

Little Tern

Portrane 2018

Sternula albifrons albifrons

An account of the attempt to save their last nesting site in county Dublin

Introduction

Since I was a child I've been interested in bird watching. Later, life circumstances led me to suspend my interest in bird watching for other choices. In recent years I had returned to the delight it brings and my visits to Rogerstown and Turvey Park brought me into contact with the Fingal branch of Bird Watch Ireland. When I received a call from Paul Lynch (BWI Fingal) in May 2018 that he had counted 22 Little terns 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. Little did I know then that I was about to embark on an amazing journey full of amazement, elation, fear, frustration, heartbreak, joy, and sadness. *Sternula albifrons albifrons* or Little tern would take my birding interest rather than my ornithological skills to a different place. This account is meant to give an insight into what happened at the North end of Portrane beach during the latter days of May 2018 through to the early weeks of August of the same year.

Little Tern

Like everything I've ever done in my life, birding is yet another subject that enforces my belief that "the more I know, the more I know I don't know". My observations on Portrane beach had me burning the midnight oil at home among my beloved books checking and re-checking my observations. I called a halt to this procedure one night when I realized that I was on duty the following morning and it was, the following morning.

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*. I can visualize those knowing better than I reaching for their reference books. Are those names correct? Hmmmm, is my answer, and 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 v2018 there are seven species within the Genus Sternula with a further ten 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. The reclassification of "little" terns has led to the creation of a variety of subspecies. If one examines the migration pattern, food consumption, and isolation of these subspecies it is easy to conclude that the evolutionary process is occurring before our eyes on Portrane beach.

We in Ireland are fortunate to observe these avian wonders in their finest regalia or as we like to call it, breeding plumage. As part of a lifecycle strategy migration forms a key element for the survival of many species. Having migrated to southern shores, terns travel thousands of kilometres to return to our coasts to perform their most important act, that of the reproduction of the species. For some Little terns, Portrane beach was chosen for this purpose.

Terns have been described as being graceful in flight but grace is only part of their aerial repertoire. Courtship flights are not what I'd call graceful but full on aerial acrobatics that most aircraft enthusiasts would be awed by. Racing at full speed above the beach twisting and weaving with expert synchronicity only to tumble skywards where they split apart sweeping away all the while calling "kriet" to each other. I'll never tire of being mesmerized by their prowess at flight. On other occasions they seem to flop along only to suddenly accelerate away seaward to procure food for themselves or to supply their partner or their young. When feeding they plunge or dip depending on their prey and whilst drinking glide over water dipping repeatedly (Cabot and Nisbet, p3 2013). Because of their beak design they swallow their prey whole which means that it's alive. Their young are offered live prey but on rare occasions are offered regurgitated food, this was noted at nest L2 during the early stage of their offspring's development. Whilst at Portrane I had observed the above.

All five species have forked tails and black caps when breeding however only the Little tern has a white patch in the centre of its forehead. In my observations I noticed that when the adults closed their eyes they became bespectacled akin to the frames worn by cast members of the "Blues Brothers".

Portrane beach and site history

The most northerly area of Portrane beach is classified as a Special Area of Conservation (SAC) and a Special Protection Area (SPA) National Parks and Wildlife Service (NPWS). It is thus a protected area by law. The area also falls within the jurisdiction of Fingal County Council (F.C.C.) and is also protected by their bye-laws. At high tide the area becomes a peninsula with The Burrow to the West and Rogerstown outer estuary. The outflow of the Ballyboghil and Ballough rivers are the main two to the east. There are also Bride's Stream, Jone's Stream and Baleally Stream feeding the estuary. They flow from the Northwest and feed a deep channel to the sea to the East.

There is a lot of traffic in and out of Rogerstown harbour in the form of yachts, canoes, rowing boats and motorised ribs and other craft. There was little impact upon the colony by this traffic however sailboards and paddle boards that crossed from Rush impacted during incubation. This however was reduced when the chicks had hatched. At low tide, fast moving propeller driven craft seemed to churn the water. On a number of occasions Little terns were observed fishing behind such incoming craft. Generally kite surfers stayed opposite Rush beach. On two occasions at high tide a surfer visited Portrane beach. The colony rose but returned to incubation in less than three minutes.

At this point I must mention Frank McManus whom I sadly never had the privilege of meeting. I was told by those I met on the beach that his ashes were poured with love and affection into the river and thus "Frank passes by his beloved birds twice a day". It is my belief that Frank's

past efforts contributed to the idea that Little terns might successfully fledge at the Portrane site.

