sandwich, Common, Arctic, Common/Arctic and Roseate Tern) and count quality (accurate, accurate total but estimated species total, estimated total and species total, estimated total and not identified to species level). The areas used by terns were recorded on a map via ArcGIS.com. Additional records of post-breeding terns were sourced online.
- Twenty sites were surveyed along the east and south coasts of Ireland, between Cork Harbour in the southwest and Cruisetown beach (Louth) in the northeast.
- Eighty-three counts were submitted, 54 of which were carried out during the recommended period. Sandwich Terns were recorded at 19 sites, Common Terns at 15 sites, and Roseate and Arctic Terns at 11 sites each. Common Terns were the most numerous species overall and formed the largest part of most mixed Common/Arctic Tern flocks.
- South Dublin Bay held by far the largest numbers of terns with a peak count of 17,440 terns and other counts ranging from 990-11,890. Counts of >1,000 terns were also recorded at Crossfintan Point and Wexford Harbour in Wexford and Barnageeragh (Skerries) in Dublin
- Peak counts of 500-1,000 terns were recorded for six sites. Six sites recorded peak counts of 100-500 terns, and eight sites recorded peak counts of <100 terns. Repeated counts at sites found varying numbers of terns, individual species, differing age-classes and different marked birds, all of which highlight the regular movements of terns between sites during the postbreeding season. Thus, even the largest count at a site is likely to represent a small fraction of the individual birds that use the site in late summer and early autumn.
- This survey identified many sites of importance for four *Sterna* tern species during the post-breeding season along the east and south coasts of Ireland. It provided a good indication of the relative numbers of terns using each site, and adds to the known value of these sites as important roosting and staging sites for tern species listed in Annex I of the EU Birds Directive. Future surveys should be expanded to include other parts of the Irish coast. Recreational disturbance was noted as a problem at several sandy beach sites during this survey and should be recorded (type, duration, impact) as part of future surveys.

1. Introduction

The Irish Wetland Bird Survey (I-WeBS) is designed to gather information on the distribution and abundance of Ireland's wintering waterbirds and their important sites. To date, more than 80 sites have been identified as of significant importance for wintering waterbirds and have been designated as Special Protection Areas (SPAs) under the European Union Birds Directive. The importance of these sites and justification for designation is based largely on the results of counts undertaken as part of I-WeBS.

I-WeBS counts are focussed over the winter period, specifically from September to March each season (Boland & Crowe 2012). However, it is also known that some of our key wetland sites are of importance during other times of the year, most notably for birds on passage during months that are outside the regular I-WeBS core-count period. Accordingly, these records often remain undocumented.

During the 2016-17 season the I-WeBS Office focused on gathering additional information on site use by post-breeding terns at sites along the east and south coasts of Ireland. Once the breeding season has ended each year, usually anytime between end July and mid-September, it is known that large numbers of terns can congregate at some sites. Aggregations of up to 10,000 birds have been recorded using South Dublin Bay for example (Merne *et al.*, 2008; Merne 2010). In August and September 2016, a selection of sites along the east and south coasts were targeted for surveys, these being tidal sites that have open sandy beaches or rocky outcrops, some of which are known to hold terns. In consultation with local observers, we also set out to identify a suitable methodology for censusing these post-breeding aggregations of terns.

2. Methods

2.1 Survey methodology

Local counters were consulted and asked if they were aware of areas used by post-breeding tems each year. For those who were familiar with sites that are or have been used, further details about usage were sought, such as species composition, timescale (when they have been seen) and whether usage was affected by tide and/or time of day.

2.2 Assessment of numbers and distribution

Local counters were asked to undertake a number of visits (ideally at least two) between mid-August (Monday 15 Aug) and early September (Sunday 11 Sep), the period during which numbers of congregating terns are expected to be at their peaks. When the importance of a site was unknown, counters were asked to undertake at least one of the counts at dusk, when the tide was rising and approximately mid-way between low and high tide. At this time terns are typically pushed into a small area of the beach and are closer to the observer and hence easier to count.

