

Contents

Portrane Little Tern Project 2024.....	3
<i>Sternula albifrons albifrons</i>	3
Acknowledgements.....	4
Abstract.....	4
Project aims.....	6
Little Terns.....	6
The bird and its history in Ireland.....	7
The Little Tern of Portrane.....	8
The early years.....	8
The 2024 season.....	9
Nesting standards.....	19
Table 1: Ringing and outcomes for Ringed Plover.....	20
Portrane Beach and site 2018-2024.....	21
Functions of wardens.....	21
Site construction and signage.....	23
The site 2024.....	24
Erosion.....	24
Predator management.....	25
Public awareness.....	26
Interaction with beach users.....	26
Table 2: Little Tern colony profile.....	27
Colony numbers.....	28
Nesting locations, incubation period and clutch sizes.....	29
How we measure success.....	29
Table 3: A history of Little Tern breeding at Portrane.....	30
Table 4: Ringing and outcomes for Little Tern 2024.....	31

Sightings and re-sightings.....	33
Biometric data.....	33
Table 5: Little Tern adult biometrics.....	34
Table 6: Little Tern chicks biometrics and rings.....	35
Table 7: Biometrics of Ringed Plover adults.....	35
Table 8: Biometrics and rings of Ringed Plover chicks.....	36
Table 9: Little Tern egg biometrics.....	36
Other breeding avian species at Portrane.....	38
Review.....	38
The breeding season 2024.....	38
Conclusion.....	38
Bibliography.....	41

Portrane Little Tern Project 2024

Thomas Kavanagh



Figure 1: Portrane on 27/04/2024, a day for site construction.

Sternula albifrons albifrons

A continuation of the attempt to save their last nesting site in county Dublin.

The Little Tern Conservation Project in Portrane (Co. Dublin) is managed by Birdwatch Ireland's (hereby BWI) Fingal branch. In 2024, this project received support from The Department of Housing, Local Government and Heritage through the National Parks and Wildlife Service's (hereby NPWS) National Biodiversity Action Plan Fund, and by Fingal County Council (hereby FCC). Our ringing project for both the Little Tern and Ringed Plover was supported by BWI.

Acknowledgements

I would like to thank the Department of Housing, Local Government and Heritage who provided support through the NPWS's National Biodiversity Action Plan Fund. We would also like to thank FCC for their ongoing support. In particular, we would like to thank Hans Visser and Deirdre O'Farrell, from FCC, for securing the funding for the materials for this project. We also welcome Lorraine Bull from FCC who has now joined us as liaison between FCC and BWI Fingal. Our thanks also to Dublin NPWS ranger Robert Mulraney for his valued support. I would also wish to thank BWI's Brian Burke for his support. We are very grateful to the dedicated team of volunteers who contributed time and assistance to the project: Aggie Gilligan, Barney Johnson, Brendan Black, Caroline Butler, Brian Caruthers, Cormac Crowley, Declan and Lucas Garvey, Daniele Gioppo, Daragh, Aoife and Joe Regan, Kathriona Regan, Miriam Bracken, Derek O'Brien, Gary White, Jan Rod, Jim "Chick" McNally, Kate Madigan, Lisa Doyle, Zer, Breege Madden, Céline Reilly, Ciara Ryan, Christin Mathew, Jim Dixon, Mark Keane, Vincent Toal, Linda Mellon, Michael Keating, Pat McBride, Paul Lynch, Ronan Toomey, Sandra White, Seamus Murray, Tom and Maureen Carroll, Ulla O'Riordan, Vicky and, Sonya; my humblest apologies if I have left you out. I would like to thank the regular local visitors to the colony and the members of the public who not only adhered to the restrictions in place but gave us the encouragement to keep going.



Figure 2: Nest L0624, a Little Tern family in the making with B0B ♂ in attendance.

Abstract

Portrane 24 became our official title on April 27th. The coastal erosion at Portrane has continued. The nesting area at the northern end of Portrane Beach has once again changed. Regular beach inspections at Portrane were carried out by team members between December 2023 and April 2024 to evaluate the nesting site. Through our observations we were able to calculate that there was sufficient shingle for a

2024 breeding season at Portrane.

Members of the team met with the NPWS representatives Robert Mulraney and Deirdre O'Farrell from FCC at the site on March 6th. Discussions about various aspects of the project took place and it was agreed by all that the project should go ahead as planned. Later, we had a meeting with NPWS representatives Pádraig O'Donnell and Robert Mulraney to discuss expenditures for the forthcoming project.

Prior to the erection of the fencing, we examined an area of the beach that looked the most suitable breeding area for Little Tern (abbrev. LT) and Ringed Plover (abbrev. RP). On April 27th 2024, with the aid of the contractor James Flood (funded by FCC), we erected a series of posts for both the inner and outer fences. We then attached the black netting to the inner series of poles. Strands of rope were then attached to the outward series of poles. We had done so to allow the returning Little Tern and Ringed Plover a safer space in which to breed. This area was named Area 1. Initially, the enclosed Area 1 also had within its boundaries two Meadow Pipit (*Anthus pratensis*), one Skylark (*Alauda arvensis*) and twelve Ringed Plover (*Charadrius hiaticula*) nests. Our plan again this year was to provide as much protection as possible for these species to successfully breed again.

Wardening of the little tern (*Sternula albifrons*) colony at Portrane was due to begin the final week of May 2023. However, both the Ringed Plover and the Little Tern had different ideas; thus, we had to start the roster a month earlier. The 1st Ringed Plover egg was found on April 30th. On the 14th of May we found our 1st Little Tern egg.

Due to resource issues we were again unable to operate a night wardening roster. The lack of provision for a night warden meant that night predation could only be reacted to after the initial attacks.



Figure 3: Nest L0924, with parents BOX ♀ and IN1 ♂.

Project aims

Portrane Little Tern Project strives:

“To provide a safe and secure environment in which Little Tern can reproduce and fledge their young and so contribute to the fulfilment of Ireland’s legal obligation under the EU Bird’s directive”.

In order to achieve this, BWI Fingal through its wardening sets out:

- To promote awareness within the local community and the visiting public, that it is only through their co-operation that success will be achieved.
- To erect a physical barrier to discourage ground predation of the nesting site.
- To maintain surveillance during daylight hours to deter avian and other predators from taking eggs, chicks or adult birds.
- To monitor, record, analyse and tabulate adult behaviour, food consumption, scrape location, egg yields, egg types, hatching efficiency, fledging proficiency, the returning Portrane birds.
- To expand our knowledge of Little Tern conservationism.
- To liaise with other projects in order to gather external experiences to enhance our project.
- To record and monitor the ecosystem that is Portrane Beach.

Little Terns

There are five species of tern breeding in Ireland, Artic Tern (*Sterna paradisaea*), Common Tern (*Sterna hirundo hirundo*), Little Tern (*Sternula albifrons albifrons*), Roseate Tern (*Sterna dougallii dougallii*), and Sandwich Tern (*Thalasseus sandvicensis*). With the knowledge that the reclassification of species is an organic process, ongoing and forever, it is my understanding that science will prove that these seemingly similar species are on different branches of the phylogenetic ‘tree’ with common ancestry. According to eBird/Clements Checklist v2021, there are seven species within the genus *Sternula*, with a further twelve subspecies. Similar species, the Least Tern (*Sternula antillarum antillarum*) breeds in North America and winters to northern Brazil; Saunders Tern (*Sternula saundersi*) nests from the Red Sea to India and Sri-Lanka and winters to the Malay Peninsula.

Little Tern (*Sternula albifrons albifrons*) nests across the Western Palearctic and winters on both sides of the African continent. The precise wintering location of Irish Sea Little Tern is as yet unknown. The relatively recent reclassification of Little Terns has led to the creation of a variety of subspecies. Future research on the migration patterns, food consumption, and the further divergence/isolation of these subspecies it is easy to conclude that the evolutionary process is occurring before our eyes on Portrane Beach.

