

Lady's Island Lake Tern Report 2012.

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***An Roinn
Ealaíon, Oidhreachta agus Gaeltachta***

***Department of
Arts, Heritage and the Gaeltacht***

Acknowledgements.

The Lady's Island Lake Tern Conservation Project is managed by the National Parks and Wildlife Service (NPWS of the Dept of Arts, Heritage & Gaeltacht), and is now in it's 30th year. Its' success depends on the support and co- operation of many people.

A special thanks to the owner of Inish Island, Mr. E. Murphy for facilitating the tern conservation project again this year.

Thanks also to the Lady's Island Lake Pilgrimage Committee, especially David Ormond and Sean Pettit.

Thanks to; Lorcan Scott (District Conservation Officer NPWS), Ciara O' Mahony Deputy Regional Manager), Wesley Atkinson (Regional Manager) and Alyn Walsh Research Division NPWS. To Dominic Berridge; Nicky Walsh; John Kinsella, Andrew Butler and George Lett at Wexford Wildfowl Reserve for helping with delivery of equipment, nest boxes and hides to Lady's Island Lake. Thanks to Denis Carroll for his skillful use of the mechanical digger during the 'Cutting of the Barrier'. Thanks to Jim Hurley (SWC) for data on water levels and to Dr. Stephen Newton (BWI) for supplying special rings for Roseate Terns.

The authors and the area ranger, on behalf of the National Parks and Wildlife Service (DoEHLG), wish to acknowledge the support of the landowners and rights holders of Our Lady's Island Lake with the management of the tern conservation project throughout the year.

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Summary

Management and monitoring of the Lady's Island Lake Tern Colony began on the 11th April and ended on the 10th August 2012.

The total number of gull and tern nests recorded was 4968, a 2.9% increase on that of 2011.

Black-headed Gulls (*Larus ridibundus*) increased by 160 pairs (10%) to 1616.

18 pairs of Mediterranean Gulls (*Larus melanocephalus*) nested, an increase of eight on the 2011 count.

Sandwich Terns *Sterna sandivensis* decreased by 239 pairs (12%) to 1692.

Common and Arctic Terns (*Hirundo/paradisaea*) were censused separately, with a total of 968

Common and 538 Arctic Tern nests recorded. This gave a combined total of 1524, a 10% increase on that of 2011. The mean clutch size for Common and Arctic Terns was 2.37 and 1.81 respectively.

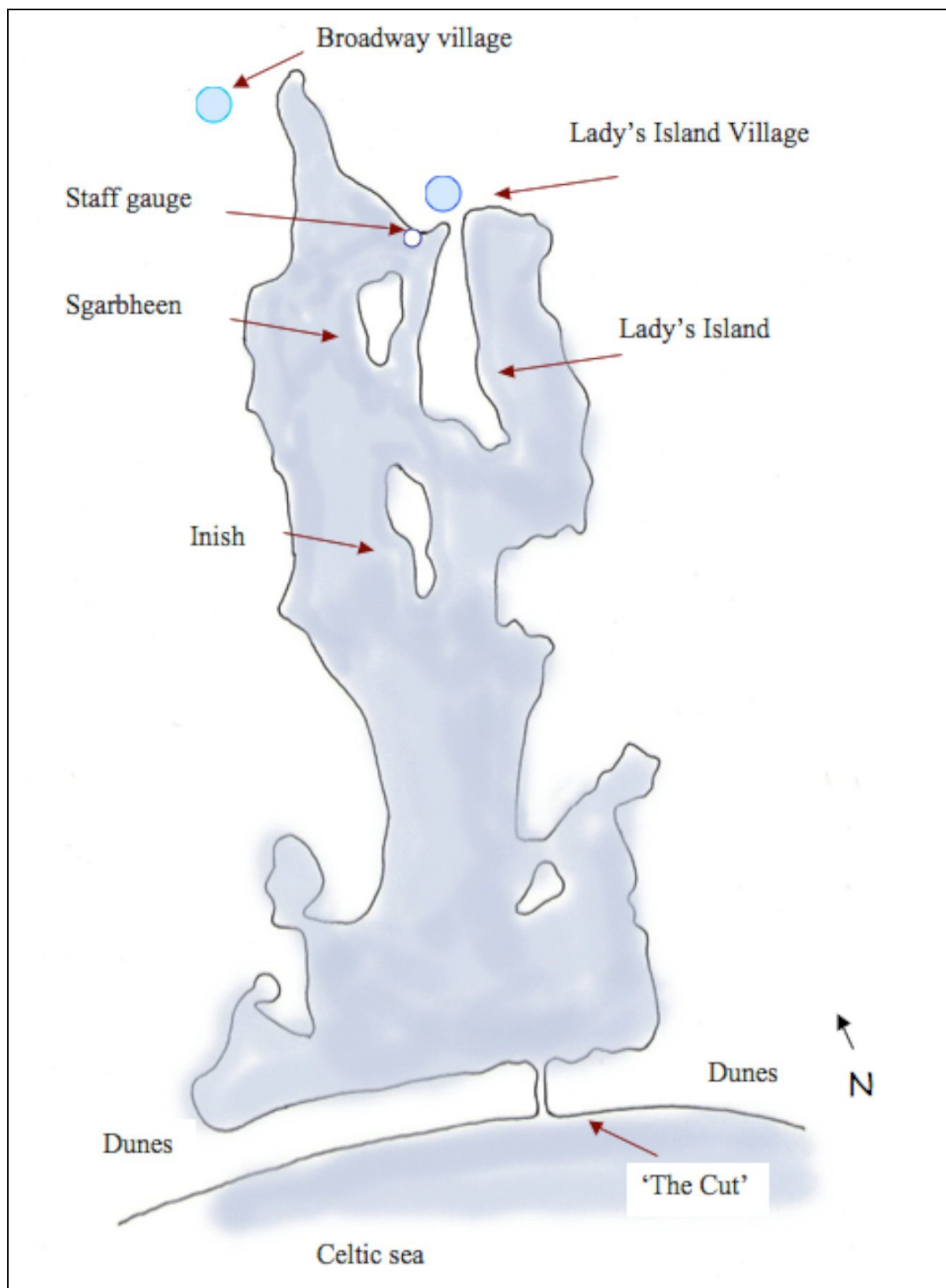
126 Roseate Tern pairs nested with a mean clutch size of 1.55 per egg laying pair, and a hatching success of 70%. However, survival rate was estimated to be 66%, due to a high rate of depredation and poor weather conditions.

Depredation had a negative affect on all breeding species, with eggs and chicks depredated throughout the colonies on Inish.

Water levels from April to July were at their highest since 2005 with a monthly mean average height of 4.35 recorded on the staff gauge. Between the 20th June and the 9th July, levels rose from 4.36 to 4.56, following heavy rain.

Weather conditions during the breeding season were very poor, with unseasonably high rainfall and cooler than normal condition prevailing. A total of 67 wet days, with 493.6 mm of rain were recorded between 1st April and 31st July.

June was the wettest on record.



1. Introduction

1.1 Colony site.

SITE SYNOPSIS

SITE NAME: LADY'S ISLAND S.I. No. 69/2012 SPA: 004009

Lady's Island Lake is situated in the extreme southeast of Ireland and is comprised of a shallow, brackish coastal lagoon separated from the sea by a 200-meter wide sand and shingle barrier. The lake is 3.7 km in length and 1.3 km at its widest southerly point, and covers an area of 466 hectares.

The lake and its two islands, Inish and Sgarbheen, are designated Special Protection Areas (SPA), holding 6 Schedule 3 Special Conservation Interest Species; Gadwall (*Anas strepera*), Black-headed Gull (*Larus ridibundus*), Sandwich Tern (*Sterna sandvicensis*), Roseate Tern (*Sterna dougallii*), Common Tern (*Sterna hirundo*), and Arctic Tern (*Sterna paradisaea*).

2. Methods

2.1 Preparatory work.

2.1.1 Vegetation control.

The pre-nesting season preparation began on the 13th April.

The site where the roseate tern colony is located annually on the southern end of Inish (Colony B), was not covered by winter water levels and had a covering withered grass and tall woody stems of Scentless Mayweed (*Matricaria maritima*), remnants of the previous seasons growth. The area was trimmed and cleared before deployment of nestboxes and observation hides.

2.1.2 Deployment of nest boxes.

284 wooden nestboxes were deployed in approximately the same positions as last year, with stones in situ from the previous season marking each nest site. The stones are then placed on top to prevent movement of boxes during strong winds.

Two wooden observation hides were placed on top of wooden pallets to give added height and were tied down securely using ropes and wooden stakes.

An enclosure measuring 5 x 5 metres was put in place to facilitate the collection of biometric data on Roseate Tern chicks.

2.1.3 Spraying

Narrow strips of vegetation were sprayed with 'Roundup', a broad-spectrum conventional herbicide, to create safe access paths to and from nestboxes while carrying out daily nest censusing, ringing and taking of biometric measurements of Roseate Tern chicks. Ample vegetation was left un-sprayed around boxes to afford shelter for chicks.

A path was also sprayed from the boat mooring point, south through the center of Colony B, leading to the hides. This was particularly important this year because of the higher than normal water levels. Keeping to the centre of the island when approaching the hides avoids the likelihood of Common and Arctic chicks swimming out on the water and becoming chilled or lost.

2.1.4 Enclosure construction

In the past, enclosures for the purposes of collecting biometric data were made from ½ inch mesh wire, usually 18 inches in height. To facilitate the easy finding of chicks, the vegetation within the enclosure was sprayed off. However it was noted that, as chicks develop, their need to ‘escape’ from the enclosure increases and were therefore open to attack from adult Roseate and Common Terns defending their chicks in the vicinity.

Replacing the wire with plywood greatly reduces the need to escape as chicks cannot see through it and also prevents damage to their bills by trying to force themselves through wire.

The perimeter of the enclosure should not be sprayed and ample vegetation should remain for chicks to hide and shelter in.

2.2 Active Nest Census

All nest censuses were carried out during good weather conditions and without prolonged disturbance to gull and tern species.

2.2.1 Black-headed Gulls:

Two nest censuses were carried out in Colony A on the northern end of Inish. The main Black-headed Gull colony was situated on the eastern side and the second on the western side.

Three lengths of blue polypropylene ‘baler’ twine were laid in parallel lines, creating metre and a half wide transects through which ‘walk-through’ systematic counts were taken.

Two and three nest clutches were recorded on two tally-counters, whilst one and four/five nest clutches were called to an assistant, who also moved the twine at one end as each transect was completed.

2.2.2. Mediterranean Gulls:

Mediterranean Gull nests were counted during the Black-headed Gull census and were marked with long bamboo sticks with the appropriate nest number attached. Regular monitoring to access the egg/chick productivity was undertaken, but this was curtailed due to high chick mortality following heavy rain.

2.2.3 Sandwich Terns:

Two nest censuses were carried out, one on the western side of Colony A, where the main Sandwich Tern colony was situated, and the second on the western side of Colony B. A small colony in the centre of the main Black-headed Gull colony was counted during the census of the latter.

A new sub-colony noted on the 9th of June was censused on the 19th June.

The same procedure was followed by laying polypropylene twine, but making the transects only one metre wide due to the density of the nests.