During each count session, the total numbers of terns present was recorded and the totals of each species present were recorded or estimated where possible and assigned to one of four levels of count quality. Count quality was recorded as 1) accurate, 2) accurate total with estimated species counts, 3) estimated total with estimated species counts and 4) estimated total and not identified to species level. Counters were asked to delineate the approximate boundaries of any flocks seen on a map via an ArcGIS.com mapping app.

Additional records of post-breeding terns were sourced through online sites (largely Irishbirding.com, Twitter etc.).

3. Results

3.1 Coverage

Twenty sites were surveyed along the east and south coasts of Ireland (Figure 1), between Cork Harbour in the southwest and Cruisetown beach (Co. Louth) in the northeast. Eighty-three counts were completed in total, including 54 counts that were undertaken during the recommended period, and an additional 10 counts that were undertaken in late July or early October (Table 1).



Figure 1: Sites surveyed for the post-breeding tern survey 2016.

Table 1: Coverage of sites during the post-breeding tern survey 2016.

	County	Site/Subsite	Start	End	Counts
1	Cork	Cork Harbour - Raffeen Creek	06-Sep	06-Sep	1
2	Cork	Cork Harbour - Lough Beg	14-Aug	06-Sep	4
3	Cork	Ballycotton	08-Aug	29-Aug	4
4	Cork	Ballymacoda	09-Aug	26-Aug	2
5	Waterford	Ardmore Bay	25-Aug	09-Oct	3
•	Waterford	Dungarvan - Harbour (NE shore)	09-Oct	09-Oct	1
6	Waterford	Dungarvan - The Cunnigar (east side)	25-Aug	09-Oct	3
7	Waterford	Ballinclamper, Clonea Bay	15-Aug	25-Aug	6
0	Waterford	Tramore Bay - Rinneshark	29-Aug	09-Oct	2
8	Waterford	Tramore Bay - Saleen (Backstrand)	28-Aug	09-Oct	2
9	Wexford	Duncannon	08-Aug	09-Oct	12
10	Wexford	Bannow Bay Mouth	08-Aug	08-Aug	1
11	Wexford	Crossfintan Point & neighbouring areas	15-Jul	21-Sep	10
12	Wexford	Wexford Harbour	09-Sep	09-Sep	1
12	Dublin	South Dublin Bay - Merrion Gates	18-Aug	14-Sep	3
13	Dublin	South Dublin Bay - Sandymount Baths	11-Aug	29-Aug	4
14	Dublin	Dollymount Strand	29-Aug	14-Sep	3
45	Dublin	Portrane Burrow Beach	18-Aug	23-Aug	2
15	Dublin	Rogerstown - Harbour & Outer Estuary	15-Aug	15-Aug	2
16	Dublin	Rush	29-Aug	12-Sep	2
17	Dublin	Loughshinny	14-Aug	12-Sep	4
18	Dublin	Barnageeragh (Skerries)	16-Aug	16-Aug	4
19	Meath	Gormanstown	15-Aug	07-Sep	4
20	Louth	Cruisetown	24-Aug	09-Sep	3

3.2 Overview of totals recorded

An overview of the totals recorded at county level is as follows:

- Cork Highest numbers were recorded at the end of August (682 terns 100 Common Terns, 582 Sandwich Terns) across Lough Beg, Ballymacoda and Ballycotton (26-29 Aug). The high numbers were primarily due to the peak count (600) at Lough Beg, which was dominated by Sandwich Terns.
- Waterford Counts mainly focused on the last week of August, with 897 terns counted on the 25th August across three sites. Of *c.* 900 terns, approximately 550 were Common Terns and 340 were Sandwich Terns. An unexpectedly high count of *c.* 50 Roseate Terns was also recorded around this time. An overall impression was that feeding conditions were best in the western part of the county, resulting in a shift in distribution from what would otherwise be expected (i.e. higher numbers around Tramore).
- Wexford The survey recorded high numbers and diversity of terns using Wexford from the
 end of the breeding season onwards, which is to be expected given the proximity of the Lady's
 Island breeding colony and the position of the county, meaning terns from colonies and
 staging areas further north are likely to pass through when migrating south. Crossfintan and
 nearby areas is the main roosting site in Wexford for Common, Arctic and Roseate Terns

during the post-breeding season, with Duncannon identified as the main Sandwich Tern roost. Numbers of the respective species at both sites peaked around late August 2016, with significant numbers still present or moving through into mid-September. The movement of c. 1100 terns to Rosslare Backstrand in Wexford Harbour during stormy weather is noteworthy, as are 650 day-roosting terns at Tacumshin.