The bird and its history in Ireland

The Little Tern (*Sternula albifrons*) is the smallest and rarest of Ireland's five breeding tern species. They are long distance migrants, wintering in West Africa and returning to Irish coasts to breed in late April and early May and departing again from late July to mid-September. The majority of Little Tern in Ireland nest on beaches that have a mixture of sand and shingle. Nests are composed of a shallow dip scraped in the beach substrate, generally above the high tide line. The eggs and chicks are well camouflaged in the sand and shingle. Due to their nesting habitat, Little Tern are very vulnerable to recreational human disturbance, sea level rise and predation. Little Tern are classed as an Annex 1 species under the EU birds Directive (79/409/EEC), requiring member states to take special conservation measures to ensure their survival and breeding success. In Ireland and the United Kingdom, the species is amber listed by Birdwatch Ireland and the Royal Society for the Protection of Birds (hereby RSPB), indicating that this species is of medium conservation concern. The Little Tern is fully protected under the Wildlife Act (1976, Amended 2000).

Little Tern adults, average 21-25 cm in length and have a 41-47 cm wingspan. They have 1 brood with 2-3 eggs of an average size 32×24 mm and weighing an average of 9.6 g (of which 6% is shell). Their typical lifespan is 12 years, with breeding typically at year 3 (BTO data records). The oldest recorded bird in Ireland is 21 years and 25 in the UK. *Sternula albifrons albifrons* has been recorded in Ireland by Usher and Warren before the early part of the 20th Century. They noted that the largest colony in Ireland had over 50 pairs "known to nest". Later, Kennedy, Rutledge and Scroope noted that Little Tern colonies were small and were up to 25 "little terns breeding" and that perhaps the species was in decline. However they did record a colony of 40 to 50 pairs in County Wexford. Today, Little Tern are probably the rarest breeding tern in Ireland. Post the 2019 project, I visited Tory Island in Donegal and during a discussion with local birder Anton Meenan discovered that a pair of Little Tern had attempted to nest near the lighthouse at the western end of the island. In 2024, a pair had again attempted to nest on Tory Island. During the 2021 project, a team member had 2 adults flying near an island near Belmullet. In 2004, Pickerell cited in Cabot and Nisbet (p136, 2013) estimated that there were 206 breeding pairs in Ireland. We examined the nesting data of all of the monitored Little Tern breeding sites on the east coast of Ireland in 2024. The total breeding pairs this year on the east coast was in excess of 440 pairs. This year, there appeared to be an increase in the number of breeding pairs along the east coast of Ireland. However, it should be noted that it is possible that the extra pairs may have been nesting in the UK prior to 2024. The reproductive strategy of Little Terns places them in perilous situations ranging from inundation by the sea, loss of habitat, human and canine disturbance, natural predation and parental skills. During our 2024 breeding season, I visited the recently established colony at Cahore, County Wexford. At the time there were approximately 39 nesting pairs. Sadly, due to a sea inundation, few Little Tern chicks survived to fledge. Further investigation of their breeding sites from BTO data reveals that in recent years small numbers of Little Tern may be attempting to breed on the coasts of Cork, Galway and Mayo. There is no information available as to how successful these attempts are. Little Tern have also moved North within the United Kingdom to the Outer Hebrides and Orkney.



Figure 4: BK0 ♂ (born at Portrane in 2022) on nest L0124.

The Little Tern of Portrane

The early years

There are written personal accounts of Little Tern breeding attempts at Portrane Beach between 1990 and 2017. It was during this period that the members of the Fingal branch of BWI fenced off a section of the beach using rope and fence posts. A number of signs were attached to the fence to inform the public about the conservation project. From 1990 to 2017 it is probable that chicks did fledge at Portrane; however, the total number is likely to be no more than seven. Prior to 1990, it is likely that the environment at Portrane was unsuitable for breeding.

There are accounts from the 1970s that Little Tern nested to the south of the Island Golf Club. There are also records of them breeding on the north end of Bull Island. Sadly, these sites are no longer being used for breeding purposes. This abandonment may well have been due to the constant disturbance by the public of these nesting sites.

In both 2016 and 2017 the Fingal branch had monitored the arrival of Little Tern at Portrane. Unfortunately, after the initial count of approximately 20 adults in late May of both years, this number dwindled to zero within a fortnight. Most of the adults were unringed. The few that had a metal ring were most likely to have been from Kilcoole. Of the 15 adult Little Tern trapped and ringed at Portrane in 2022, 14 were sighted in 2023 at the 3 main east coast colonies. Little Tern colour rings used in Ireland currently begin with I, A, B or C. However, a small number of colour rings beginning with H have been sighted. HC2 was trapped in Senegal in April 2023 and sighted in Kilcoole in June 2023; it had been ringed as a chick at Kilcoole in 2021.

When I received a call from Paul Lynch (BWI Fingal) in May 2018 that he had counted 22 adult Little Tern at Portrane again, I said that I would take a look. I arrived in late May at the most southerly end of the old roped off area and scanned the area to the North. This area had been roped off by Fingal BWI branch members prior to 2016. It should be noted that all of the breeding sites since 2018 have now been completely washed away.

The 2024 season



Figure 5: Nest L0524, with IZ7 ♂ (Portrane 2018 chick) fledged BS5, BN0, BN1 in 2024.

We had visited Portrane Beach throughout the winter. Once again the sea had removed much of the 2023 nesting area. This year, we observed the entrance to the lagoon to be much narrower than in previous years. The amount of shingle to the north west of the site had greatly increased. This area looked promising and it was hoped that both Little Tern and Ringed Plover would nest there. Our final visit post-April spring tide confirmed our belief in that Ringed Plover had begun to nest at Portrane. It was very obvious that at least 10 pairs of Ringed Plover were holding territories.

There was no confusion in 2024 regarding the construction of the site and we were able to establish the protection area in late April. Our installation date of the fencing was April 27th. We calculated that we would require 170 eight foot posts and 60 six foot posts to hold the rope, signage and netting. Having defined their breeding territories, Ringed Plover began laying eggs on the 30th of April. This year the early arrival of our breeding Little Tern caught us by surprise. Records show that on May 6th there were at least 20 Little Tern adults, including 5 established pairs who were scraping inside the site. A sweep of the site on the 8th of May revealed 6 Ringed

Plover nests with a total of 18 eggs. Five of these nests were inside the restricted area and 1 was outside.



Figure 6: Ringed Plover fledged chick EJ.

Notes from May 9th are typical of the 1st weeks at Portrane this year. “LTs scraping in 4 areas to the north. At least 1 pair scraping outside the area to the south. Least Tern was heard 3 times and seen once before 11:00hrs. Least heard a 4th time at 11:30. A Kilcoole pair at the south end washing at 1235. At 13:09 LT pairs scraping in at least 9 places at the north end.” It was noted that “BOX copulating, fed 4 times with small sprat-type fish afterwards in 4 minutes. Kestrel at 14:55 from the south east. Least back at 14:58.”

By Friday 10th, there were 5 RP nests in the southern part of the enclosed area. We decided to absent ourselves from the northern end, to reduce the amount of disturbance during the first spring tide period. We had a count of 20+ Little Tern. As the number of Ringed Plover nests grew, we located another 3 nests outside of Area 1 to the south. We rearranged our fencing and used our last reserve netting and rope to enclose these nests. There were now 34 eggs in 10 RP nests 7 of whom were complete. The following morning we had 35 Little Tern adults in the vicinity of the colony.

In order to learn more about our charges, we continued our Ringed Plover trapping programme. Two adults were trapped and processed for future monitoring. Our 1st Little Tern egg was found late in the afternoon of May 14th. By Wednesday 15th, we had 6 eggs in 4 Little Tern nests. It was noted that we had 40+ LT adults. Thursday the 16th saw the completion of L0324. We calculated that we might have our 1st LT chick by June 6th. By May 20th we had 59 RP eggs and 15 nests and 35 LT eggs on 13 nests. Our nest cameras were busy thus enabling us to trap and process a further 5 adult RP and 2 LT adults. Our 1st Ringed Plover chicks arrived on 21st May.

In 2024 we saw for the first time the expansion of the breeding colony to the west side of the lagoon. The new scrapes included L1224 (3 eggs), L1424 (1 egg), L1524 and L1624 (both with 3 eggs). All of these nests were in a precarious position, in that they were outside Area 1. A

decision was made to protect and enclose them. We lifted the poles, netting and rope from the western side of Area 1 and moved it westward to enclose these nests. The pair on L1424 had put their 1st egg down May 22nd. Four days later, they still had not laid a second egg. They did not appear to brood the egg either. Unfortunately, there was an unexpected high tide on the morning of the 26th May and the egg was washed away.



Figure 7: BTO ♂ and BK4 ♀ from nest L1524.