Censusing methods were the same as those used for Black-headed Gulls, with 3 strands of light polypropylene twine laid in parallel lines, but only about a metre apart due to the density of the nests and the taller than usual vegetation. Some nests were almost completely hidden beneath tussocks and extreme caution was needed to avoid treading on eggs.

2.2.4 Common and Arctic Terns:

Censusing methods for Common and Arctic Terns.

An attempt to ascertain nesting habitat preferences of Common and Arctic Terns was initiated this year.

It was known that the Arctic's preferred the lower saline zone on the southern most point of Inish, which is dominated by Salt Marsh Rush (*Juncus gerardii*) and is less densely vegetated than the higher grass covered area towards the centre of the island.

As the main colony on the southern end of Irish reached capacity and the two species were in full incubating mode, observations were carried out from various points to determine where, or if there was a defined nesting area for both species.

While standing motionless for a few minutes at various points along the shoreline, and allowing the birds to settle back on their nests, it was possible to map the nest sites and a dividing line between the two species was then marked with short bamboos. This marked area coincided almost exactly with the contours dividing the lower emergent salt marsh zone, with the 'less salt tolerant grass type zone' higher up.

The bamboos were then linked with light polypropylene twine giving an approximate guideline as the 'walk-through' census was undertaken.

As the counting commenced, it was immediately evident where the Arctic Tern colony finished, and where the Common Tern colony began, with a clear switch from 'two-egg arctic clutches', to 'three-egg common clutches'. Egg shape and colour were examined briefly on occasion where nest type was unclear.

The main colony of Arctic Terns on the eastern side of Sgarbheen was reasonably well defined and observations from the adjacent shoreline on the pilgrimage path indicated an approximate 70% Arctic Tern to 30% Common Tern ratio. As the terns returned to their nest sites following dreads, the approximate nest locations were mapped as a guide during censusing. Common Tern nest sites were less clearly defined, but most were confined to the higher northwestern side of the island.



Marker showing the approximate dividing line between Common and Arctic tern colonies on Inish. The change in vegetation type is also apparent.

Diagram showing 'walk through' census methods for Common (green) and Arctic Terns (blue).



Three strands of light polypropylene twine are attached to a central post and a systematic 'walk-through' census is undertaken, using two tally-counters, recording two and three egg clutches of Arctic and Common Terns respectively. One or four egg clutches are relayed to a second person on the shoreline. As the counter exits one corridor, the second person moves the polypropylene twine to the next point, ensuring an uninterrupted, accurate count is achieved.

2.2.5 Roseate Terns:

Nests and clutch sizes of Roseate Terns were counted on a daily basis where weather conditions permitted. 284 wooden boxes and 3 car tyres were laid out in the area traditionally favoured by Roseate Terns on the southern end of Inish. A routine 'walk-through' census was followed each day and active nests were recorded and marked with orange markers with a corresponding nest number written on that marker. One and two egg clutches and chick hatching dates were recorded. Observations from the hides noted any potential nests in the open or away from nestboxes in or outside colony proper.

2.3 Predator control

Brown Rat (*Rattus norvegicus*)

It is important that rats are eradicated before the nesting season commences.

Kletrat wax blocks were placed in open-ended clay and plastic pipes around the perimeter of Inish. Clay pipes have an advantage in that they remain in position and are not easily blown or washed away during winter. Three visits were made from 30th March to 13th April with 11 kilograms of Kletrat laid. A further two kilograms were laid on the 2nd May.

Stoat (*Mustela erminea*)

On the 20th June, three adult and twelve dead Sandwich Tern chicks were found dead on or near their nest sites. No obvious signs of predation were noted.

On the 14th July 16 well grown roseate chicks and one adult, were found dead in nest boxes in Colony B. Later examination of the carcasses showed tiny punctures marks on their necks, characteristic of those made by a stoat.

Hooded Crow (*Corvus cornix*)

Hooded crows were noted in the Monterey Pine tree on the north end of Inish in which they nest each year and plans were made to remove a possible nest and its contents. However one of the adults was found dead under the tree on the 27th April. A 'Larsson' trap was also noted on a farm adjacent to Inish, and it is likely that other hooded crows were also trapped there. As a result, no crows nested on Inish and predation by them was not an issue.

Peregrine falcon (*Falco peregrinus*)

Peregrines were recorded on eight dates early in the season and were observed taking tern species on three occasions. Three adult Roseate Tern carcasses were found on the 14th, 15th and 28th May respectively, with characteristic V-shaped marks on their sternebrae.

Kestrel (*Falco tinnunculus*)

A pair that nested in old buildings on the southeastern corner of the lake (The Chour) for the past few years did not do so this year, as the house was occupied. The only sighting of kestrel was a single female on the 24th May. A dead female was found on Sgarbheen on the 9th June.

Short-eared Owl (*Asio flammeus*)

A single bird was seen hunting over fields at Ring Marsh on the southeastern corner of the lake on the 6th June and one, probably the same individual flew into Colony B on the 8th July. It was flushed and returned in a SE direction towards Ring Marsh.

A pellet was found on the eastern side of Inish within the Roseate Tern colony on the 12th July. Its contents were examined and found to contain a tern chick, the specific identity of which was unclear.

Lesser Black-backed Gull (*Larus fuscus*)

A pair was present from the 19th April and was expected of breeding in Colony A within the Black-headed Gull colony, but no nest was found. The adults were noted calling and circling above the colony on the 4th June as if they had chicks.

Great Black-backed Gull (*Larus marinus*)

Two adults were present throughout the season and were noted taking tern chicks on several occasions.

Herring Gull (*Larus argentatus*)

Up to ten individuals were present in the locality in the earlier part of the season and seven were recorded on the in field on the 10th July. No depredation of tern or gull species was noted.

2.4 Prevention of disturbance

The southern end of Lady's Island Lake has become popular for sail boarding and wind surfing in recent years, with up to 20 individuals using the site on any one day, especially at weekends when favourable winds are blowing.

A restriction on boat usage on the northern end of the lake is in place from the 1st April to the 31st August. Two signs, requesting lake-users to remain on the southern end of the lake, were placed on the shoreline at entrance points to the lake.

Eight 'do not disturb' signs were placed along the shore of Inish, and one on the northern shore of Sgarbheen.

A sign informing visitors about the importance of the conservation project was placed close to the pilgrimage path adjacent to Sgarbheen Island.

2.5 Weather

Weather summary records from Met Eireann March –July 2012.

March.

Mean temperature was above normal with weather stations reporting their highest means in 22 years.

Rainfall relatively low with a total of 32.2 mm recorded at Johnstown weather station, with other stations recording their driest March in seven years.

Number of 'wet-days' below average with a total of 13 recorded.

Sunshine was above normal.

April.

Mean temperatures below normal with some stations reporting lowest values in eight to 26 years.

Rainfall was above average with most stations in the east recording percentage of normal's over 170% and the wettest April in 14 years.

A total of 93.7mm was recorded at Johnstown.

Number of 'wet-days' recorded was 23.

May.

Mean temperatures were below average in the east due mainly to northeasterly winds dominating until the 20th May.

Rainfall was above average along the east coast with a total of 68.7 mm recorded at Johnstown.

Number of 'wet-days' recorded was 18.

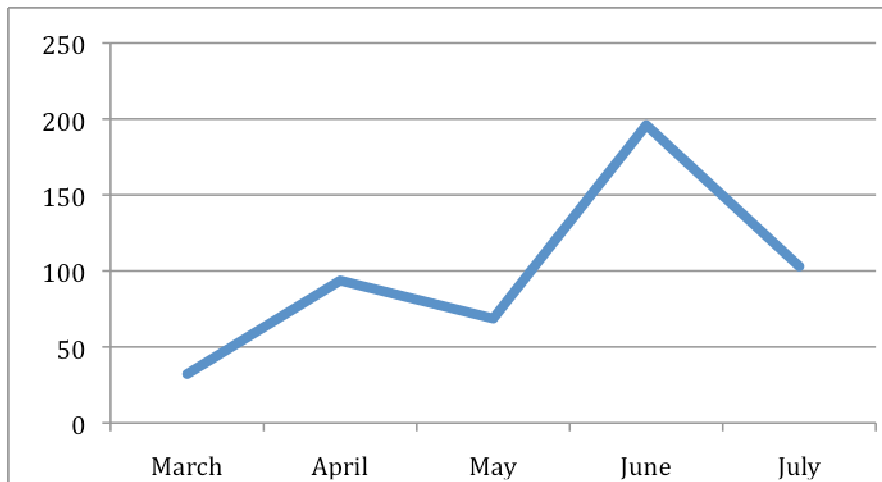
Stations on the east coast reported their dullest May in nine years.

June.

Mean temperatures were below normal with some stations recording the lowest values in 10 years. Rainfall was well above average with most stations recording their **wettest June on record.**

A total of 196mm was recorded at Johnstown, number of 'wet-days' recorded was 22.

Some stations reported June as the dullest in 15 years.



Graph showing the peak rainfall in June.

July.

Johnstown reported its lowest monthly-recorded temperature in 26 years, with other stations showing all means below average.

A total of 103 mm of rain was recorded at Johnstown.

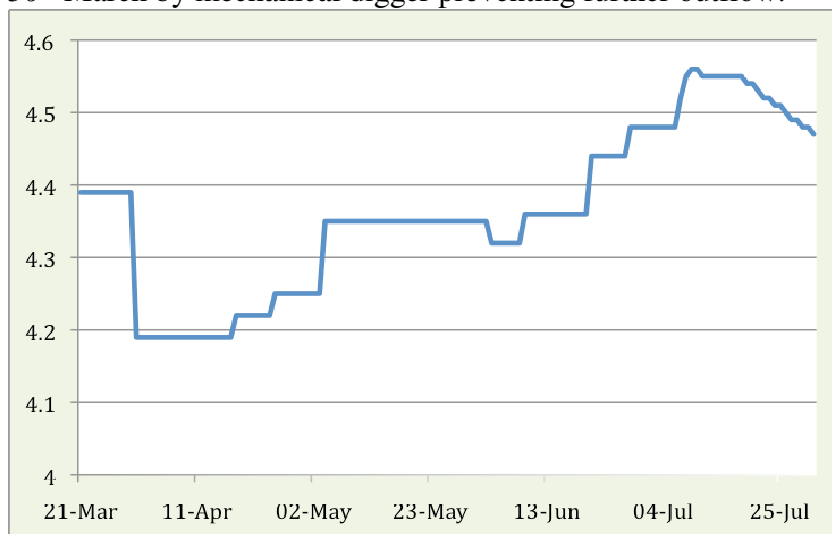
Stations on the east coast had their dullest July in 9 years.

2.6 Water levels

Twelve small streams feed into Lady's Island Lake, which has no natural outflow to the sea. Water levels rise with winter rainfall and with over-wash from the sea during storms and high tides. Mechanical breaching of the sand barrier is carried out to lower the lake levels.

Regularly readings of levels were taken from the staff gauge situated beside the community centre at Lady's Island village. Particular attention was paid to recording levels prior to, and after heavy rain or strong winds, which can cause over-wash from the sea with sudden fluctuations of several inches recorded.