- **Dublin** South Dublin Bay sites at Sandymount and Merrion Gates are the most important post-breeding tern roosts, regularly supporting several thousands of birds in August and September. Circa. 2,500 terns were recorded on the rocky coast around Skerries on the north side of Dublin in mid-August, likely comprising a large number of birds that had recently departed from Rockabill. The rocks around Loughshinny Harbour had over 300 terns in August, including 115 Roseates, again a result of its proximity to Rockabill. Portrane Burrow had c. 750 terns, many of which were seen in neighbouring Rogerstown Estuary at times when the mud was exposed. Recreational disturbance from beach-goers, dog-walkers etc. was noted at a number of sites during counts.
- **Meath and Louth** Cruisetown and Gormanstown beaches both hosted a couple of hundred terns each, mostly Common Terns. Roseate Terns have been known to use the sites in previous years (50 at Gormanstown in Aug 2015, 66+ at Cruisetown and Baltray in Aug 2014 via irishbirding).

Further details about the site-level records is given below.

3.3 Species composition

Sandwich Terns were the most frequently recorded species (19 of 20 sites), followed by Common Terns (15 sites), Roseate Tern and Arctic Tern (11 sites each) (Table 2). 'Commic' Terns, defined as flocks of Common and Arctic Terns where the species could not be differentiated, were recorded at five sites and are likely to have been mostly Common Terns based on other counts at those sites and elsewhere.

In terms of overall numbers, sites of South Dublin Bay held by far the largest numbers of terns with peak counts of 8,316 at Merrion Gates and 17,440 at Sandymount Baths (Table 2). In total, counts of >1,000 terns were recorded at five sites, 500-1,000 terns at six sites, 100-500 terns at six sites and eight sites recorded less than 100 terns.

The largest tern flocks recorded were at Sandymount Strand and Merrion Gates in South Dublin (Table 2). These counts were not broken down to species level but are thought to have been mostly Common Terns based on other observations in 2016, as well as in previous years.

The highest number of any one species recorded was 825 Common Terns at Rosslare Backstrand (Wexford Harbour), although around twice this many are likely to have been present within the large Commic Tern flocks at Crossfintan Point, Barnageeragh (Skerries) and South Dublin Bay. Similarly, the maximum count of Arctic Terns during any count was 50 at Crossfintan Point, but is likely to have been several multiples higher if those in flocks of Commic and unidentified terns are taken into account. A count of 750 Roseate Terns at Crossfintan Point was the highest single count of the species during this survey and represents c. 15% of the European population.

It is important to note that peak counts represent only a proportion of the terns likely to use a site over the course of the post-breeding season, because the turnover in birds at site level is evident from these surveys, from sightings of ringed birds and counts of juveniles in flocks, and from surveys in previous years.

Table 2: The number of Common (CN), Arctic (AE), Common/Arctic (UI), Roseate (RS) and Sandwich Terns (TE) and peak number of terns during a single count during the post-breeding tern survey 2016. Tick marks indicate where a species was seen, but only included in total counts and not counted separately.