Later that day, as a precaution, we moved and raised L1624. We placed the pot beside the original nest and we managed to raise the nest about 15 mm. It should be noted that, in the future when raising a nest, it is important that walking access to the eggs be provided for adult Little Tern. We learnt that some adults prefer to walk to the nest rather than fly, so we created a sand 'slope' all around the pot from the ground up to its rim. Nest L1224 (3 eggs) appeared to have been abandoned on May 31st. As in previous years we had a Peregrine that visited our site in search of prey. It is likely that the missing adult Little Tern was taken by the Peregrine. Later in the 2024 project, we would discover the remains of another adult Little Tern. Luckily, these were the only adult Little Tern losses in 2024. It was noted, this year, that the Little Tern colony reacted differently to the presence of a Peregrine. The colony rose and flew in a ball formation, until the perceived threat had passed. This reaction was observed on at least 4 occasions.

With the aid of Go-Pro cameras, our Little Tern adults were linked to our chicks. Any adults that were seen to be unringed were trapped and processed. Our nest numbers increased and by June 6th the third egg was laid in L1924. Our 1st phase nests were deemed complete. Prior to this, June 5th saw the arrival of our first Little Tern chicks. The ringing and processing of Little Tern chicks began. In order to keep our chick/parent relationships up to date, we attempted to BTO-ring (metal ring) our chicks at an age no older than 2 days. We also attempted to ring the chicks at or near the scrape site. Our 1st phase scrapes were hatching on a daily basis and it became difficult to keep abreast with the chick ringing.

In 2024, our Ringed Plover and Little Tern had an advantage. The early start of our breeding season meant that they were ahead of many of our regular predators. Kestrel, Sparrowhawk and other predators had for most of our season no chicks to feed and so their visits were infrequent. Rooks and Jackdaws were also out of sync with the colony. The Hooded Crow that had nested on Beach Lane were, however, early and as a family of four were a constant threat to the southern part of the site. On June 6th one of them attacked the north end of the colony. It attempted to land between the electric fence and the black netting where chicks frequented. We were fortunate to drive it away before it took any chicks.

Both L1624 and L1524 starting hatching June 16th and both were completed June 17th. We had 6 more chicks that took to wandering after they had had a BTO ring attached. The weather took a turn for the worst and by the 22nd June 5 of the chicks from L1624 and L1524 had died. Prior to the weather change, we had tried to move the chicks to the higher ground of the northern part of the colony. Earlier in the project, this procedure had been very successful with L0524. However, the parents of both L1524 and L1624 failed to reconnect with their charges. Rather than risk death by starvation, we returned the chicks to their original position. We speculated that our failed move of L1624 and L1524 may have been due to the chicks being younger than those of L0524. The ground in the area of the lagoon contained a high amount of mud. In many areas it is very compact and thus it holds surface water for much longer. We believe that due to a combination of environmental and adverse weather conditions these chicks died in exceptional circumstances. However, surviving chick BLE (L1624) did fledge.

Prior to June 14th, there had been some losses at Kilcoole and Cahore, due to an unexpected high tide. There had also been a number of nest predations at Baltray and Kilcoole. It was therefore no surprise when we discovered L2024 with 2 eggs on June 14th. That same day, our records show that a number of pairs were copulating on the beach. This was an indication that more nests were likely.



Figure 8: BV9 from L1324 on a walkabout.

Those Ringed Plover who had lost all of their chicks started to re-nest during the last weeks of June. In 2024, all of the initial series of Ringed Plover nests hatched successfully. This was the first time that this had occurred at Portrane since 2018. However, the geography of the beach and the spring tides conspired against the unfledged chicks. As the chicks foraged, they were lured by the ebb and flow of the tide for food. The incoming tide followed the contours of the beach and created islets of sand on which the chicks stood. Not recognising the danger, some of the Ringed Plover chicks were trapped and drowned by the rising tide. The lagoon was a particularly dangerous area, as some chicks sought sanctuary on top of the plants rather than moving to higher ground on the incoming tide. At least one adult Ringed Plover and a small number of chicks were taken by Sparrowhawk.

By June 17th L2124, L2224 and L2324 were complete. There were more adult Little Tern displaying and we were fairly certain that we would have another three scrapes with eggs. L2424 was discovered on the 18th and it was likely that L2524 was being created at the southern end of the colony. L2124 and L2324 produced 3-egg nests whereas L2224 and L2424 produced 2-egg nests. L2524 would be a single-egg nest and it is likely that it was a pair whose nest had been predated elsewhere and they had come to Portrane. The Go-Pro camera revealed that the parents were male A0B and an unringed female. The female would be later trapped and processed as C27.



Figure 9: BA9, fledged from L0223, would successfully nest on L2924.

June 26th was an interesting day. Mid-morning saw myself and Jan perform a sweep for unringed chicks or chicks requiring a colour ring. Shortly after we entered the site, we unexpectedly discovered a chick that looked about a day old. At first we thought that it was from L1824, but the remaining single egg on that scrape had not hatched. The chick was ringed with a BTO ring. That evening, we performed a second sweep and we discovered a single chick no more than two hours old in a scrape. Another chick was located about 30 cm from the scrape. We then realised that all 3 chicks were from a nest until then unknown: L2624. We placed BTO rings on 2 of these chicks. We placed a Go-Pro camera near the scrape, in an attempt to identify the parents on L2624. Unfortunately, we were unsuccessful, as the chicks were moved by the parents to a more secluded location within Area 1. Nest L2624 was discovered out of sequence and, historically, it was part of the original laying phase 1. Because of their new location within the vegetation, we were unable to observe the chicks being fed by their parents.

The last week of June and the first week of July was our busiest time this year. All facets of the Little Tern breeding season were on display. Prospecting adults were scraping at the northern end of the colony. We had copulating adults on the shoreline, which meant that there would likely be more nests. Eggs were hatching and chicks of varying ages were wandering about the colony.

By the end of June, we had 8 fledged Ringed Plover chicks and 4 near to fledging. We recorded LT nest L2924 and we now had 22 Little Tern fledglings. Wind and tide erosion at the north end were causing gaps to appear in the mesh. These gaps enabled Little Tern chicks to escape into the lagoon. The unfledged escapees were returned to the site, after we had repaired the gaps. During one of our daily sweeps, we discovered dead Little Tern fledgeling NW87815 (BTO ring). It had tried to re-enter the colony on foot and had gotten entangled in the netting/mesh.

On June 29th BLJ, from L2624, was found injured and caught between the netting and the mesh. It was freed, but we were concerned that this chick might not make it. Through our observations, we were heartened by the fact that the parents of BLJ continued to feed it. BLJ did recover and eventually fledged. As a result of the incidents with BLJ and NW87815, we reappraised our use of mesh. In future, the mesh will be a free standing layer independent of the black netting. L2724 was discovered on June 25th, with 2 eggs. There were still pairs scraping at the northern end of the colony. On July 1st we found completed nests L2824 and L2924. Our Go-Pro camera on L2924 revealed that BA9♀ had paired with A9B♂. A9B♂ was the surviving adult from L1224. Of more interest was BA9♀, a chick from L0223 who was born on Portrane Beach to BC4♂ and A9J♀. This is the first confirmed successfully breeding one-year-old Little Tern from Portrane. Both of their eggs hatched and both chicks fledged. On July 5th we discovered L3024 at the north east corner of the colony; unfortunately, one chick was later found dead (predated) and the other went missing.

That same day, L2024 hatched and we now had 28 fledglings. We were now two weeks after the summer solstice and it was likely to be our longest breeding season. On July 24th, an unringed chick was found during a sweep. This was a surprise, as we could account for all of our chicks that had been BTO-ringed in their first days. Weighting 25.6 g, it was estimated to be between six and seven days old. This C42 (NW88517) of unknown parentage would fledge together with C44 (L2824) on August 7th. These would bring our total of confirmed fledglings to 53, with 7 others unconfirmed,

Our deconstruction of the site had commenced and we made arrangements to return our equipment to storage at the Turvey depot. During this period, we spent more time observing the Little Tern at roost along the east coast north of Portrane. We noted that BA9 was not the only returning chick from 2023. BH8 from L0323 and BC8 from L0423 also returned this year, but it is unknown whether they nested and, if so, where.