A decision to lower the water level was taken at a 'Lake Committee Meeting' on the 21st March. On the 27th of March 'The Cut' was opened with a 4.39 level on the staff gauge. On the 31st of March the level had dropped to 4.2, the optimum level considered beneficial to both flora and fauna on Lady's Island Lake. A decision to 'close The Cut' was agreed and it was sealed on the 30th March by mechanical digger preventing further outflow.



2.7 Ringing and ring reading

Ringing of Roseate Tern chicks was carried out by the warden, while ringing of other tern chicks and Black-headed Gull pulli, was carried out by NPWS staff and the warden. An appropriate BTO ring was fitted to the right tarsus and a 'special' ring (two numbers and two digits) was fitted to the left leg (the opposite combination is used on the Rockabill Colony). No wader chicks or other adult bird species were ringed.

Ring reading of adult Roseate Terns was carried out on a daily basis using Leica telescopes from hides placed on the southern side of the roseate colony. As many adult pairs as possible were matched to active nests and their history recorded. When both adult Roseate Terns were identified as a nesting pair, (by reading the special ring) and a nest allocated to that pair, an orange marker was placed just behind that nest and a corresponding nest number written on the top and bottom of the marker. This facilitates easy recognition of the nest as the adult roseate may perch on top of the marker, or on top of the nest-box.

Red tape was attached to the marker when both adults were identified and ring reading efforts could then be devoted to other adult pairs and nest sites. When all chicks in a nest-box were fitted with rings and those nests 'were not part' of the biometric recording program, yellow tape was attached to signify the completion of work on that nest and contents. However boxes were inspected regularly to check the progress of chicks.

3. Results.

3.1 Nest census

3.1.1 Black-headed Gulls

(Larus ridibundus)

A grand total of 1616 Black-headed Gull pairs nested in Colony A on Inish in 2012.

This is an increase of 160 pairs on that recorded in 2011. The main colony was situated on the northeastern side of the island (Colony A) with a smaller colony on the western side. It is of note that both colonies were more compact than in recent years, with fewer isolated nests in the centre of the island.

The first egg was laid on the 12th April (same date as 2011) and the first chick hatched on the 7th May, two days earlier than last year. The first flying juveniles were noted on the 9th June.

1314 nests were recorded on the eastern side of Colony A on the 8th May with another 302 nests recorded on the western side on the 17th May.

This gave a grand total of 1616 breeding pairs with a mean clutch size of 2.70.

Chick mortality was deemed to be high following heavy rain on the 2nd/3rd June.

Only three nests were counted during a census in colony B on the southern end of the island and four pairs nested on Sgarbheen.

Hybrid Black-headed Gull X Mediterranean Gull:

An adult Black-headed Gull and Mediterranean Gull were paired and displaying to each other in April, and two hybrid Black-headed Gull x Mediterranean Gull juveniles were recorded on the 11th July at the GAA pitch to the east of the lake.

Census of Black-headed Gulls on Inish 2012

The main census on the 8th May recorded 1314 nests on the northeastern side of Inish (Colony A).

A further 302 nests were counted on the 17th May, on the western side of Inish, giving a total of 1616.

Colony A east side (8th May)

	Nests	Total eggs
X 1 egg	84	84
X 2 egg	225	450
X 3 egg	997	2991
X 4 egg	7	28
X 5 egg	1	5
Total	1314	3558
Mean clutch	2.7	

Colony A west side (17th May)

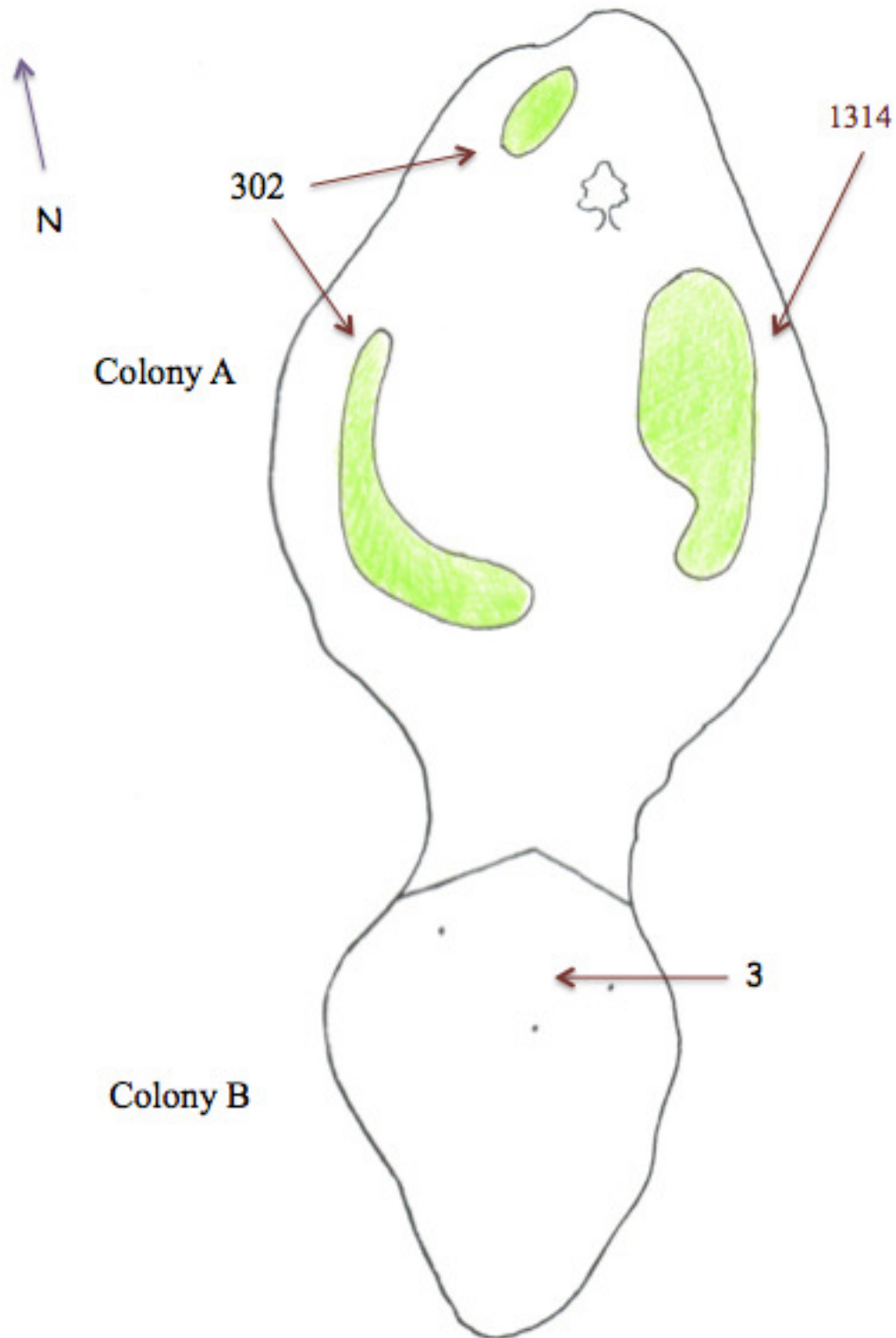
	Nests	Total eggs
X 1 egg	22	22
X 2 egg	58	116
X 3 egg	219	657
X 4 egg	2	8
X 5 egg	1	5
Total	302	808
Mean clutch	2.66	

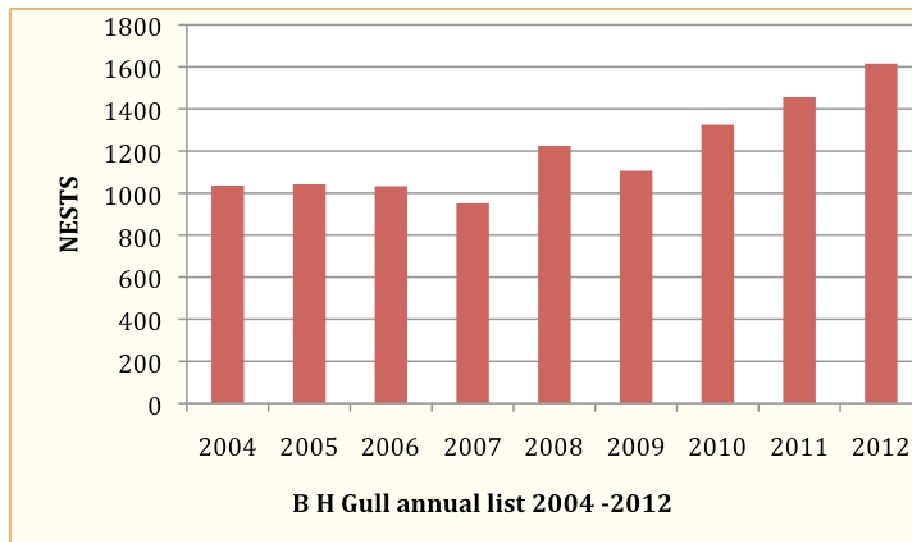
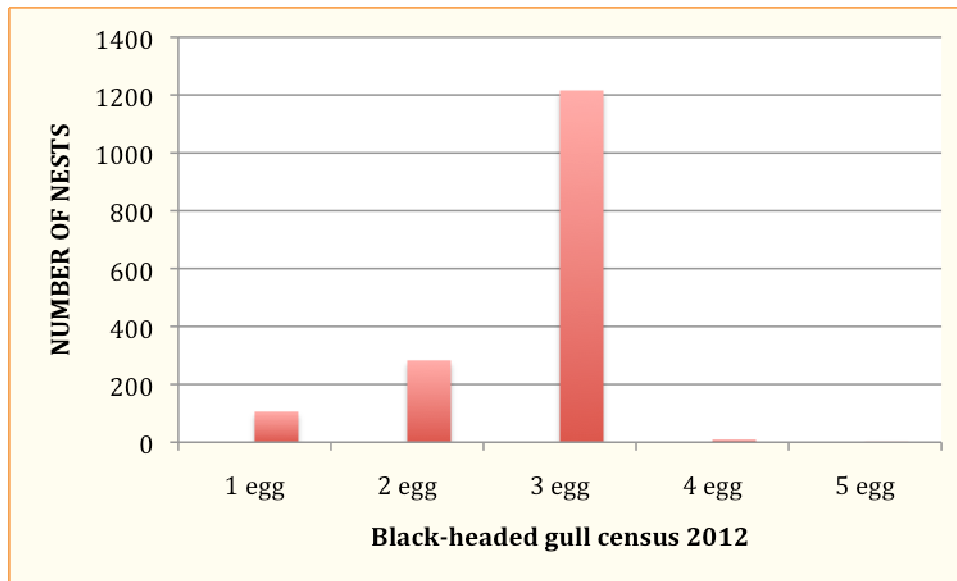
Combined grand total

	Nests	Total eggs
X 1 egg	106	106
X 2 egg	283	566
X 3 egg	1216	3648
X 4 egg	9	36
X 5 egg	2	10
Grand Total	1616	4366
Mean clutch	2.70	

3.1.2

Location of Black-headed Gull Colonies on Inish 2012





3.1.3 Ringing

Poor weather prevented access to the Black-headed Gull Colony and only 6 pulli were ringed on the 20th June and 5th July respectively, in colony A.

Date	Ring sequence	Total
20 th June	EW66817-820	4
5 th July	EW66908-09	2

3.2 Mediterranean Gulls (*Larus melanocephalus*)

A total of 18 Mediterranean Gull nests were recorded during the Black-headed Gull census on the 8th and 17th June respectively, with a mean clutch size of 2.44.