	Site/Subsite	Peak	CN	ΑE	UI	RS	TE
1	Cork Harbour - Raffeen Creek	40					40
2	Cork Harbour - Lough Beg	600	100				500
3	Ballycotton	44	6			17	38
4	Ballymacoda	48					48
5	Ardmore Bay	130	60			1	80
	Dungarvan - Harbour (NE shore)	50					
6	Dungarvan - The Cunnigar (east side)	287	26	1			260
7	Ballinclamper (Clonea Bay)	800	750	1		50	80
	Tramore Bay - Rinneshark	40					40
8	Tramore Bay - Saleen (Backstrand)	3					3
9	Duncannon	170	1				170
10	Bannow Bay Mouth	30					30
11	Crossfintan Point & neighbouring areas	2500	400	50	2290	750	30
12	Wexford Harbour	1500	825	✓	1500	275	
13	South Dublin Bay - Merrion Gates	8316	✓	✓	✓	✓	✓
13	South Dublin Bay - Sandymount Baths	17440	\checkmark	\checkmark	✓	\checkmark	✓
14	Dollymount Strand	650	✓	✓	650		9
15	Portrane Burrow Beach	739	600	1		4	130
15	Rogerstown - Harbour & Outer Estuary	513	252				261
16	Rush	16				6	16
17	Loughshinny	310	190	2		115	5
18	Barnageeragh (Skerries)	2426	348	13	2000	45	22
19	Gormanston	550	490	50		10	10
20	Cruisetown.	400	350	40			61

3.4 Site reports

1) Cork Harbour – Raffeen Creek

Terns were recorded at Lough Beg on four dates and at Raffeen (Monkstown) Creek on one date (6^{th} September). Small numbers (10-20) of Sandwich and Commic Terns were also recorded at Ringaskiddy and Spike Island nearby.



Figure 2: Areas used by terns at Raffeen Creek, Cork Harbour, during the 2016 post-breeding tem survey.

2) Cork Harbour - Lough Beg

This site recorded predominantly Sandwich Terns, with numbers peaking at 500 on 28th August. 100 Common Terns were also present on the same date. Some 200-300 terns were also counted in the preceding and following week, again mostly Sandwich Terns with 20 or 30 Common Terns. At the time of writing, we are aware that c.700 Sandwich Terns were reported at Lough Beg during the targeted count period, a site record according to local counters, however no data to confirm this have yet been received.



Figure 3: Areas used by terns at Lough Beg, Cork Harbour, during the 2016 post-breeding tern survey.

3) Ballycotton

Terns were recorded roosting on Ballycotton beach (when no disturbance present), in the bed of the former lagoon, and on rocks that are located some distance off the lagoon at the south end of the bay. Counts ranged from 19 to 44 terns over the course of a month. These were all Sandwich Terns (peak count of 38) with the exception of six Common Terns on 8th September. An additional non-survey count of 17 Roseate Terns was also reported via Irishbirding.com.



Figure 4: Areas used by terns at Ballycotton, during the 2016 post-breeding tern survey.

4) Ballymacoda

Counts of 21 and 48 Sandwich Terns were recorded on the 9th and 26th August respectively. These birds were roosting in the estuary during the high tide period.



Figure 5: Areas used by terns at Ballymacoda, during the 2016 post-breeding tern survey.

5) Ardmore Bay

Ardmore Bay mainly held Sandwich and Common Terns, with peak counts recorded on the 25th and 27th August respectively (80 Sandwich Terns, 60 Common Terns). Terns roosted on Curragh Strand and the adjacent rocks at the northern part of Ardmore Bay.



Figure 6: Areas used by terns at Ardmore Bay during the 2016 post-breeding tern survey.

6) Dungarvan – Harbour and The Cunnigar

A single count at the Cunnigar during late August recorded 287 terns (260 Sandwich Terns, 26 Common Terns, 1 Arctic Tern). Counts on 9th October recorded 41 Sandwich Terns at the Cunnigar and a roosting flock of c. 50 unidentified terns roosting on rocks inside the north-east mouth of Dungarvan Harbour. The counter was not previously aware of any regular concentrations of terns in this area, apart from small numbers of feeding birds.

7) Ballinclamper, Clonea Bay

A maximum count of 750 Common Terns was recorded on 25th August. Some 80 Sandwich Terns were present on the 21st August with small numbers thereafter. 50 Roseate Terns were recorded on the 25th August, with 17 individuals still present 10 days later, representing a site and possibly county record. Disturbance by dog walkers was reported as an issue at this site. Counters noted that numbers at Tramore were lower than expected based on previous years. The relatively large numbers at Clonea Bay may reflect better feeding conditions along the west Waterford coast. Note that peak counts have been received for this site, but we await data from other counts during the targeted survey period.