From our observations, since 2018 we have noted that experienced breeders at Portrane (those that have had a previous nest) put down 3-egg scrapes. They are usually part of the early nesting pairs. Two of our early nests L0124 and L0824 produced 2-egg nests. In 2024, most of our 2-egg nests were laid towards the later part of the season. It was likely that a portion of these 2-egg nests were re-nesting pairs from other colonies. However, we do know for certain that at least one was a first time female paired with an experienced male. We believe that through our ringing programme we shall be able to build an age profile of the breeding birds at Portrane. In 2024, we had 19 x 3-egg nests, 9 x 2-egg nests and 3 single-egg nests giving a total of 78 Little Tern eggs laid in scrapes. We also found 3 eggs that had been ‘dumped’ in three separate locations. Of the total of 78 eggs: 2 were infertile, 3 were abandoned, 3 were damaged and 1 was washed away.



Figure 10: C30 ♀, trapped and processed on L3024.

Prior to the breeding season, the area was checked for possible threats to the colony. It was noted that most of our corvid species were present and breeding. It is imperative that any corvids be deterred from feeding anywhere close to the breeding area. This lesson was learnt the hard way in 2018. Our persistent alertness and our ability to deny them access to this feeding area is paramount. As intelligent opportunists, they can be educated to forage elsewhere that is less troublesome to the colony. At the beginning of the 2024 breeding season, our greatest avian threat came from various species of corvids. Initially, it was a Hooded Crow family of four who foraged the southern area of Area 1 and its hinterland. A number of Magpie operated to the west of our colony. On occasion they overflowed the northern part of the colony but the number of breeding Little Tern proved to be a deterrent. This year, the early arrival of the migrant birds seemed to give them a breeding advantage over the resident birds of prey. The local breeding birds of prey seemed to have been about two and a half weeks behind the plover and tern colonies. This year, we had far less close encounters with the Kestrel pair. From numerous sightings throughout the season, the Sparrowhawk pair again seemed to have targeted rodents this year. They hunted an area to the north of the river, beyond the houses away from the colony. However, their returning flight path took them directly over the colony. On a number of occasions returning Sparrowhawk flew very low above the colony, due to the weight of its prey. On these occasions, the Sparrowhawk was chased away by a combination of actions from Little Tern adults and zealous wardens. Sparrowhawk are opportunistic and they did raid the site successfully on occasion. At least one Ringed Plover adult was taken late in the season. There were also successful attacks upon Ringed Plover chicks. The Common Buzzard sightings were up on 2024, with one individual actually landing in the dunes west of the lagoon. This species will definitely be a serious threat in the future to all of the breeding species of

Portrane. The Peregrine was seen on a number of occasions. The loss of the female on L1224 was the first adult Little Tern loss in two years. The death of a second adult was noted when a partial carcass was discovered to the west of the colony. As no other abandoned eggs were discovered this loss was considered to be that of an unattached adult.



Figure 11: A9J ♀ (Baltry 2014 chick), on its 5th time breeding at Portrane (L0124).

During the first half of the season, it was noted that, whenever the Peregrine was present, the colony rose and formed a ball similar to a mini murmuration. When the danger passed, the adults returned to the colony. As the breeding season progressed, the earlier breeding successes moved on, and the colony numbers began to drop. It was noted that the ball defence system changed to the type we had noted previously. We speculated that the ball defence system requires a critical mass of birds in order to successfully confuse the Peregrine.

In April, when we erected the compound, there was little or no vegetation at the northern end of the compound. There was concern that this lack of cover would create dangerous environment for adults and chicks alike. In an effort to provide more cover for the chicks, we again placed wooden huts and piping within the compound. However, there was still a lack of cover for the chicks. Beach flotsam was gathered and added to the site. As the breeding season progressed, plant life began to sprout within the compound. The main growth plant was Sea Rocket (*Cakile maritime*) and it would eventually provide cover for a large portion of the colony. Sea Rocket covered about 40% of the area in the northern portion of the colony. Chicks born on the shingle adjacent to this sector moved to its protection within 2 days of hatching. This area provided excellent cover for chicks, but made both the observation of the colony and the trapping and ringing of chicks extremely difficult.



Figure 12: 2024 nesting sites.

Nesting standards

When we started our 13 hour roster programme, in 2018, we started a process that has led to the following code for the Little Tern nests. The example L0719 may be decoded as follows: L = Little Tern, 07 = the 7th located nest in the season, 19 = the year of the project. Re-nests are registered as, for example, R0520: R = Little Tern, 05 = the 5th located re-nest in the season, 20 = the year of the project. This year, we continued to label the Ringed Plover nests in the vicinity of the site in a similar fashion. This process was started in May as part of an attempt to identify and if possible ring the adult Ringed Plover and monitor their progress. The label pattern RPXXXX was used again. It was hoped that this label pattern would allow us to identify parent and chick relationships within the Ringed Plover breeding pairs. Because of their breeding strategy, it is far more difficult to identify Ringed Plover family units. To refer to Ringed Plover as a colonial species is problematic. The area that breeding pairs occupy is jealously protected with both genders participating in its defence.

As the Ringed Plover chicks are precocial (young ready to leave the nest almost immediately), they wander about the beach upon hatching. Ringed Plover adult's duties are then confined to watching over their offspring as they feed along the shoreline. There are many dangers for the wandering chicks on the shoreline. *Larus* sp. and corvid sp. hunt there and all of our resident raptors criss-cross the area searching for an easy meal. Other problems encountered by chicks occur when they stray into other Ringed Plover territories. However, when external threats are encountered warning calls are repeated throughout the nesting area by all adults. In this way, the Ringed Plover are the sentinels for all of the breeding birds at Portrane.

Table 1: Ringing and outcomes for Ringed Plover

Name	♀	♂	Number of eggs	Number of eggs hatched	Result	Comment
RP01	P0		4	3		
RP02	CU	Unr	4	4		1 fledged
RP03	JU	PM	4	4		0 fledged
RP04	CL	JH	3	3		1 fledged
RP05	CK	JK	4	4		1 fledged
RP06	CM	PN	4	4		
RP07	JY	CJ	4	3		
RP08	PU	PE	4	4		
RP09	CT		3	3		2 fledged
RP10	JT	JN	4	4		3 fledged
RP11	CN		4	4		
RP12	PP	CP	4	4		0 fledged
RP13			4	4		1 fledged
RP14	CY	P2	4	4		Inundated?
RP15			4	4		
RP16			4	4		4 fledged
RP17			4	3		Re-nest 2 fledged
RP18			4	3		Re-nest 2 fledged
RP19			4	3		Re-nest
RP20			3	3		Re-nest 1 fledged
RP21			4	4		Re-nest
RP22			3	3		Re-nest
RP23			4	3		Re-nest 2 fledged

N.B.: Of the re-nests, 10 chicks in an advanced stage were seen on the beach.

Portrane beach and site 2018-2024

The entire beach and dune/saltmarsh of Portrane beach is classified as a Special Area of Conservation (SAC) and a Special Protection Area (SPA) by NPWS. It is thus a protected area by law. The area also falls within the jurisdiction of FCC and is also protected by their bye-laws. At high tide, the area becomes a peninsula with The Burrow to the west and Rogerstown Estuary (outer) to the north. The outflows of the Ballyboghill and Ballough rivers are the main two feeders. There are also Bride's Stream, Jone's Stream and Baleally Stream feeding the estuary. They flow from the surrounding farmland and feed a deep channel to the sea to the east. Prior to 2018, BWI Fingal had an area of shingle beach cordoned off with 2 m poles set 10 m apart, with a single connecting blue rope 90-100 cm high. The site's length was 150 m north-to-south and 40 m east-to-west. The signage attached was bleached with age, but was still serving BWI, BWI Fingal and FCC. The sands of time had buried the western side to the extent that the rope was 20 to 30 cm from the ground. The other 3 sides still had purpose. This area was referred to as the old area. By 2023, all of the area to the southern and eastern ends of the beach had been washed away by high tides. All of the previous year's nesting areas are now under water at high tide. Most of this year's site did not exist as a shingle beach in 2018. The Portrane site is subject to very high tides and is vulnerable to annual inundation. The intertidal area exposed at low tide is approximately 2km by 2km. This area is very uneven and thus is pock marked by intertidal pools and ridges. The area furthest out is covered by a fine sand and the two large areas of shingle to the east of Area 1 in 2023 were greatly reduced in 2024. The smaller shingle areas of 2024 were adjacent to the river. In 2024 the shingle area within Area 1 was even closer to the river's edge than in 2023. This shingle was much larger and in some places even higher than in 2023. Initially, Area 1 was approximately 35-40 m east-to-west and 250 m north-to-south at the northern end. To the south, Area 1 was about 150 m in length and 20-25 m in width. Area 1 would later be extended and re-configured to incorporate new nests to the south and west of the original area. Of the 31 nests laid down in 2024, 25 were in the northern part of Area 1, 4 were to the west and 2 to the south.