As the number of breeding pairs increases year on year, it is becoming evident that pairs are now nesting together forming small groups within the two main Black-headed Gull colonies on the east and west side of Colony A.

A total of 44 eggs were laid and 33 chicks were known to have hatched by the 1st June.

23 of these were ringed on the 29th May and the 1st June respectively. One chick was found dead on the 29th May.

However, following heavy rain on the 2nd June, a further eleven ringed and three un-ringed chicks were found dead in or around their nests, bringing to 15 the total known to have died before fledging.

Two juveniles were observed on Sgarbheen on the evening of 9th July and two on Inish on the 10th July.

	Nests	Total eggs	
X 1 egg	1	1	
X 2 egg	8	16	
X 3 egg	9	27	
Total	18	44	
Mean clutch	1.27		

Date ringed	Ring number		Total	
29 th May	EW66801-16	16		
1 st June	EW66901-07	7	23	

3.3 Sandwich Terns (*Sterna sandvicensis*)

A grand total of 1692 Sandwich Tern pairs nested on Inish. This was a decrease of 239 pairs on that of 2011 when 1931 pairs were recorded. The first eggs were noted on the 24th April.

The mean clutch size was 1.31.

No Sandwich Tern pairs nested on Sgarbheen, perhaps due to that colony being lost in 2011, when a hedgehog was suspected of depredating 150 clutches in mid June.

Censusing took place in Colony A on the 24th May, as the first two chicks hatched and a total of 1296 nests were recorded.

The second colony on the southern end of Inish, Colony B, was later to become established and a census was undertaken there on the 1st June and recorded a further 247 nests.

On the 9th of June, a new sub-colony was noted; 18 single egg nests located in a line along a sprayed pathway at the northern end of Colony B. The colony continued to expand and a census on the 19th June recorded 149.

This brought the grand total to 1692 breeding pairs.

3.3.1 Sandwich Tern productivity on Inish

Colony A			Colony B		
	Nests	Total eggs	Nests	Total eggs	
X 1 egg	840	840	X 1 egg	323	323
X 2 egg	451	902	X 2 egg	73	146
X 3 egg	5	15			
Total	1296	1757		396	469
Grand total	1692				
Mean clutch	1.31				

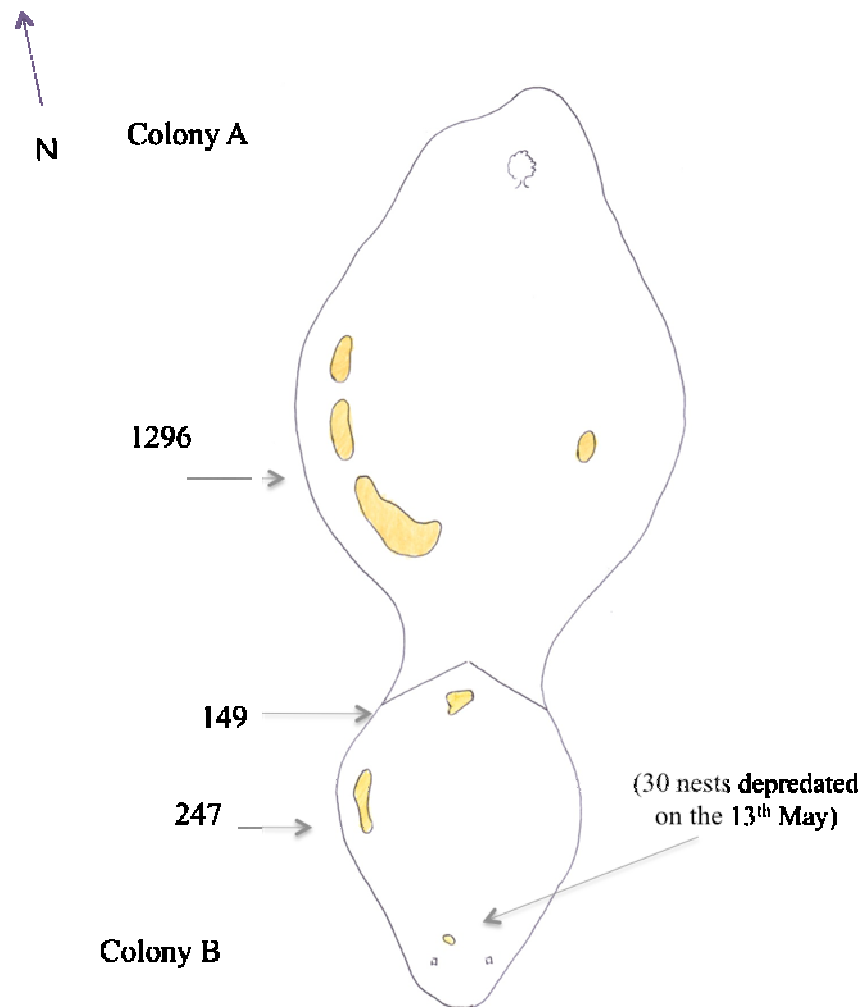
**Sandwich Tern pairs
Lady's Island Lake
1983-2012**

1983 - 4
1984 - 191
1985 - 291
1986 - 524
1987 - 708
1988 - 412
1989 - 1317
1990 - 1395
1991 - 1469
1992 - 1129
1993 - 1254
1994 - 1447
1995 - 1130
1996 - 1358
1997 - 1050
1998 - 1015
1999 - 1048
2000 - 1005
2001 - 1068
2002 - 825
2003 - 1252
2004 - 1161
2005 - 1122
2006 - 1309
2007 - 1800
2008 - 1945
2009 - 1958
2010 - 1838
2011 - 1931
2012 - 1692



3.3.2

Location of Sandwich Tern colonies on Inish 2012



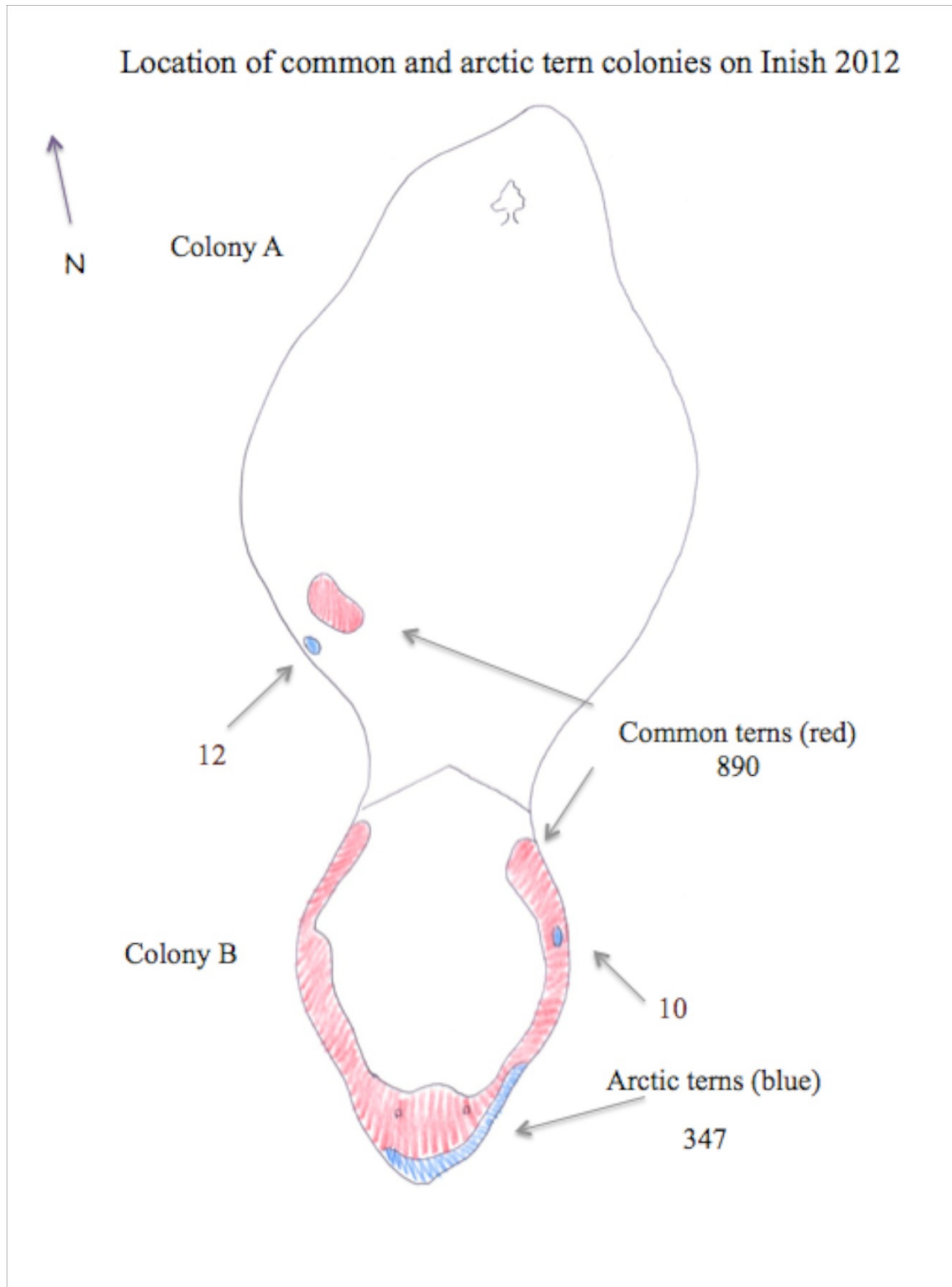
3.3.3 Ringing

On the 20th June, 100 Sandwich Terns were ringed on the southwestern side of Colony A.