In recent years an area of shingle beach had been cordoned off with 2 meter poles 10 meters apart with a single connecting blue rope 90-100 cms high. The site's length was 150 meters north-south 40 meters East-West. The signage attached was bleached with age but was still serving Bird Watch Ireland (BWI), BWI Fingal and FCC. The sands of time had buried the western side to the extent that the rope was 20 to 30 cms from the ground. The other 3 sides still had purpose. This area would be referred to as the old area.

The beach cleaners

When I arrived I couldn't but notice large piles of rubbish stacked close to the western boundary rope. Car tyres, masonry, metal, plastics and other flotsam were among their contents. That evening I met their creator who was carrying 2 buckets which they were filling meticulously with unwanted debris. Their systematic cleansing was bringing them closer and closer to what I then thought was a possible nest site. I approached, introduced myself and had my first positive human to human encounter at Portrane. This was due in no short measure to what was to become the nesting pair known as Little Tern nest 3 or L3. Earlier I had observed this and other pairs beginning their courtship displays so I introduced the non-birder to the courtship display of *Sternula albifrons albifrons*. Amazed, they agreed that they would suspend their beach cleaning until mid-August when as a thank you, we would assist them with their good work. I informed them that I believed that most of the nest sites were to the North of the old area. I made the decision that the new area would require roping off also, we "need a bigger castle". I phoned Paul Lynch and informed him that it was imperative that this area be enclosed immediately. This was done and the new area was created. We also concluded that some type of netting was urgently required to enclose three sides of the site. At this time it was our belief that Little terns preferred open access to the sea. Because of our experiences with canine encroachment I believe that in future the entire site should be enclosed by netting. Gates within the netting should be considered to facilitate ease of site access. The enclosed area was now 300 by 40 meters. Shortly afterwards I met some members of Clean Coast who would later give me fresh coffee, food and water and their time for what was fast becoming a vigil. During the course of my stay on Portrane beach it was not uncommon to see individuals with no affiliation to Clean Coast, plucking plastics, glass and other debris from the beach.

The Bird and its history in Ireland

A Little tern adult average 21-25 cm in length and have a 41-47 cm wingspan. *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 terns are probably the rarest breeding tern in Ireland. In 2004 Pickerell cited in Cabot and Nisbet (p136, 2013) estimated that

there were 206 breeding pairs in Ireland. This number for certain has increased however their reproductive strategy places them in perilous situations ranging from inundation by the sea, loss of habitat, human and canine disturbance and natural predation.

There are written personal accounts of Little tern breeding attempts at Portrane beach since 1990. It is probable that chicks did fledge however the total number is likely to be no more than seven. It is likely that the environment at Portrane was unsuitable for breeding prior to 1990. There are records from the 1970's that Little terns 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. The nest sites at Portrane were typical in that they were a bare scrape in the shingle. Little terns usually have between one and three eggs but on rare occasions four. There is a direct link between the incubation period and the number of eggs being incubated. In an ideal situation the adult birds should lay their eggs immediately after a spring tide. They would then have 28 days before the next spring tide and thus there would be no losses to flooding. As we were to discover, Little terns don't live in an ideal world.

The Plan unfolds

Having spent a few hours on Portrane beach in May 2016 and again in May 2017. Both years failed to produce a single fledgling. I watched the 22 birds sighted in late May 2017 disappear to zero by mid-June. The precise reasons for their failure to reproduce were unclear, but it was hoped that closer observations in 2018 would reveal the causes. The initial plan was based upon a few observers whose observations would be collated and analysed. With greater understanding it was hoped that sometime in the future we might deliver a successful breeding environment at Portrane. For 2018 our success would be measured by the amount of knowledge that we might accumulate and therefore "fail better". This knowledge would be analysed and future attempts might prove more effective. I had a brief discussion with Paul Lynch (BWI Fingal) and I believed that we could do better in 2018.

Sternula Albifrons Albifrons was not unknown to me as I had given some volunteer hours at both Baltray, Co Louth and Kilcoole, Co Wicklow projects in the past. Paul Lynch contacted the F.C.C, NPWS and BWI and advised them that BWI Fingal planned to warden the Portrane site. I planned to warden for 40hrs per week and see how far we might get. The plan was quite loose with the main objective to create a database of observations, and a list of dos and don'ts.