Functions of wardens

Monitoring the arrival of Little Tern at Portrane began in mid-April. However, following the erection of the fencing, the wardens' duties included the checking of the external netting for any night-time activity by predators. At first, the daily visits were to take counts of Little Tern and observe what other species were nesting and the type and number of predators that were in the area. The activation of the online roster was held off for as long as possible. This was done in order to conserve our resources for the actual breeding season. Again the roster was activated when the Little Tern started scraping.

The flora and geography of the site this year made it impossible to observe the majority of the nests for any length of time. Data collection in 2024 was even more curtailed than in former years. With the early arrival of the Little Terns, there was concern over the food supply. It was noted that this year for about 60% of the breeding season sprat was the main food source. Later

in the season, the Little Tern switched to sand eels. Observing the food brought in to the chicks and adults, it was noted that the food supply was as good as in previous years.

Ringed Plover nests were checked regularly to make sure that were intact.

We still adhered to the observation processes that were used in previous years. Those who were new to the collection of data this year were given a very basic outline on data collection. "This is the nest you will be recording, note down everything you see". We take this approach so as not to influence the type of data being collected. Data collection and the processing of that data carries with it the value of the observer. Much of the data collected is similar; however, if the procedures are too restrictive we might overlook behaviours that might otherwise be revealed.

From our records: "When eggs are being laid down there is a time when the observer notices the laying adult that is sitting exchanges her position with her male counterpart". This is the moment when we know when incubation starts. We can then calculate the approximate hatching date. As this day approaches, we intensify our observations and, in certain circumstances, video trail cameras were installed. The adults' behaviour alters during the period of actual hatching. Shell removal does not occur immediately after hatching. The data collectors other pre-hatching duties included noting the length of time adults spent sitting, the time changeovers occurred and whether feeding took place. Post-hatching, the documentation of feeds to chicks is of paramount importance. This data informs us about the food supply and its quality. It also informs us about the hunting capabilities of the parents and the likelihood of the chicks fledging successfully.

In order to simplify this data recording as much as possible, we continued with the standardisation of fish sizes (small, medium and large) that were based upon the length of the bill of the adult Little Tern. Thus, a small fish feed was any fish that was smaller than the adult's bill length. Post-ringing, the identification of recipients was also recorded where possible. In 2024, the identification of the recipient was more problematic when the chicks became more mobile. On many occasions, all that the observer saw was the adult deliver a fish to a location hidden by vegetation and depart without any. Nest observation can become a tedious task. In order to ease the boredom, some of those on protection duty exchanged roles with certain data recorders.

Protection duty always held the highest priority; thus, in emergency situations wardens were permitted to enter the site to ward off avian predators. The only other occasions where we entered the site were to insert or remove cameras or recording devices. During ringing sessions, in order to minimise the disturbance we created a procedure for these and future events.

Nests were targeted for ringing based upon the age of the chicks. Little Tern chicks at 2 days old or less were targeted for BTO metal ringing. Chicks at this age are never far from the nest site and thus we can register intact family groups. This year, we noted that Little Tern chicks weighing more than 25 g are large enough for colour ringing.

Ringed Plover chicks were treated differently, because of their higher mortality rate. Both types of rings were attached at a later stage in their development. Chicks were deemed ready for BTO ringing when they were more than 8 days old. Ringed Plover chicks received their colour rings at about 14 days old. To assist us in chick, nest and parent relationships we decided again in 2024 to attempt to ring all adults that had only a metal ring or were unringed. Camera traps were set during the day to identify potential targets. Those birds that had colour rings were checked for

wear and tear and their numbers recorded. Jan built more traps and these were used very successfully on nesting Little Tern adults. Again, some adult birds seemed to know that a trap had been set and they simply refused to brood. When this occurred, we moved the traps to other possible candidates. It is hoped that the practice of ringing will aid us to create an historical profile/map of relationships at the Portrane site.

Every nest is photographed for later analysis of egg types. In 2024, we again took a sample of eggs that were weighed and measured to add tour data file on egg production. Our policy on disturbance is that other than for the ringing of chicks we always wait for the colony to rise before entering the site. From our observations, there is a vast amount that we have yet to understand and so we must be vigilant in keeping our interaction to a minimum. We are, in a sense, a service provider for the avian species that choose to spend their summer at Portrane. The total amount of hours spent wardening by the team was again in excess of 2000 hours this year.



Figure 13: Site construction.

Site construction and signage

This year, the area of shingle beach adjacent to the river was cordoned off as usual. With the aid of the contractor, 2.5 m poles were placed 10 m apart for the external rope fence. Again, most of the netting fencing was also supported by 2.5 m poles. These poles were inserted to a depth of 1.8 m. This year, we used 170 x 2.5 m poles. We also used a further 40 x 1.85 m poles to complete the netting section. These were inserted to depth of 1 m. The netting, in 50 m and

100 m lengths, were attached to inner line of poles with the base of the netting buried beneath the sand to discourage predators. The site's inner netting perimeter was approximately 1000 m in circumference. Initially, the widest section was 35-40 m at its widest east-to-west. Later, we would have to extend and or move sections of the rope and netting westward and south to enclose six Little Tern nests and four Ringed Plover nests. Each post had plastic spikes attached to deter perching by corvids and other avian predators. Signage was attached to every second post. This signage is used to inform the public about our project and has the backing of BWI, BWI Fingal, NPWS, and FCC. A number of signs were strategically placed beyond the site, asking the public to maintain a 10 m distance from the netting. Our relationship with our local neighbours has never been so good. Most of the public were very supportive, but unfortunately a small number did not stay 10 m out from the netting. Some walkers found it necessary to step through the perimeter rope to peer at the site. Having disturbed the colony, some even proceeded to photograph the flying birds. We erected an outer rope 10 m outside of the netting. For next year, we require a small number of "NO ENTRY" signs to advise the public to stay outside the site. This year, the enclosure of an area of the dune system offered Ringed Plover, Meadow Pipit and Skylark a safer and successful nesting area. This year, we added to our signage content: Cormac provided us with a calendar of tides, which we provided to aid the more regular local users of the beach. The signs were placed strategically around the outer perimeter of the site. There are a number of public access points to Portrane Beach and informational signs were placed at these locations.

The blackboard has become the most important source of information for the project. It was placed at the southern end of the site. Information about the project's progress throughout the season was updated on a weekly basis. The constant rain this year meant that again the blackboard was washed clean. It should be noted that the blackboard should be kept up-to-date in order to maintain its credibility.

The site 2024

Erosion

Compared to the 2023 site, it was obvious that the entire site had transformed yet again. The northern end had extended north and west. Once again, the eastern side of the site was greatly eroded. At its narrowest point the dunes separated the lagoon from the beach by 2 m. The previous 2024 spring tides, together with wind action, had created a single trench on the eastern edge. This trench would fill with water with tides greater than 3.7 m. The sand bar that occasionally remained was used by roosting and grooming birds. However, it became a death trap for Ringed Plover chicks when the incoming tide was greater than 3.8 m. The trench was situated between the netting and the external blue rope. This year neither Little Tern nor Ringed Plover nest was established in this area. The natural erosion of sand from the beach created a larger shingle area to the north end of the colony that was suitable for nesting. Initially this area was bare of vegetation but later there was a significant amount of vegetation that gave excellent cover for both Ringed Plover and Little Tern chicks.



Figure 14: L0424's IK2 ♀, re-trapped and re-ringed as BK2; here with her Baltry ♂ mate.