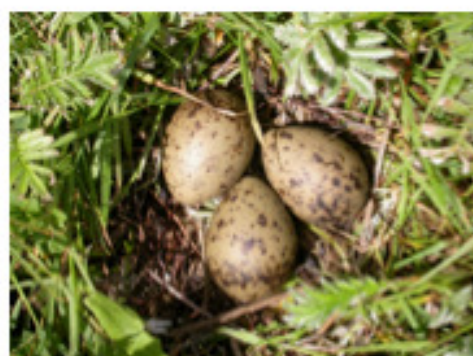
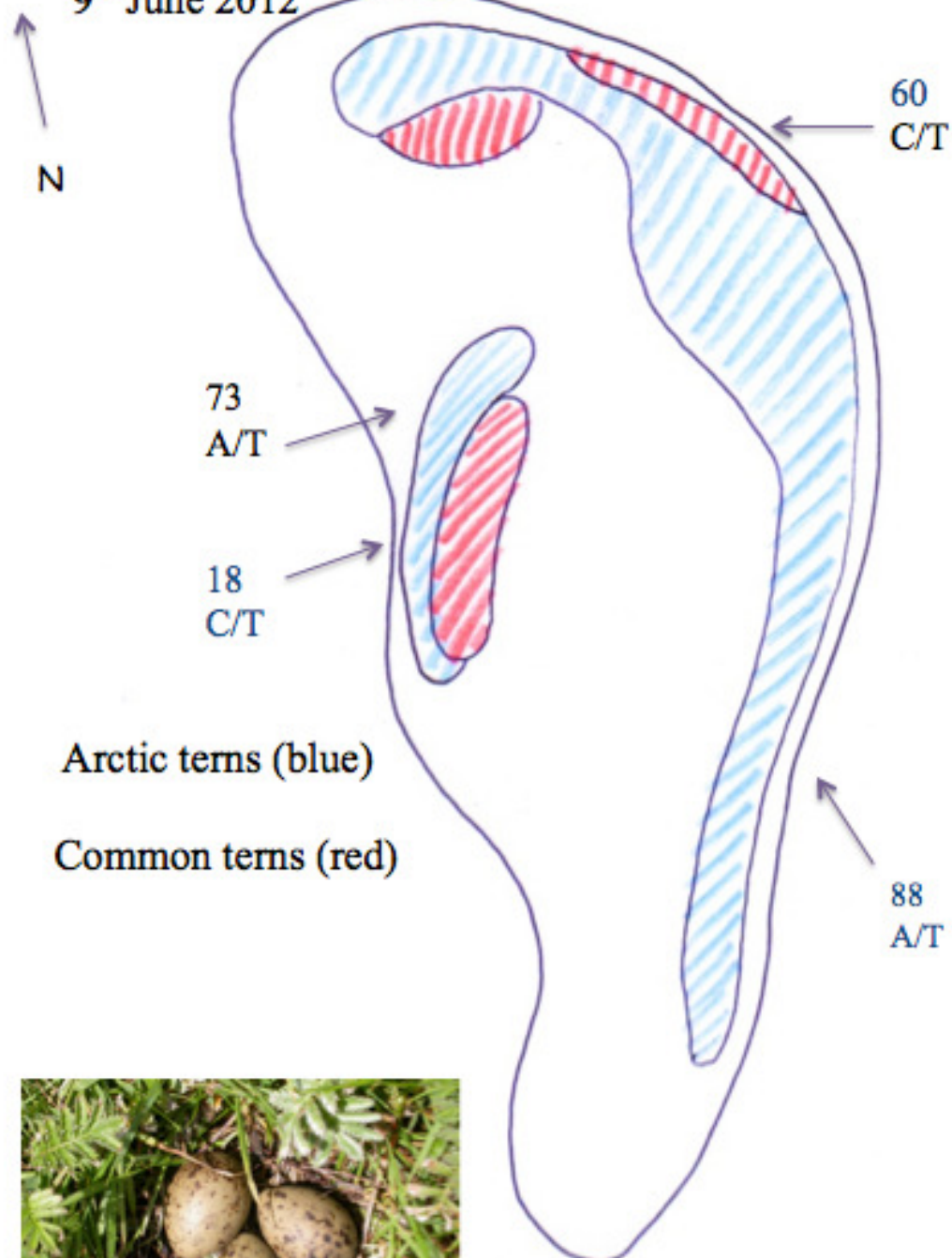
Date	Ring sequence	Total
20 th June	DE02751-DE02800	
	DE03301-DE03350	100
5 th July	DE03401-27	27
	DE03449-50	2

3.4 Common Terns and Arctic Terns (*Sterna hirundo*/*Sterna paradisaea*.)

3.4.1



Location of arctic and common tern colonies on Sgarbheen 9th June 2012



3.5 Common Terns (*Sterna hirundo*)

A total of 890 Common Tern pairs nested on Inish with a further 78 on Sgarbheen, giving a grand total of 968 breeding pairs, with a mean clutch size of 2.37

The first Common Tern was noted on the 31st March and the first egg was recorded in Colony B on the 10th May. The first chick was noted on the 10th June, eleven days later than in 2011.

3.5.1 Common Tern productivity on Inish

	Nests	Total eggs
X1 egg	117	117
X 2 egg	374	748
X 3 egg	397	1191
X 4 egg	2	8
Total	890	2100
Mean clutch	2.35	

Common Tern productivity on Sgarbheen

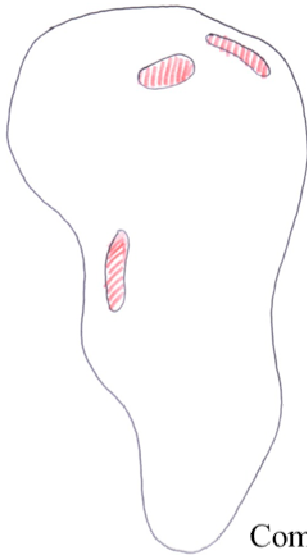
	Nests	Total eggs
X1 egg	0	0
X 2 egg	0	0
X 3 egg	78	234
X 4 egg		
Total	78	234

Total Common Tern productivity on Lady's Island Lake

	Nests	Total eggs
X1 egg	117	117
X 2 egg	374	748
X 3 egg	475	1425
X 4 egg	2	8
Total	968	2298
Mean clutch	2.37	

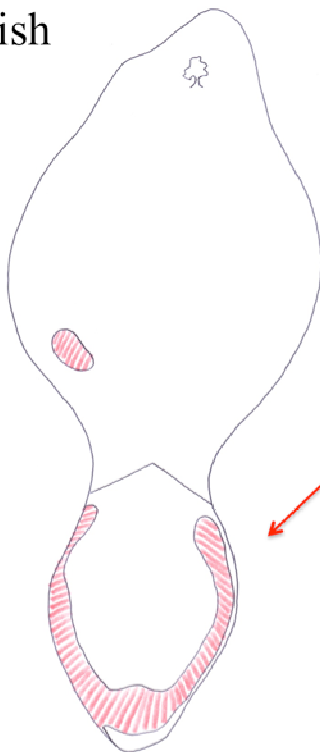
3.5.2 Common Tern Habitat

Sgarbheen



Common tern nesting area on Sgarbheen, on higher ground dominated by Silverweed (*Potentilla anserina*), Creeping Bent grass (*Agrostis stolonifera*) and Scentless Mayweed (*Tripleurospermum inodorum*).

Inish



Common tern nesting area on Inish, on higher ground dominated by Creeping Bent grass (*Agrostis stolonifera*) and Silverweed (*Potentilla anserina*).

Common Tern nesting habitat 2011/2012

The central, southern part of Inish (Colony B) was not submerged by winter water levels this year. Inundation creates suitable nesting habitat for Common Terns providing patches of bare ground with dead leaf litter and small deposits of grit and sand. A dense covering of Couch Grass (*Agropyron repens*) covered the central area this season (top photo), and no Common Terns nested there.

Mallard, Gadwall and three pairs of Black-headed Gulls were the only species found nesting during census work.



Looking south towards the observation hides on the 8th June 2012, with Couch Grass up to 95cms high in places



Looking south towards observation hides on the 19th May 2011.

3.6 Arctic Terns (*Sterna paradisaea*)

A total of 369 Arctic Tern pairs nested on Inish with a further 161 on Sgarbheen, giving a grand total of 530 breeding pairs with a mean clutch size of 1.81

The first two Arctic Terns were recorded on Inish on the 11th April with the first egg on the 14th May. The first chicks hatched on the 11th of June.

3.6.1 Arctic Tern productivity on Inish

	Nests	Total eggs
X1 egg	66	66
X 2 egg	295	590
X 3 egg	8	24
Total	369	680
Mean clutch	1.84	

Arctic Tern productivity on Sgarbheen

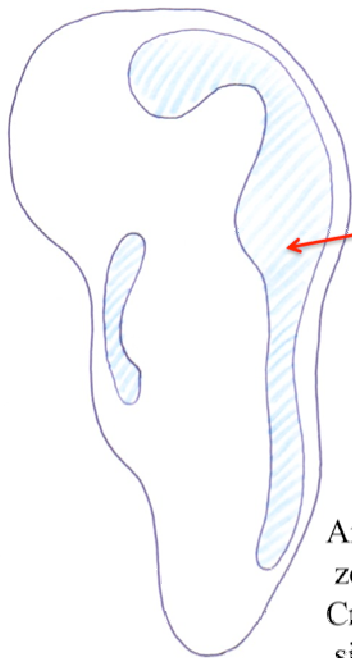
	Nests	Total eggs
X1 egg	24	24
X 2 egg	137	274
Total	161	298
Mean clutch	1.85	

Total Arctic Tern productivity on Lady's Island Lake

	Nests	Total eggs
X1 egg	90	90
X 2 egg	432	864
X 3 egg	8	24
Total	538	978
Mean clutch	1.81	

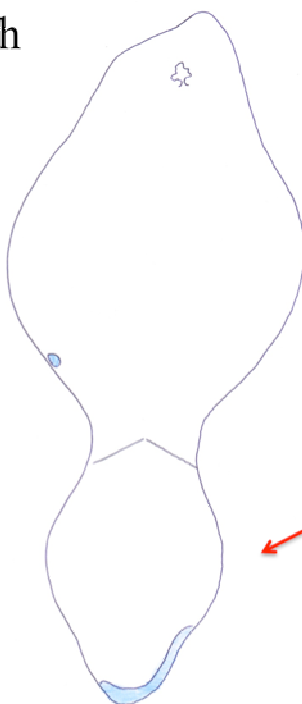
3.6.2 Arctic Tern Habitat

Sgarbheen



Arctic tern nesting area, confined to the lower zone dominated by Silverweed (*Potentilla anserina*) and Creeping Bent grass (*Agrostis stolonifera*), on the eastern side of Sgarbheen.

Inish



Arctic tern nesting area on Inish, confined to the lower zone dominated by Saltmarsh Rush (*Juncus gerardii*), Silverweed (*Potentilla anserina*), Creeping Bent grass (*Agrostis stolonifera*) and Sea Aster (*Aster tripolium*).

3.7 Roseate Terns (*Sterna dougallii*)

3.7.1 Productivity:

A total of 126 breeding pairs of Roseate Terns were recorded nesting in Colony B, on the southern end of Inish. This was a decrease of 29 pairs (23%) on that recorded in 2011.

The mean clutch size was 1.55 per egg laying pair, with a hatching success of 70%.

The first egg was laid on the 13th May in a box on the south-western fringe of the colony, four days later than 2011.

The main laying period was from the 13th May to the 19th June.

A total of 113 Roseate Tern clutches were designated as primary nests, laid up to and including the 17th June, the cut-off date (34 days after the first roseate egg was detected).

The mean clutch size was 1.60 per egg laying pair.

13 clutches (2 x 2egg and 11 x 1egg) were laid after that date, up to and including the 9th July, with a mean clutch size of 1.15 eggs per egg laying pair.

The mean lag/time period between the laying of A2 and B eggs was 3.55 days, with the greatest noted between the 3rd and 8th June during wet weather when a lag of 10, 8 and 7 days was recorded at nests 96, 99 and 100 respectively.

	nests	eggs	cold/missing depredated	live chicks	dead chicks	clutch size	hatching success
2012	126	196	58	91	47	1.55	70.4%
2011	155	263	32	231	25	1.7	78%
2010	118	195	10	182	11	1.65	92%
2009	125	210	57	91	62	1.68	72%
2008	109	146	27	119	23	1.34	81.5%
2007	89	153	13	140	33	1.72	76.42%
2006	93	142	13	129	3	1.52	88.7%
2005	74	131	6	125	19	1.77	80.9%
2004	66	118	17	101	19	1.79	69.5%



3.7.2 Location of 126 Roseate Tern nest sites in Colony B

Nest sites:

A total of 196 eggs were laid in 126 nests, 70 (55.5%) of which were two egg clutches and 56 (44.4 %) one egg clutches.