Figure 7: Areas used by terns at Dungarvan and Ballinclamper (Clonea Bay) during the 2016 post-breeding tern survey.

8) Tramore Bay – Rinneshark & Saleen (Backstrand)

Only Sandwich Terns were recorded during on counts at the backstrand (Saleen) and bay (Rinneshark) on 28th August (40) and 9th October (3). Sandwich Terns settled on and around the sandbank at Rinneshark during the August count.

Relatively low counts recorded at Tramore, and comparatively high counts at Clonea Bay (discussed above) are thought to reflect improved feeding in this part of the county during autumn 2016.



Figure 8: Areas used by terns at Tramore during the 2016 post-breeding tern survey.

9) Duncannon

Duncannon is a well-known Sandwich Tern roost and was counted 12 times between 8th August and 7th October. Counts in excess of 100 birds were recorded on 29th August (155), and on the 16th and 20th September (100 and 170 respectively). One or two Common and Arctic Terns were also present on three of the 12 counts. Prior to 2016, 11 counts were carried out across the 2014 and 2015 post-breeding seasons, and substantially higher numbers of Sandwich Terns were recorded, with a peak of 364 terns in September 2014.

Over 250 Sandwich Terns were recorded at **Hook Head** in Sep 2015, with 30 present at Duncannon on the same day. It is not clear if Hook Head is a site used regularly by roosting Sandwich Terns, or if this was a one-off occurrence.



Figure 9: Areas used by terns at Duncannon during the 2016 post-breeding tern survey.

10) Bannow Bay Mouth

On 8th August, 30 Sandwich Terns were recorded on sandbars near Bannow Island at the mouth of Bannow Bay. 27 Sandwich Terns were recorded on the same date at Duncannon.



Figure 10: Areas used by terns at Bannow Bay during the 2016 post-breeding tern survey.

11) Crossfintan Point & neighbouring areas

This is a well-known post-breeding tern roost area for birds originating from the breeding colony at Lady's Island as well as for terns moving from colonies and staging areas further north. Counted on 10 dates from 15th July to the 21st September, peak counts were recorded at the immediate end of the breeding season (2,500 on 27th July) and again at the end of August (1,150+ across 25th and 26th August). Tern flocks mainly consisted of Common and Roseate Terns (peak Roseate Terns 750), with highest counts of 50 and 30 Arctic and Sandwich Terns respectively. Flocks of 'Commics' were recorded on 4 of 10 dates, including 2290 at the end of July, likely to have contained mostly Common Terns. Little Terns (3) were also recorded on the 27th July.

While Crossfintan Point is the main area used, terns were also found roosting at Inish, Ballytrent, Nethertown and Churchtown. Similar numbers, often including high numbers of Roseates, were recorded in 2014 and 2015.

Over 650 terns (mostly Common, but many Roseate and Arctic) were recorded day-roosting at **'The Patches' at Tacumshin** on the 7th August but there was continuous movement of birds to and from the sea, so 650 should be treated as a minimum. Though small numbers of terns can be found here during the day, this count was exceptional and likely due to strong onshore winds that day.



Figure 11: Areas used by terns at Crossfintan Point during the 2016 post-breeding tern survey.

12) Wexford Harbour

Only 11 terns were present at Crossfintan on the 9th September when stormy conditions drove the roosting flock of 1100 terns to **Rosslare Backstrand** in Wexford Harbour. At the other side of the harbour 1,500+ Commics were recorded (via Irishbirding) at Raven Point, Curracloe.



Figure 12: Area used by terns at Rosslare Backstrand (Wexford Harbour) during the 2016 post-breeding tern survey.