Predator management

"Not on my watch" was a phrase coined by a volunteer during the 2018 project. This statement is central to our attitude towards the predation of our charges. Jackdaws (*Corvus monedula*) were the main predator of 2018 but were not a threat for most of 2024. Red foxes (*Vulpes vulpes*), however, were present but they failed to impact Portrane 2024. There was at least one chick predated by a bird of prey. There were other losses of Little Tern chicks in 2024. Two adults were lost to Peregrine predation this year. A number of Ringed Plover chicks and one adult were taken in 2024. As the colony has expanded, we somewhat feel the necessity for a re-appraisal of how we warden the site. A 24/7 service for the duration of the project is essential for the future success of the project. Future discussions with NPWS (R. Mulraney) and FCC (H. Visser and L. Bull) will be required to solve this issue for Portrane. Prior to this year's project, we purchased a number of "fox lights", that we believed deter night predators. The size of this year's colony and site will require more of these lights. We require independent electric fencing systems rather than one large system. The single system is too vulnerable to failure and thus there is a need for multiple systems. The deployment of electric fencing this year greatly contributed to the defence of the colony. It is hoped that future funding from the NPWS will enable us to purchase the electric fencing system necessary to protect the growing colony. We should use a patchwork system similar to that used at Baltry. The electric fencing was activated for night time usage only and was used as a second line of defence. Daytime wardens carry air horns and whistles to ward off avian predators. Avian predators at the Portrane site include Sparrowhawk (*Accipiter nisus*), Kestrel (*Falco tinnunculus*), Peregrine (*Falco peregrinus*), and Buzzard (*Buteo buteo*). Ground predators this year included foxes, badgers and roaming dogs.

Public awareness

Interaction with beach users

There are different types of visitors to the beach at Portrane. There are the residents of The Burrow and regular walkers who frequent the beach. They have an understanding of what we are about. Many now take an active interest in what is happening at the colony through regular interaction with wardens. Those who walk their dogs have come to recognise the disturbance caused by the dogs near to the colony. There are the anglers who visit the area in numbers, particularly at the period around spring tides. Despite being in close proximity to the colony, they have little effect upon it and the birds seem to ignore them. Many of the anglers would stop and chat about the colony and how well it was feeding.

There were also the holiday makers from the caravan park, some of whom may have been visiting Portrane for the first time. Once they were informed about what was going on, they appeared to supportive of the project. Unfortunately, we had a few incidents with what might be described as coastal walkers. When the tide was in close, some walkers ducked under the rope which caused the colony to rise. We had less joggers this year than in previous years and they were irregular. This year, we had even more Least Tern seekers from outside of the country than last year. This may have been due to the presence of other rare or scarce birds in Ireland and thus the Least Tern was part of their visiting programme.

Table 2: Little Tern colony profile

Nest number	Number of eggs	Start date	Fledged date	Number of days	Ring number	Nest outcome
L0124	2	17/05/24	07/06/24	21	BZ5	1 fledged 1 infertile
L0224	3	16/05/24	06/06/24	21	BV1 BV0 BZ9	3 fledged
L0324	3	16/05/24	06/06/24	21	BV3 BZ0 BV2	2 fledged BV2 unseen
L0424	3	16/05/24	06/06/24	21	BV4 BV5 BZ3	2 fledged BV5 unseen
L0524	3	20/05/24	10/06/24	21	BS5 BN0 BN1	3 fledged
L0624	3	20/05/24	10/06/24	21	BS1 BLC BS4	3 fledged
L0724	3	18/05/24	08/06/24	21	BZ2 BZ7 bto	2 fledged bto died in net
L0824	2	17/05/24	07/06/24	21	BZ4 BLD	2 fledged
L0924	3	17/05/24	07/06/24	21	BV7 BZ8 BZ6	3 fledged
L1024	3	20/05/24	11/06/24	22	BL8 BLA	2 fledged 1 egg damaged
L1124	3	20/05/24	10/06/24	21	BS0 BS7 BN3	3 fledged
L1224	3					Adult predated
L1324	3	22/05/24	11/06/24	19	BV8 BV9 BL9	2 fledged BL9 unseen
L1424	1					Inundated nest
L1524	3	28/05/24	17/06/24	20		3 chicks died
L1624	3	27/05/24	16/06/24	20	BLE	1 fledged 2 chicks died
L1724	2	28/05/24	17/06/24	20	BLH BN4	2 fledged
L1824	3	30/05/24	16/06/24	17	C07 C20	2 fledged 1 infertile
L1924	3	27/05/24	14/06/24	18	BLK BV6 bto	2 fledged 1 unseen
L2024	2	14/06/24	05/07/24	21	C31 C35	1 fledged 1 unseen
L2124	3	14/06/24	05/07/24	21	C33 C34 C36	3 fledged
L2224	2	17/06/24	07/07/24	20		2 eggs damaged
L2324	3	17/06/24	10/07/24	23	C09 C10 bto	1 fledged 2 unseen
L2424	2	17/06/24	06/07/24	19	C11 C39	2 fledged
L2524	1	24/06/24	15/07/24	21	C40	1 fledged
L2624	3	28/05/24	19/06/24	22	BLJ BN5 C08	3 fledged
L2724	2	27/06/24	16/07/24	19	C32 C38	2 fledged
L2824	2	27/06/24	19/07/24	22	C43 C44	2 fledged
L2924	2	21/06/24	11/07/24	20	C37 C41	2 fledged
L3024	2	27/06/24	16/07/24	19	bto bto	1 unseen 1 dead
L3124	1				C42	1 fledged



Figure 15: BLJ from L2624, injured in the net but recovered to fledge.

Colony numbers

One of the advantages of the size of the colony at Portrane is that it is easy to get a reasonably accurate count of the colony. For the breeding season of 2024, we had a total of 31 pairs of Little Tern plus 9 non-breeders and a Least Tern (*Sternula antillarum*). We also had 16 pairs of Ringed Plover. A note for the future is that we wish to identify and process all of our adults. We need to identify unringed adult Little Tern and Ringed Plover as soon as possible. To do this, we need more Go-Pro cameras so that we are not overwhelmed by any increase in colony size in 2025. Placing of colour rings on our adults and chicks enables us to identify individuals more easily when they roost at either Rush or Portrane. Through our Go-Pro observations of the nesting pairs, we are able to target those adults that are fully unringed or only partially ringed. The data gathered helps us in establishing a history of breeding birds. Through regular observations, we are able to establish when brooding commences. This information gives us the

estimated hatching time. We can then move the cameras to other nest sites. Later, we can return the cameras to observe the hatching and initial feeding of the chicks. With this information, we can calculate the incubation periods of our colony. In 2024, the incubation periods were as widely varied as in 2018. For the future, they could be used to gather information at hatching, egg shell disposal through to the first feeding of chicks. Spare battery packs would also increase the efficiency of data collection.

Nesting locations, incubation period and clutch sizes

The nest/scrape sites at Portrane are typical in that they are a bare scrape in the shingle. In comparison to Ringed Plover, Little Tern scrapes are shallower. It has been our experience that Little Tern seldom have a nest that is decorated. It has been recorded that Little Tern usually have between 2 and 3 eggs - 4 on extremely rare and still unstudied occasions - whereas Ringed Plover have mainly clutches of 4 eggs, with the occasional 3 egg nest.

In our experience, there is a direct link between the incubation period and the number of eggs being incubated. However, our experiences in 2020 adds a caveat to this statement. So far, we noted that inexperienced breeding birds do not always get it right and thus their immaturity may contribute to a delay in incubation time. Likewise, experienced adults are likely to have shorter incubation times. Our observations in 2020 revealed a wider spectrum of incubation times than in 2018. Ehrlich et al. suggest that incubation periods vary from 18 to 21 days. In 2020, however, we have records of 22 day incubation periods. We are fortunate to have a small colony and these observations are not too difficult to collect. Interestingly, Ehrlich et al. suggest a general fledging period of 19 to 21 days but add a cautionary "(15-18)" possibility. 2020's fledglings IV0 to IV5 were most definitely in the 15-18 group whereas IV7 and IV8 were 21 to 22 days. We can safely discount food supply or weather as influencing factors. Portrane has more than enough sand eels, shrimp, and other small fish for both the colony and other tern species that visit. In 2024, the shortest fledging period this year was 17 days, whilst the longest was 23 days. Despite the erosion that took place at Portrane Beach again during the winter of 2023, it was agreed that there was a possible area at the north end of the beach for the Little Tern to breed in 2024. We mapped out Area 1 and inserted both Little Tern and Ringed Plover scrape locations see *Figure 12*.

What unfolded in 2024 at the north end of Portrane Beach from April through to mid-August added another chapter to the conservation of Little Tern in Dublin. Our work this year has once again done much for the conservation of Ringed Plover at Portrane.