124 (98.4%) were in boxes and two in natural/open nest sites. Of the 284 nest boxes deployed, there was a 44% occupancy, with only two natural nest sites detected.

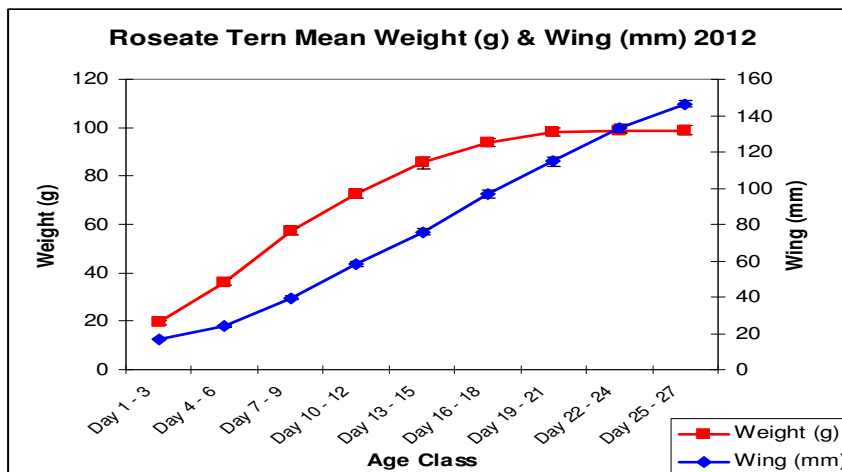
The mean laying intervals between A2 and B eggs in double egg clutches was 2.8 days.

Chick survival rate:

Of the 138 chicks to hatch, 26 were found dead, three missing and 18 depredated, giving a known chick survival rate of 66%.

Chick growth:

The growth of 21 chicks from 14 nests was monitored over 28 days. The expected up-take of nest sites in the study enclosure was lower than expected, with only eight of the 25 nest boxes deployed, occupied. It was therefore necessary to select nest sites outside the enclosure for monitoring. Of these 14 monitored nests, eleven chicks died overall; one A1, three A2 and seven B chicks.



3.7.3 Chick survival:

A total of 91 chicks were presumed to have survived. Of these, 31 were A1, 47 A2 and 13 B chicks.

Mortality:

Weather and depredation greatly reduced egg /chick survival rates with a total of 58 eggs known to have failed, gone missing or be depredated and 47 chicks missing (presumed depredated) or found dead.

Eggs:

A total of 22 eggs were found to be cold and of these eight were A1, three A2 and eleven B eggs.

27 eggs were missing from nests over a time period of 51 days from the 27th May to the 16th July. Of these, nine were A1, two A2 and 16 B eggs.

Nine eggs were found depredated; four A1, two A2 and three B eggs.

Chicks:

A total of 26 chicks were found dead and of these none were A1, six were A2 and 20 were B chicks. 18 chicks were depredated, 16 of these by a stoat on the 14th July. Of these, three were A1, nine A2 and four B chicks. Two more, an A1 and an A2, were found depredated, possibly by a rat, as their chewed remains were located close to their nest site.

Three B chicks were missing, presumed depredated, although there was no direct evidence for this.

Cold eggs	A1	A2	B	Total
	8	3	11	22
Missing eggs	9	2	16	27
Predated eggs	4	2	3	9
Dead chicks	0	6	20	26
Missing chicks	0	0	3	3
Depredated chicks	4	10	4	18
Live chicks	31	47	13	91

3.7.4 Nest failures:

46 nests failed completely with a total of 58 eggs and 47 chicks lost through egg chilling, chick mortality, or depredation. Of these 25 were single egg and 21 were double egg clutches.

Of the 25 single egg clutches, 21 lost one egg and four lost one chick.

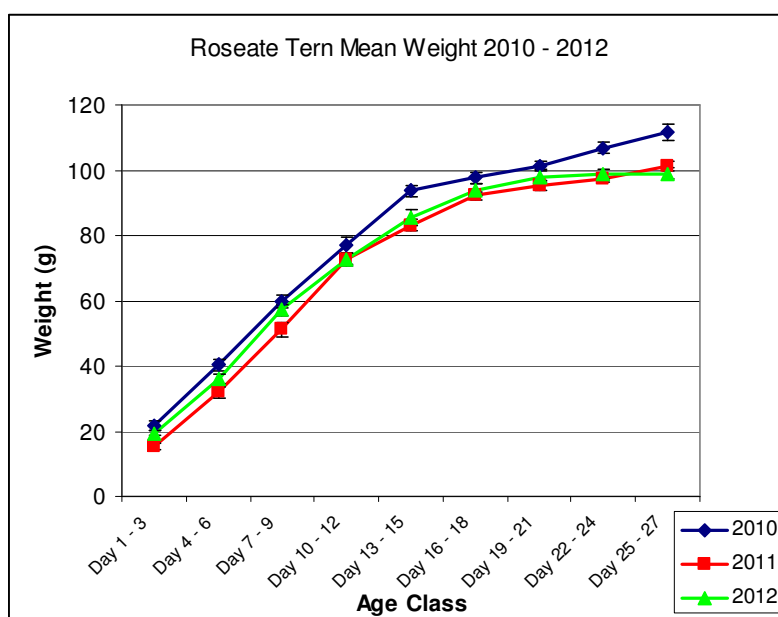
Of the 21 double egg clutches, five lost both eggs, five lost an egg and a chick, and eleven lost both chicks.

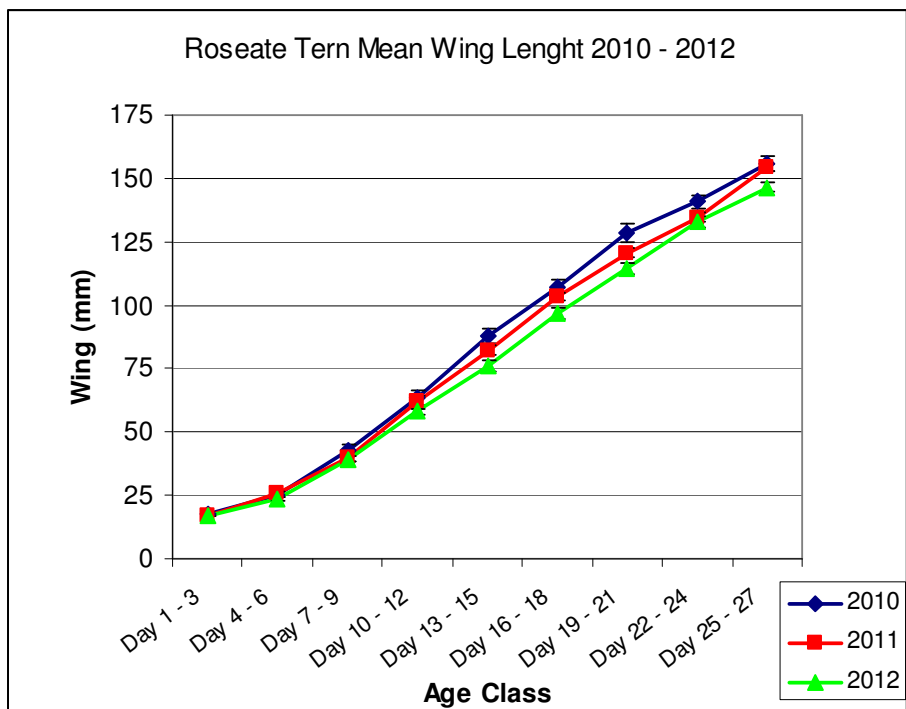
Adult mortality:

Four adult Roseate Terns were found dead. Three were taken by a Peregrine (carcasses found with characteristic notched sternebrae marks), and one was killed by a stoat.

3.7.5

Mean Roseate Tern Chick growth (wing and weight) 2010 – 2012





3.7.6 Ringing:

A total of 102 Roseate Tern chicks were ringed between the 7th June and 24th July inclusive.

Date	Special	BTO	Total
7 th June	21BZ	SR94221	1
9 th June	22BZ - 23BZ	SR94222 -23	2
10 th June	24BZ - 30BZ	SR94224 -30	7
11 th June	31BZ - 32BZ	SR94231 -32	2
12 th June	33BZ - 35BZ	SR94233 -35	3
13 th June	36BZ -41BZ	SR94236 -41	6
16 th June	42BZ - 57BZ	SR94242 -57	16
17 th June	58BZ - 61BZ	SR94258 -61	4
18 th June	62BZ - 73BZ	SR94262 -73	12
19 th June	74BZ -81BZ	SR94274 -81	8
20 th June	82BZ -89BZ	SR94282 -89	8
21 st June	90BZ -95BZ	SR94290 -93	6
22 nd June	96BZ -00BZ	SR94296 -00	5
	01BD	SR94301	1
23 rd June	02BD -09BD	SR94302 -09	8
24 th June	10BD -11BD	SR94310 -11	2
25 th June	12BD -15BD	SR94312 -15	4
26 th June	16BD -18BD	SR94316 -18	3
27 th June	19BD	SR94319	1
28 th June	20BD	SR94320	1
2 nd July	21BD	SR94321	1
24 th July	22BD	SR94322	1
		Total	102

Ring reading:

A total of 231 special rings and one BTO ring were read. Of these, 159 were left and 72 right leg ringed adults. A further 38 un-ringed birds were identified; ten as mated pairs and eleven paired to identified ringed birds, or attached to an active nest with an unknown ringed mate.

71 rings were identified as new, not having been recorded at Ladys Island before. Two first summer birds were also identified (AY61 and AX42), both ringed at their natal site on Rockabill in July 2011.

88 were identified as mated pairs and matched to active nests.

Green; ringed as chicks at Ladys Island; Blue; ringed as chicks on Rockabill.

AA21	29V4	54V4	Y401	81F0
AC36	29Y0	56F1	Y442	81F1
AB92	2A69	58F0	SR94010	81W6
AC36	2F10	58V3	AJ52	82W6
AC42	2F99	59F0	AX4Z	83F4
AC43	30V3	59V3	AY61	84P6
AC46	31F1	59Y0	00W0	85W7
AC57	31V3	60F1	00X8	85W6
AD86	31V4	66Y0	01Y9	86R8
AH82	32F0	67F1	02R2	88F2
AK29	32F9	69F1	02T1	89Y0
AK87	32F0	70V3 (dead)	03V3	90X1
A013	32V4	70V4	04Y0	94W6
A063	33F9	71T4	05T3	
A095	34T0	72V3	07V9	
01F1	34Y4	73F9	08X7	
01V3	35S9	76F0	12V3	
02S9	35F9	76V3	13F1	
02T0	35V4	76V4	14T7	
03S9	36F0	77V3	14W7	
05T0	36F1	77V4	15P8	
06V3	3A49	78F9	16R9	
07V3	3A56	77X0	16V4	
09S9	3A63	79F0	16V7	
0A32	3A79 (dead)	79Y0	17W9	
0S90	3F21	80F1	19X4	
10S9	3F31	83S4	1D85	
10V3	3F52	84F0	1E11	
10Y0	3F63	84Y0	24V3	
12F1	3F68	85F0	24W0	
13S9	3F94	85F1	29W5	
15F0	40F0	85F3	2D55	
15S9	41F0	86F0	30R9	
17F0	41F1	86F1	33S0	
18V4	41T0	87S9	35R4	
20F9	41V3	87V3	37W1	
20V3	42T0	88F3	44T0	
21F0	42V9	89F0	44V4	
23F9	43Y0	90F1	45P5	
23T0	44F0	91S9	45W5	
23F0	45S9	94Y0	45W8	
23Y0	45Y0	95V4	53Y2	
24V4	48F0	95F0	57W9	
25F0	48V3	97F0	58Y2	
25V4	49F9	97Y0	59R4	
26F9	49V3	99Y7	59R8	
26T0	49W9	W387	60F3	
27F1	4A33	Y289 (dead)	65X0	
27V3	50F1	Y329	68R9	
29F9	54F0	Y332	75F6	
29T1	54V0	Y337	76X4	
29V3	54V3	Y394	79T0	

3.8 Little Terns (*Sterna albifrons*)

A census of Little Terns was carried out on a sandbank in Wexford Harbour, north of Rosslare Point (Grid ref T093 194) on the 1st June.