13) South Dublin Bay – Merrion Gates & Sandymount Strand

The main post-breeding site for terns in Dublin is in South Dublin Bay at Sandymount Strand and Merrion Gates. A peak of 17,440 terns was counted on 12th August and this large total far outnumbers those at the Dublin colonies in 2016 and is likely to have consisted of a large number of Wexford birds (only 400 terns at Crossfintan on same date) and many from further afield (i.e. the UK and mainland Europe – Newton 2010). Around 3,000 terns were in South Dublin Bay the previous day, and just under 12,000 on the day after, highlighting the large turnover that takes place at this site during the months of August and September. Around a thousand terns were still present at Sandymount and Merrion through to late August and until the last count on the 14th September. All four species of tern used South Dublin Bay during the post-breeding season, although Common Terns were present in the largest numbers on each date. Between one and three Black Terns *Chlidonias niger* were also present during August and September.

Recreational disturbance continues to be an issue here.

See Tierney et al. (2016a) for further discussion on the post-breeding terns in Dublin Bay.



Figure 13: Area used by terns in south Dublin Bay (Sandymount and Merrion) during the 2016 post-breeding tern survey.

14) Dollymount Strand

Three counts at Dollymount Strand were co-ordinated with counts at the two South Dublin Bay sites. Sandwich Terns were recorded roosting at the south and north ends of the beach during two of the three counts. On the 30th August a peak number of 650 Commic Terns roosted on the rocks at the end of the wall at the south end of the site, being pushed closer in as the tide rose. At the same time, some 1,572 terns were recorded at Merrion Gates (South Dublin Bay).

Walkers and dogs are a regular presence and were noted to cause disturbance here.



Figure 14: Area used by terns at Dollymount Strand during the 2016 post-breeding tern survey.

15) Rogerstown – Harbour & Outer Estuary, Portrane Burrow

Over 500 terns, mostly Common and Sandwich, were counted at Rogerstown in mid-August. Tems were roosting on exposed mud just west of Rogerstown Pier, later flying out to their usual roost at Portrane Burrow as the tide came in. A few days later almost 750 terns were recorded at Portrane. Terns typically roost on the beach but are very susceptible to disturbance from walkers and dogs (recorded during both counts in August). Counts from Portrane Burrow since 2011 show that it has been a regular roost for often hundreds (peak 346 in 2011) of Sandwich Terns and small numbers of Common and Little Terns.



Figure 15: Area used by terns at Rogerstown and Portrane during the 2016 post-breeding tern survey.

16) Rush

Small numbers of Terns (max. 16) were recorded roosting on rocks at the north and south ends of Rush beach, just south of Loughshinny.



Figure 16: Area used by terns at Rush during the 2016 post-breeding tern survey.

17) Loughshinny

The rocky outcrops around Loughshinny were counted on four dates from mid-August to mid-September, with a peak of 310 terns on the 14th Aug. Of the 310, 190 were Common Terns, 115 were Roseate Terns and 5 were Sandwich Terns. No terns roosted there the next night, though 72 terns (2:1:1 Sandwich: Common: Roseate) were feeding in the area and moving south, presumably to roost at Portrane.



Figure 17: Area used by terns at Loughshinny during the 2016 post-breeding tern survey.

18) Barnageeragh (Skerries)

Terns roost on the rocky coast at Skerries and further north towards Balbriggan. The area was counted during the middle and end of August, with 2,426 birds present on the 16th. There are records of several hundred and as many as 3,000 from previous years (L. Lenehan pers. comm.). The flocks comprised of mostly Common Terns, with small numbers of the other three species. A rocky tidal area known locally as "the long leg", lies c. 500m off shore, and is a frequent roosting site for large numbers of terns, gulls, waders and Cormorants. High levels of disturbance were noted at the rocks close to Skerries due to walkers and beach-goers.



Figure 18: Area used by terns at Barnageeragh (Skerries) during the 2016 post-breeding tern survey.

19) Gormanstown

High levels of disturbance were noted at Gormanstown beach during the first count on the 15th August and no terns were recorded. A peak of 550 terns was present on the 22nd August, almost 500 of which were Commons, with 50 Arctics and 10 Roseates also present. Ten Sandwich Terns were recorded four days later. Records from the post-breeding seasons between 1999 and 2007 (10 counts; L. Lenehan pers. comm.) reported numbers ranging from 300 to 3,000 Commic Terns (mean count 910).