How we measure success

At Portrane, only those chicks seen in flight are considered fledged. Hence, this year we have 53 confirmed fledglings. In 2024, we collected more data on the feeding patterns of Little Tern, pre-breeding, brooding, and post-hatching. This year, we spent more time on ring-reading; at east coast colonies, a total of 1149 readings of colour rings were carried out (715 on adults, 434 on juveniles), of which 518 were unique rings (354 on adults, 164 on juveniles) and the balance

were duplicate sightings. We have estimated that we had approximately 40% per cent of the breeding adults recorded at the three main east coast colonies.

Some more information regarding our 2018 fledglings. All of those ringed chicks have now been sighted at various sites throughout the British Isles.

Re-nesting ringed sightings enables us to identify gender types. The following is a list of Little Terns that were born or fully ringed as adults at Portrane and bred at Portrane in 2024; a) males: IZ5, IZ7, IZ9, BOB, AOE, IV3, BK0(prev. A9H), A0Z, A0B, IX1, A9B, BC4, b) females: IZ8, A8Z, A1H, B2A(prev. IV5), BJ2(prev. A1E), AOP, IX0, BA9, BC5, A8T. It is always important to reflect upon the reasons as to why we do what we do regarding ringing. In 2018, I was very unsure about ringing Little Tern. Many questions were asked as to the benefits of such practices.

However, the knowledge we have gathered from our ringing programme has allowed us to better understand our charges. Since our ringing programme began in 2018, we have observed several one-year-old chicks returning to Portrane. Because of our ringing programme, we were able to ascertain that in 2024 we had one-year-old female BA9 breed successfully at Portrane. Our records from 2024 show that IZ8 added BS1, BLC, and BS4 to her list of fledged chicks.

Through trial and error, we have learned the optimum position to place cameras on our nests, to assist in the monitoring of our breeding pairs.

The majority of chicks that make it past year one (hatching year) and return to these islands, do so as non-breeding birds in year two. Their second year sees them return to various breeding sites throughout these islands. At Portrane, they fly about as what are referred to us as teenagers. They do so in groups varying from 2 to as many as 9 individuals. They imitate their older counterparts in most behaviours with one exception: they seem unable to settle and seldom breed successfully.

We have no idea which of our 53 2024-fledglings will return next year to breed or where they might breed. From a statistics perspective our team of volunteers have had success in facilitating the colony in 2024. This year we added a minimum of 53 Little Tern to our fledgling list. Unfortunately, we lost 9 eggs and chicks to predation and tide. Portrane's Little Tern colony has established itself as an efficient and effective reproducer of Little Tern on Ireland's east coast. We believe that, due to the excellent supply of food at Portrane, this year's chicks have an excellent chance of returning to breed in the years to come.

Table 3: A history of Little Tern breeding at Portrane

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Number of breeding pairs	11	18	05	11	24	17	31			
Number of eggs	27	44	12	26	57	35	81			
Number of eggs lost	09	41	00	00	29	21	11			
Number of nests lost	22	17	00	00	08	11	3			
Number of re-nests	06	03	00	00	06	0	0			
Number of re-nest eggs	12	05	00	00	09	0	0			
Number of re-nests lost	01	03	00	00	04	0	0			
Number of re-nests eggs lost	02	05	00	00	05	0	0			
Total eggs laid	39	49	12	26	66	35	81			
Total eggs hatched	15	03	12	26	37	14	68			
Total eggs fledged	14	03	09	24	06	13	53			
Total chicks ringed	13	02	08	25	31	13	68			
Mortification of chicks	01	00	03	02	31	01	7			

N.B.: 2018 statistics are based upon an estimation of the original nests lost added to the actual output.

Table 4: Ringing and outcomes for Little Tern 2024

L0124	A9J	BK0	BZ5	Family of 2, 1 egg infertile	
L0224	A8S	IZ5	BV1	Family of 3	
			BV0		
			BZ9		
L0324	A9L	BK3	BV3	Family of 3	
			BZ0		
			BV2		
L0424	BK2	Metal L	BV5	Family of 3	
			BV4		
			BZ3		
L0524	A8T	IZ7	BS5	Family of 3	
			BN0		
			BN1		
L0624	IZ8	BOB	BS1	Family of 3	

			BLC		
			BS4		
L0724	A8Z	BHZ	BZ2	Family of 3	
			BZ7		
			BV6	Dead, colour ring re-used	
L0824	A9K	Metal R	BZ4	Family of 2	
			BLD		
L0924	BOX	IN1	BV7	Family of 3	
			BZ8		
			BZ6		
L1024	BK6	BK1	BL8	Family of 3, 1 egg damaged	
			BLA		
L1124	A1H	BC4	BS0	Family of 3	
			BS7		
			BN3		
L1224	B2A _{IV} 5	A9B		Family of 3, abandoned (female B2A predated)	
L1324	BJ2 _{A1E}	A0E	BV8	Family of 3	
			BV9		
			BN9		
L1424	Unk	Unk		Family of 1 Lost to tide	
L1524	BK4	BT0		Family of 3, all 3 perished	
L1624	BK5	AET	BLE	Family of 3, 2 perished	
L1724	BC5	IV3	BLH	Family of 2	
			BN4		
L1824	AOP	BK7	C07	Family of 3, 1 egg infertile	
			C20		
L1924	I0	A0Z	BLK	Family of 3 1 unringed	
			BV6		
L2024	C21	I29	C31	Family of 2	
			C35		

L2124	C19	AZX	C33	Family of 3	
			C34		
			C36		
L2224	Unk	Unk		Family of 2, all damaged	
L2324	Metal L	A9C	C09	Family of 3	
			C10		
			Metal		
L2424	Unk	A9E	C11	Family of 2	
			C39		
L2524	C27	A0B	C40	Family of 1	
L2624	Unk	Unk	BLJ	Family of 3	
			BN5		
			C08		
L2724	C22	IX1	C32	Family of 2	
			C38		
L2824	B8Z	A67	C43	Family of 2	
			C44		
L2924	BA9	A9B	C37	Family of 2	
			C41		
L3024	C30	Unk	M	Family of 2, 1 dead	
			M		
L3124	Unk	Unk	C42	Family of 1	

In Table 4: ████=Kilcoole ████=Portrane-born ████=Portrane-ringed ████=Gronant ████=Isle of Man
████=Baltray

Sightings and re-sightings

For convenience of reporting, sightings of colour-ringed birds at Rush Point and Portrane are considered as one area. This year, 1149 sightings from 518 birds were recorded by Daniele Gioppo, Paul Lynch, Jan Rodd, Gary White and myself at Kilcoole, Baltray, Gormanstown, Mosney, Laytown and Portrane/Rush roosting sites.

Biometric data

At Portrane 2024, biometric data was collected on Ringed Plover adults and chicks and Little Tern adults and chicks. Biometrics are collected only at ringing sessions, to reduce any possible stress or disturbance to the nesting birds. The data below represents a total of 40 biometric readings of Little Tern adults and chicks and 17 of Ringed Plover taken on adult birds and chicks this year during the ringing sessions. This data will be added to the pool of data that we already have collected. In Table 5 below, it should be noted that female adults BK2 and BK4 were pregnant at the time of processing.

In Table 5: (♀) = Female, (♂) = Male, (Unk) = Unknown.