Four counters walked in parallel lines, two metres apart through the colony while recording one, two and three nest clutches. A total of 124 nests clutches were recorded with a further 38 scrapes noted. Mean clutch size was 2.27 per egg laying pair.

However, the colony was inundated by high tides on the 3rd June, and a visit on the 11th June recorded no nests. Only six birds were recorded flying above the site.



Photo 1. Colony from southern end, looking NE on the 1st June 2012



Photo 2. Colony from southern end looking NE on 11th June 2012 following inundation by high tides and SE winds.

3.9 Predator control

Brown Rat (*Rattus norvegicus*)

The chewed remains of two Roseate Tern chicks from boxes 22 and 108 were found on the 24th June and the 9th July respectively. Depredation by rats was suspected and bait, which was already in place around the perimeter of the roseate colony, was topped up.

Following depredation of Sandwich Tern eggs in Colony B on the 13th May, 'chew sticks' were put in place, but these remained untouched.

Stoat (*Mustela erminea*)

On the 20th June, three adult and twelve dead Sandwich Tern chicks were found dead on or near their nest sites. No obvious signs of predation were noted.

On the 14th July, 16 well-grown Roseate Tern chicks and one adult were found dead in nest boxes in colony B. Later examination of the corpses showed tiny punctures on the necks, characteristic of those made by a stoat.

Traps were set, but succeeded only in catching three common terns and a starling.



Photographs 1-3 showing 16 Roseate Tern chicks and one adult roseate, with a further 31 Common and Arctic Tern carcasses. All the roseates were found in or just outside the nest boxes. Most showed no outward marks consistent with depredation by a mink or larger mammal, therefore stoat was suspected.

Results of analysis:

The 17 carcasses were sent for analysis to the Department of Agriculture Regional Veterinary Office in Kilkenny on the 19th July 2012.

No virus was detected and the final diagnosis was 'Predation'.



**Department of Agriculture,
Food and the Marine**
**An Roinn Talmhaíochta,
Bia agus Mara**

Kilkenny Regional Veterinary
Laboratory
Leggatsrath
Kilkenny

Phone : 056-7721688/7721733
Fax : 056-7764741
E-Mail : Donal.Toolan@agriculture.gov.ie

Scott Lorcan
National Parks & Wildlife Service East
2 Conway Estates
Station Road
Kildare
Co Kildare

Our Reference	Kilk/12/02827
Sender's Reference	
Report Date	30/07/2012
No. Animals/Samples	3
Species	Avian
Herd / Flock ID	
Date Received	19/07/2012
Report No.	1
Owner	Our Ladys Island Lake Wexford County Wexford

Submission Comment : SUBJECT

(26/07/2012)

17 terns (Roseate and Common) including adults and well feathered youngsters

HISTORY

Predation suspected

GROSS FINDINGS

17 birds and 21 severed feet submitted.
Seven birds were examined; all had bruising of the muscle of the upper neck and skull. One had dislocation of the skull and another had fractures of the skull.
Toothmarks were not recognisable.

LABORATORY FINDINGS

Tests for Avian influenza were negative.

FINAL DIAGNOSIS

Predation

Signed

: D Toolan

Date : 30.7.12

Submission Assigned To : Donal Toolan
Research Officer

MVB MVM MRCVS
Email:

Date Authorised : 30-Jul-2012

3.9 1 Depredation:

Sandwich Tern eggs were depredated on the 13th May and the 21st May with 30 and 18 respectively eaten by an unknown predator, possibly a stoat or rats. The 18, depredated at the edge of the colony, were close to tall vegetation, so rats may have been responsible.

Other sandwich and common tern eggs that were depredated looked as if they were pierced by an avian predator. A pair of Oystercatchers bred in the midst of the Roseate/Sandwich Tern colony, and remained in the area throughout, often standing on nestboxes close to the Sandwich Tern colony. However no depredation of eggs was observed.

(Hooded Crows were not seen in the colony at any time and would carry eggs away in any case).



Depredated eggs of Sandwich Tern (1 and 2) and common Tern (3)

Peregrine Falcons (*Falco peregrinus*) were seen on eight occasions over the colony and one was observed taking a tern species on the 28th May. Three Roseate Tern carcasses were found (14th, 15th and 28th May) with characteristic 'notched sterni' marks made by a Peregrine. The rings were recovered and details submitted to BTO.

A Short-eared Owl (*Asio flammeus*) was observed flying into Colony B on the 8th July. This owl may have been responsible for the disappearance of some newly hatched Roseate Terns chicks, as a fresh pellet was found on the eastern side within the Roseate Tern colony on the 12th July. Its contents were examined and found to contain tern chick remains, possible of roseate, but this was not conclusive.



A Great Black-backed Gull (*Larus marinus*) was observed taking a sandwich tern chick from the western colony on the 28th June and a tern species from Sgarbheen on the 22nd July. It is likely that more well grown chicks were taken, especially towards the latter part of the season.

Black-headed gull. (*Larus ridibundus*) No depredation of tern chicks by black-headed gulls was noted on the southern end of Inish.

3.10 Prevention of disturbance

A 'microlite' flying high over the village on the 18th June caused a dread on Sgarbheen. It continued to fly in a southerly direction and the colony settled after a short while.

A helicopter caused a dread on Inish on the 22nd June.

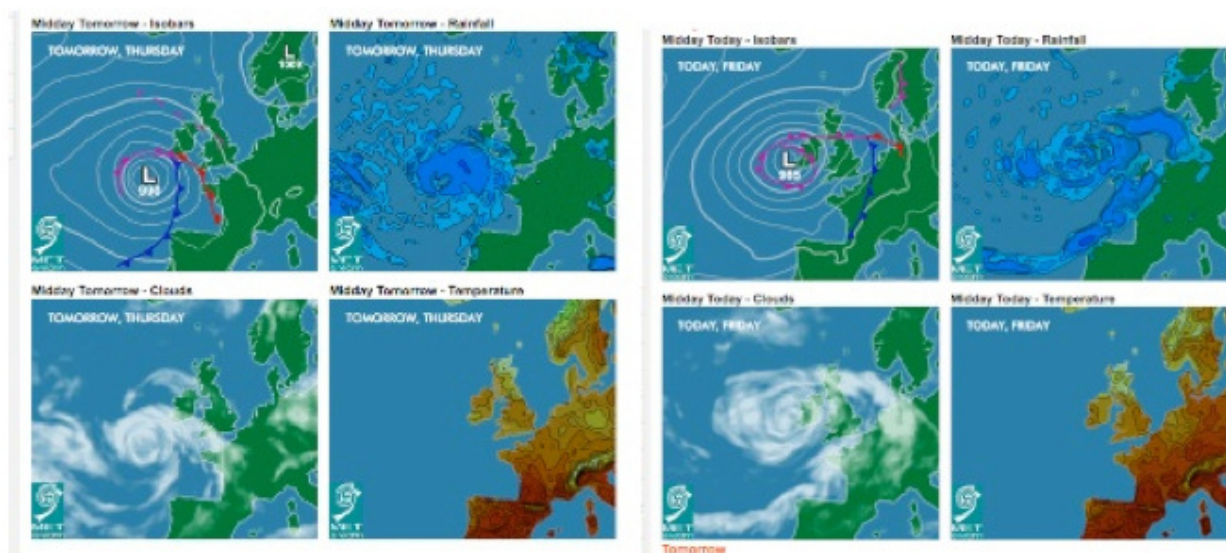
Small flocks of Starlings (*Sturnus vulgaris*), caused dreads on Inish from the beginning of July. Even a single bird flying near the colony was enough to cause a disturbance.

Grey Herons caused dreads on Sgarbheen especially towards the end of the season when adults and juvenile fed along the island fringes.

3.11 Weather

Weather conditions had a major affect on the productivity of all breeding species on Lady's Island Lake during the 2012 breeding season.

In early/mid June, just as the main hatching period was underway, several days of heavy rain with gales, were responsible for a high mortality rate among gull and tern species.



Weather system on the 14-16th June 2012.

On the 15th June, a deep, slow moving low-pressure system (995 hPa) moved in from the southwest bringing persistent heavy rain. Later on the evening of the 16th June, a south to southeast gale forced seawater in over the sea barrier at 'the Cut' bringing the lake water levels up from 4.36 to 4.44. The strong southerly winds, with high wave action, washed out many of the low-lying Arctic Tern nests and their contents on the southern tip of Inish.

The same weather system with heavy rain, caused water logging on the western side of the roseate tern colony, and several Roseate Tern nests were flooded with resulting egg losses.

Another deep low-pressure weather system (995 hPa) on the 27th June also caused water levels to rise from 4.44 to 4.48. Water logging occurred once again in the roseate colony in the same area, but no losses of eggs were noted, as the nests had already been inundated on the 16th June.



Weather system on the 27th June 2012.



Roseate colony 7th June following heavy rain



Box 19 on 16th June following heavy rain



Arctic Tern nest inundated following rising lake levels on the 7th June.



Roseate nest inundated following heavy rain on the 7th June.

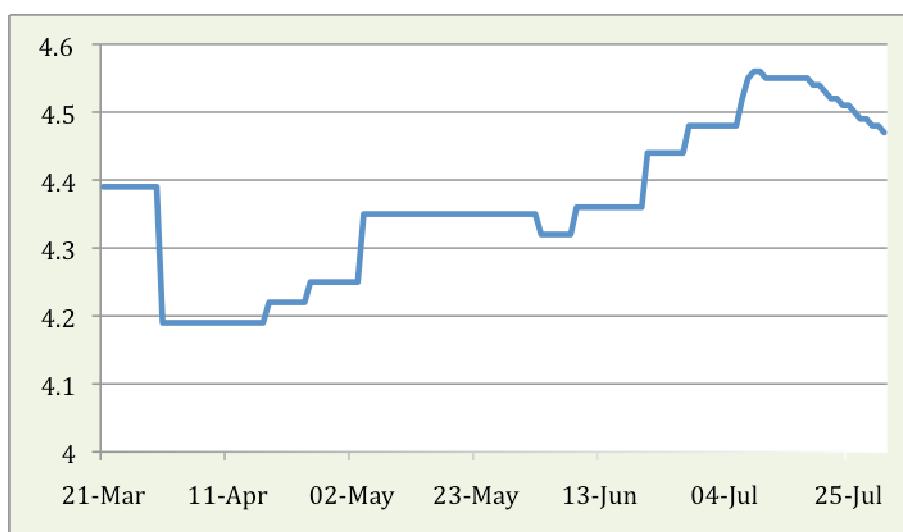
3.12 Water levels

Water levels for the months of May and June were at their highest since 2005, while levels in July were at their highest since 1987.