Figure 19: Area used by terns at Gormanstown during the 2016 post-breeding tern survey.

20) Cruisetown

A peak number of 400 terns were present during the first count on 24th August, mostly consisting of Common Terns. Only 61 Sandwich Terns were present a week later, indicating that the birds from the first count may have moved on, although there was an influx of 184 Commons and Arctics again for the third count in September. Historic counts of 1,000-2,000 terns, predominantly reported as Commics, go back as far as 1985 and include a count of 3,000 terns in August 2008 (L. Lenehan pers. comm.). It is worthwhile noting that 60 Roseates (Aug), 100+ Commics (Aug) and 70 Sandwich Terns (Sep) were reported here in 2014 (via Irishbirding).



Figure 20: Area used by terns at Cruisetown during the 2016 post-breeding tern survey.

4. Discussion

Though we have a good knowledge of some breeding tern colonies on the east coast (Rockabill, Dublin Port, Dalkey Island and Lady's Island), the locations, numbers and species of post-breeding terns at sites around Ireland has presented something of a knowledge gap to date. Although many important sites used by post-breeding terns are surveyed as part of I-WeBS, the core focus period of that survey is often weeks and months after terns have departed and so their presence is often missed and/ or peak numbers are heavily under-recorded due to the timing of the I-WeBS counts. The 2016 post-breeding tern survey has shown that there are significant numbers of *Sterna* terns of four species using coastal wetland sites along the east and south coasts of Ireland throughout August and September. The results of this survey add to the known value of these protected sites as important roosting and staging sites for significant numbers of tern species listed in Annex I of the EU Birds Directive. It is recommended that the post-breeding tern survey be expanded in future years to include other post-breeding tern sites around the Irish coast.

The counts from this survey provide a good indication of the relative numbers of terns using each site during the post-breeding season. Peak numbers at most sites occurred in late August, as expected. Those sites monitored most frequently showed significant turnover of birds between counts, evident from total numbers, species composition, estimates of juveniles and sightings of marked birds. It is likely that peak counts recorded at many sites were lower than the true maxima present during the season. Similarly, the turnover of birds moving through during August and September mean that the actual numbers of individuals that have used a site during the post-breeding season are likely to be many multiples higher than at any individual peak count. Breeding success at many Irish Sea tem colonies was very poor in 2016 (Burke *et al.*, 2016; Tierney *et al.*, 2016b) and so in a 'normal' year there may be hundreds or thousands more juvenile birds using these sites before beginning southerly migration later in the autumn.

During this survey, counts were undertaken at a variety of times during the day and at different tide states and heights. Most of the large counts (>500 terns) were carried out in the evening on a rising or high tide. In most cases, the counters were familiar with their sites and whether or not there were specific method requirements (tides and times of visits). Future surveys at other sites should continue to rely on local knowledge, where available. For sites where there is little or no information about tem usage, then 2-4 site visits are recommended during the target period between mid-August to mid-September), with at least one visit on an evening where high tide coincides with dusk.

Frequent recreational disturbance, particularly in Dublin, is a problem at many strandline sites and is listed as a potential impact in the conservation objectives for some SPAs (e.g. South Dublin Bay and River Tolka Estuary SPA, 004024). The ongoing issue of disturbance highlights the importance of nearby alternate roosts, so that terns are not forced to travel far if disturbed. Similarly, sites like Rosslare Backstrand and Tacumshin in Wexford are not thought to be regular roost sites but proved important in 2016 when stormy weather meant the terns could not roost at Crossfintan Point as they usually would.

Overall this survey has facilitated the gathering of extremely useful site-based data that would not ordinarily be possible through core-count methods. The I-WeBS Office should continue to encourage submission of additional supplementary records of post-breeding terns, targeting wetland sites

located in relatively close proximity to known tern colonies. Greater co-ordination of counts at a local level, possibly together with some colour-ringing, may also help generate a better understanding of tern movements during the post-breeding staging period.

5. References

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