Table 5: Little Tern adult biometrics

		L T Adults		
Date	Wing	Weight	Darvic Number	Gender
20/05/2024	175	61.3	BK2	♀
20/05/2024	173	53.3	BK3	♀
27/05/2024	181	51.7	BK1	♂
27/05/2024	191	54.6	BK0	♂
27/05/2024	182	61.6	BK4	♀
27/05/2024	178	56.7	BK5	♀
27/05/2024	178	55.6	BK6	♀
02/06/2024	181	51.7	BK7	♂
06/06/2024	180	54.4	BT0	♂
27/06/2024	181	55.3	C19	♀
29/06/2024	174	49.7	C21	♀
01/07/2024	170	53.8	C22	♀
05/07/2024	179	52.5	C27	♀
07/07/2024	172	51.1	C30	♀

Table 6: Little Tern chicks Biometrics and Rings

		L T Chicks			
Date	Wing	Weight	Darvic Number	BTO	Nest
26/07/2024	82	46.4	C38	NW88511	L2724
23/07/2024	64	40.2		NW88511	
19/07/2024	39	29.5		NW88511	
	Growth rate	2.41grm/day			
26/07/2024	95	49.6	C11	NW45928	L2424
23/07/2024	76	47.4		NW45928	
15/07/2024	25	21.2		NW45928	
	Growth rate	2.58grm/day			
26/07/2024	91	45.5	C37	NW45926	L2924
23/07/2024	74	42		NW45926	
17/07/2024	35	25.5		NW45926	
	Growth day	2.86grm/day			

26/07/2024	99	50.6	C39	NW45927	L2424
23/07/2024	81	48.3		NW45927	
19/07/2024	52	39.9		NW45927	
	Growth rate	1.53grm/day			
02/08/2024	94	46.2	C42	NW88517	L3124
26/07/2024	46	30.5		NW88517	
24/07/2024	35	25.6		NW88517	
	Growth rate	2.25grm/day			
26/07/2024	49	32.1	C43	NW88515	L2824
02/08/2024	102	54.5	C40	NW88513	L2524
26/07/2024	51	38.7		NW88513	
22/07/2024	39	24.5		NW88513	
	Growth rate	2.72grm/day			
23/07/2024	71	45.9	C41	NW45925	L2924
23/07/2024	99	45.4	C36	NW88514	L2124
17/07/2024	61	38.2		NW88514	
	Growth rate	1.2grm/day			
23/07/2024	100	48.5	C09	NW88507	L2324
15/07/2024	47	35.3		NW88507	
	Growth rate	1.65grm/day			
23/07/2024	105	49.1	C10	NW88505	L2324
15/07/2024	56	41		NW88505	
	Growth rate	1grm/day			
23/07/2024	91	45.7	C34	NW88512	L2124
16/07/2024	48	35.9		NW88512	
	Growth rate	1.4grm/day			
17/07/2024	84	47.8	C35	NW88503	L2024
15/07/2024	71	44.6	C31	NW46000	L2024
29/07/2024	64	36.1	C44	NW88516	L2824

Table 7: Biometrics of Ringed Plover adults

		R P Adults			
Date	Wing	Weight	Darvic Number	Gender	BTO
09/05/2024	131	54.7		♀	NP00321
09/05/2024	136	63.7	PU	♀	NW12910
09/05/2024	136	66.8	CT	♀	NP00323
13/05/2024	137	68.7		♀	NP00322
13/05/2024	132	66.6	PM	♂	NW12907
14/05/2024	137	70.8		♀	NP00323
14/05/2024	132	67.8	JH	♂	NW12924
16/05/2024	138	71.9	CU	♀	NW12978
16/05/2024	140	65.1	CP	♂	NW12979
16/05/2024	134	72.3	CN	♀	NW12980
16/05/2024			CM		NP00329
16/05/2024	133	67.3	CJ	♂	NW12918
20/05/2024	140	69.5	JN	♂	NW12941
20/05/2024	129	65.7	CL	♀	NW12981
20/05/2024			CT	♀	NP00323
20/05/2024	138	69.2	CY	♀	NW12955
20/05/2024	139	727	PP	♀	NW12909
26/05/2024					NP00322
31/05/2024	135	69.2		♀	NW12984
06/06/2024	136	67.6	P2	♂	NW12982
31/07/2024	138	64.0	P2		NP28827

Table 8: Biometrics and rings of Ringed Plover chicks

		R P Chicks		
Date	Wing	Weight	BTO	Darvic
24/06/2024	95	47.5	NP28804	P4
26/06/2024	13	12.5	NW45923	Unk
29/06/2024	71	35.8	NW87468	P6
02/07/2024	54	23.7	NW45924	Unk
10/07/2024	82		NW45924	P7
12/07/2024			NP28818	Unk
12/07/2024			NP28819	Unk
19/07/2024			NP28820	Unk
19/07/2024			NP28821	Unk

19/07/2024			NP28822	Unk
22/07/2024			NP28823	Unk
29/07/2024	31	21.7	NP28827	Unk
31/07/2024	41	24.9	NP28827	Unk

Table 9: Little Tern egg biometrics.

Nest No.	No. of eggs	Length	Width	Weight
L2124	3	34.28mm	24.42mm	9.85grm
		34.68mm	24.58mm	10.0grm
		35.34mm	23.64mm	9.40grm
L2324	3	32.88mm	23.71mm	8.62grm
		31.92mm	24.29mm	8.93grm
		32.89mm	23.94mm	8.74grm
L2824	2	32.58mm	23.02mm	9.40grm
		32.82mm	23.41mm	8.69grm
L2024	2	31.28mm	22.67mm	7.77grm
		32.55mm	23.47mm	8.56grm
L2924	2	31.18mm	23.31mm	8.67grm
		30.49mm	23.64mm	9.14grm
L2724	2	31.37mm	22.58mm	8.32grm
		32.93mm	22.79mm	8.34grm
Average		32.66mm	23.53mm	8.89grm



Figure 17: Some nest sites from 2024.

Other breeding avian species at Portrane

This year we counted 2 of Skylark (*Alauda arvensis*), again one male appeared to have two females and therefore we had 3 nesting sites. We had in excess of 10 Meadow Pipit (*Anthus pratensis*), a Cuckoo (*Cuculus canorus*) and 1 Stonechat (*Saxicola rubicola*). Most of the Meadow Pipit had second clutches but no Cuckoo chick was seen in July or August. Both Skylark pairs produced two broods of chicks and fledged six clutches. There were many sightings of Meadow

Pipit and Skylark fledglings this year. This may have been due to the late arrival of the Kestrel and Sparrowhawk. There were no sightings of Stonechat fledglings in 2024.

Review

The breeding season 2024

We now have seven breeding seasons behind us. Our plans for 2025 will include our experiences learnt during 2024. The sum of our knowledge and experiences place us in a good space where we would be reasonably confident in getting fledglings away again.

We have now reached a stage in the development of the colony where the number of breeding Little Tern pairs necessitates the need for paid staff. Paid staff would require some form of accommodation together with toilet facilities.

The inclement weather conditions of 2024 kept visitors to the beach to a minimum. Physical damage to the site this year was not as severe as in previous years. There was minor damage to Area 1 due to a high tide. We were fortunate that we had no storm damage to the site.

On the 9th of May there were six completed Ringed Plover nests with four more under construction. Our first Little Tern egg was found on May 14th. The second nest was found the following day. By May 31st we had 16 Ringed Plover chicks. By June 6th, L0324 had hatched and the chicks had left the scrape. The following day we had 18 Little Tern chicks. We were unaware that 2024 would be our most productive year ever.

A total of 78 Little Tern eggs were laid, the mean clutch size was 2.8 eggs per nest for phase 1 and 2.1 for Phase 2. Phase 1 had six eggs that failed to hatch. Of the remaining eggs, 38 were confirmed fledged. Phase 2 produced two eggs that failed to hatch. Of the remaining eggs 15 were confirmed fledged.

Conclusion

Portrane Little Tern Project 2024 has once again presented those who warden with new challenges. Without the wardens to protect the site, the beach would be devoid of breeding Little Tern. We can say with some certainty that, overall, we have had a successful 2024. If we measure our project's outcome based upon fledglings produced we have had a productive Ringed Plover year with 20+ fledged. We lost and gained some volunteers and the new added their observations to our learning experience.

With the level of erosion in 2024, we have no idea where nesting might occur in 2025. It may be on the western side of the lagoon. It will be the winter storms and the birds themselves that will decide whether Portrane 2025 will be a breeding site for Little Tern. The early start to the nesting period in 2024 gave us a lead on the breeding Sparrowhawk and Kestrels and so reduced the stress of their visits.

Finally, my gratitude to the people of BWI Fingal who asked me to participate in this project and for their support. To participate in the protection and preservation of our heritage is indeed a worthwhile privilege. To the public who, despite the inconvenience we caused to their leisure time, thanks for your curiosity, acceptance, cooperation and toleration. Without this, we would surely have failed. To the agencies, Fingal County Council, National Parks and Wildlife Service

and Birdwatch Ireland thank you for your resources, support, and approval. Most importantly to Hans Visser, without whose help we would surely have never got started. The volunteers, you came, your efforts protected our charges and once again gave hope for Little Tern and their neighbours at Portrane. A motley crew, your commitment, enthusiasm, and resolve made possible a shingle full of wonder. Because of you, there are 53 new Little Tern and 20+ new Ringed Plover from Portrane. We look forward to their return and to those who return with them.



Figure 18: Packing up.

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