Mean water levels on Lady's Island Lake from 2003 to 2012 (kind per. J. Hurley SWC)

Year	April	May	June	July
2003	4.42	4.15	4.15	4.11
2004	3.68	3.80	3.72	3.65
2005	4.66	4.44	4.32	4.24
2006	4.11	4.22	4.30	4.20
2007	3.43	3.45	3.56	3.66
2008	3.16	3.35	3.30	3.51
2009	3.75	3.88	3.82	3.88
2010	3.91	3.90	3.87	3.79
2011	3.56	3.53	3.54	3.50
2012	4.20	4.34	4.38	4.51

The greatest rise was noted between the 20th June and the 9th July, when levels rose from 4.36 to 4.56 respectively.



3.13 Greylag Geese (*Anser anser*)

Greylag geese are a feral, non-native species and up to 100 are present at Lady's Island Lake throughout the year. There is now evidence that some pairs are breeding on offshore marine islands. To prevent the population expanding out of control, nests and their contents are removed from Inish and Sgarbheen under license at the beginning of the breeding season.

3.14 Ringing recoveries:

Black-headed Gull EW54693

Ringed as nestling, sex unknown on 21-Jun-2010 at Moulton Marsh, Lincolnshire
OS Map reference TF3432, co-ordinates 52deg 52min N 0deg 1min W.
It was found on 06-May-2012 at Lady's Island Lake, Wexford

Sandwich Tern DD80143

Ringed as nestling, sex unknown on 26-Jul-2007 at Lady's Island, Wexford
OS Map reference IT1007, co-ordinates 52deg 12min N 6deg 23min W.
It was found on 19-May-2012 at Lady's Island Lake, Wexford. 1759 days after it was ringed.

Sandwich Tern DD40588

Ringed as a nestling, sex unknown on 7th June 2004 Lady's Island Wexford.
OS Map reference TF3432, co-ordinates 52deg 52min N 0deg 1min W.
Finding date 23rd May 2012 at Lady's Island Lake, Wexford. 2907 days after it was ringed.

Sandwich Tern DD41309

Ringed as nestling, sex unknown on 14th June 2006 at Lady's Island, Wexford
OS Map reference IT1007, co-ordinates 52deg 12min N 6deg 23min W.
It was found on 20-June-2012 at Lady's Island Lake, Wexford. 2198 days after it was ringed.

Sandwich Tern DD56141

Ringed as nestling, sex unknown on 16th June 2008 at Lady's Island, Wexford
OS Map reference IT1007, co-ordinates 52deg 12min N 6deg 23min W.
It was found on 16th June 2012 Helgoland Germany. 1450 days after it was ringed.

Roseate Tern SR52327

Ringed nestling, sex unknown on 22-Jun-2007 at Rockabill, Dublin
OS Map reference IO3262, co-ordinates 53deg 35min N 6deg 0min W.
It was found on 15-May-2012 at Lady's Island Lake, Wexford 1789 days after it was ringed.

Roseate Tern SR55170

Ringed as nestling, sex unknown on 15-Jun-2007 at Lady's Island, Wexford
It was found on 14-May-2012 at Lady's Island Lake, Wexford. 1795 days after it was ringed.

Roseate Tern SX47779

Ringed as nestling, sex unknown on 16-Jun-1999 at Lady's Island, Wexford
It was found on 19-May-2012 at Lady's Island Lake, Wexford. 4721 days after it was ringed.

3.15 Appendix

1. Other species recorded:

Gadwall (*Anas strepera*)

Approximately 16 pairs were recorded, with five located in Colony B. However some nests noted late in the season may have been those of relaying pairs, as two nests were found depredated in Colony A.

Mallard (*Anas platyrhynchos*)

Eight pairs of Mallard were recorded in Colony A with a further two in Colony B.

Shoveler (*Anas clypeata*)

At least two pairs nested on Inish. A female with chicks was noted at Scallan's Pool on the 19th May.

Pochard (*Aythya ferina*)

Two males were seen on Scallan's Pool on the 15th May.

Wigeon (*Anas penelope*)

Three males and two females were recorded on Inish during the season, but no evidence of breeding was noted. One male had a damaged wing, perhaps the result of shooting earlier in the year.

Shelduck (*Tadorna tadorna*)

Up to 20 individuals were present on Inish, and some nests were found during census work. Several pairs were noted with chicks later in the season.

Little Egrets (*Egretta garzetta*)

Two pairs nested with a small colony of Grey Herons (*Ardea cinerea*) in a small plantation of Spruce trees on the western shore of Lady's Island Lake. Three juveniles were seen feeding along the shoreline.

Great Crested Grebes (*Podiceps cristatus*)

Five pairs nested in the NE corner of the lake with two more suspected to have nested in the NW corner.

Three pairs were noted with chicks on the 4th June.

Little Grebe (*Tachybaptus ruficollis*)

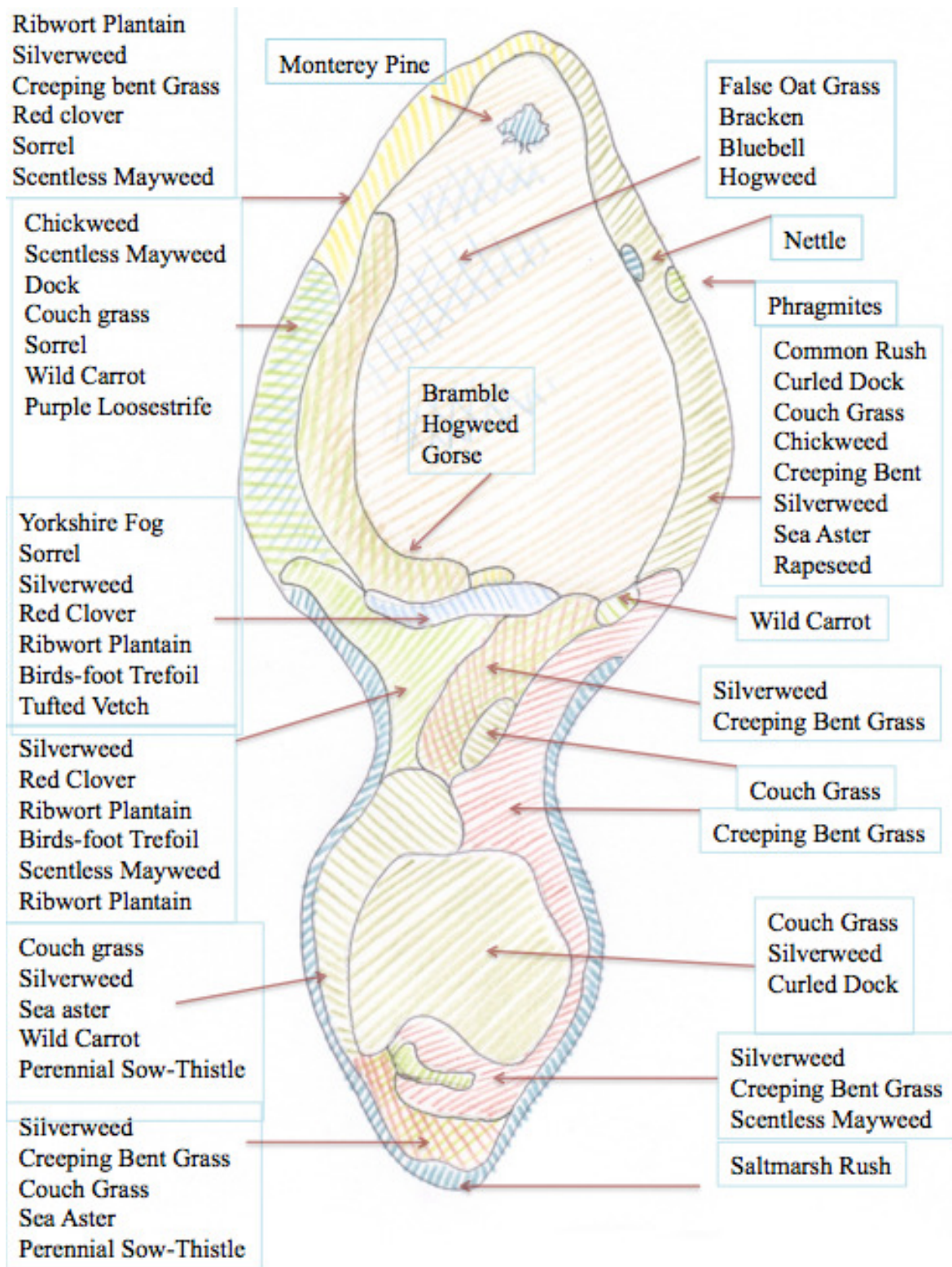
At least one pair nested in the NE corner of the lake.

Forster's Tern (*Sterna forsteri*)

A single bird was present on Inish on several dates, occasionally with a prey item in its bill.

2. Vegetation:

Map showing the distribution of the common plant species on Inish.



Note; a small stand of Phragmites is now established on the NE shore of Inish, and a smaller stand (consisting of a few stems) on the eastern side of Sgarbheen opposite the boat mooring.

Recommendations

The loss of some nests, particularly those of Arctic Terns nesting on the southern, lower extremities of Inish, was linked to the sudden rise in lake water levels. The issue of water level management needs to be addressed urgently to prevent future losses.

Protective fencing needs to be considered to prevent mammalian predators, notably rats, gaining access to the tern colonies, especially the Roseate Tern colony on the south of Inish.

Vegetation management needs to be put in place to provide suitable nesting habitat for Sandwich and Common Terns, on both the northern and southern end on Inish.

Grazing, on a limited scale, is an option worth considering.

The placement of more boulder and large stones around the roseate colony should be considered.

Spraying should be done on a controlled basis, as it's long term affects may have consequences to the overall plant communities. Over-spraying could cause soil erosion especially in areas covered by winter water levels.

More contacts need to be established during and after the season with the staff on the Rockabill Roseate Tern Conservation Project.

There is some movement of Roseate Terns between the two colonies, especially at the beginning and end of the breeding season, and this needs to be understood more clearly.

A database with all ring numbers, date and place of ringing, should be in place and easily accessible to help with aging and sexing Roseate Terns.

References

- Bird Surveys (Bibby, Jones and Marsden). 1998
- Roseate Tern Conservation in Brittany 2005/10 (Proceedings of the Life seminary)
- Roseate Tern- The Natural Connection SF Newton/O. Crowe 2000
- Female-female pairs in Roseate Terns .Nisbet/Hatch 1999
- Water levels at Lady's Island Lake (J. Hurley SWC 2011)
- Mammals of Britain and Europe 1993
- Animal traps and trapping (Bateman 1977)
- WWW.Met Eireann. Monthly records of rainfall from Johnstown Castle Weather Station.