Sitting on site I started making notes of my observations. Initially I observed from a distance but I soon realized that was completely inadequate. I noticed that the colony was very agitated and as I approached a Jackdaw *Corvus monedula* rose from the marram grass very close to the blue rope. I had done corvid (crows) duty at Kilcoole and the arrival of jackdaws at the site was seen as a significant threat to the colony. What they were after were the tern eggs. We needed more wardens and the corvid attacks increased. For the record, at the outset whilst chasing jackdaws the Portrane jackdaws returned shortly after I had chased them. I observed that they initially moved about 10 metres only to return. I then adopted a more aggressive approach and continued my pursuit, again they moved a further 10 metres. I renewed my pursuit and finally they flew away. During the initial 10 days I was relentless in my harassment of them, as they were in their attacks. Jackdaws make good students in that they learn quickly and after the 10

days only one bird attempted to walk into the colony. It got caught in the newly erected netting and was visibly shaken as it escaped my clutches. After that they generally gave the site a wide berth however I did see 43 of them pursue a sparrowhawk with its kill to the West of the site. We saw magpies but none came near the site. Rooks overflew the colony on occasion but the terns seem to deal with them easily. Hooded crows were much more antagonistic in that getting rid of them was much more difficult and time consuming. Fortunately for us they spent most of their time further south along the beach. They did enter the southern part of the site but they were expelled with great difficulty. A number of ravens foraged nearby but did not seem to be a threat to the terns. Later having successfully fledged their chicks the hooded crows foraged northwest of the colony under our watchful eye. Making notes became more difficult as there were many distractions/threats.

The Site

The previous 2018 spring tides together with wind action had created a series of ridges on the eastern edge. The ridges created a saucer effect on the site. The inner most ridge sloped downwards into a dip and then gently rose towards the centre of the site. These ridges would later help conceal chicks from our observation posts. The shingle had extended northward from the old area as far as the estuary channel. Thus doubling the site length North South as compared to the 2016 site. The width of the site narrowed to about 25 meters on the northern end. To the West of the site lay a dune system containing marram grass whose extensive systems of creeping underground rhizomes helped stabilise the dune system. It contained low lying areas as well as a number of ridges containing various shoreline plants. Much of the old area contained this marram grass and the adult birds appeared to avoid this when nest prospecting.

My initial observations led me to believe that there were approximately 11 pairs on site. The Little terns seemed to be prospecting both inside and outside the old area. I estimated that three to four pairs were frequenting the most northerly section of the old area. The remainder were in the new area and I estimated that the prospecting birds were scattered over a 30 by 90 meter area.

The Evolution of failure

I make no apology for my emotional relationship with what were to become my extended family of terns. Initially I just sat at the western periphery of the colony. I observed about five pairs to my right and six pairs to my left. Each pair were working in tandem at what I believed to be a nest site selection process. Working independently within an area each adult would view an area. They would then squat down and excavate sand which was flicked backwards. On occasion the bird would cease as if the site was unsuitable. If that was the case the bird moved to another location nearby and the process would start again. When an adult was satisfied they invited their partner to approve the site. Until both adults approved the process continued. This process could be interrupted by flight, feeding and further courtship displays. Eventually the pair returned to the area until a site was chosen. Meticulous observations at this stage of the

project would have helped determine the gender of our adults. Unfortunately we had neither the wardens nor had we applied for our photographic and video licences from NPWS.

Observation notes record that adult birds (presumed male) were returning with sandeels which they passed to their partners (presumed female). At this time there are no records of rejections of food. However there was an observation where a sitting adult having consumed a fish rose, took a few steps and vomited the fish onto the sand. It continued to retch until it had expelled the contents of its stomach. The bird returned to its site and nestled back down. Its partner flew off to return later with a more appetising morsel. The re-nesting that took place after storm Hector gave us an opportunity to observe in more detail this courtship behaviour.

The first two weeks saw most of the threats to the colony develop in intensity. At the time we were unsure of whether there were nests or just prospective sights. It looked like some of the pairs might be sitting but we were uncertain as to whether there were eggs. We didn't dare enter the area for fear of disturbing the birds. We were very short of background information on Little terns. Books and reports were read and I made some enquiries with those who had worked with projects similar to ours. By the time I had consumed this information the jackdaws had attacked the site and had plundered eggs to feed their young.

The jackdaws came through the grass unseen by me and the adult terns. I soon realized that adult Little terns can offer little resistance to ground predation. The jackdaws walked into the site and tried to push the adult terns off the eggs and then steal them. The jackdaws rarely flew into the site. They came in waves and had to be driven off to prevent the loss of the entire colony. Two of the three nests in the old area were lost but I managed to save what was later to be labelled as L3. Whilst chasing the Jackdaws away from the old area the new area came under attack and another nest was predated. And so it went on throughout that day and the days that followed. I learnt very quickly to react to the alarm call which is a continuous peeping noise that is unmistakable. That evening we lost another nest to a dog walker and his golden labrador retriever. Unleashed dogs were a significant threat to the colony. The adult birds were terrified by them. Anytime a dog approached the roped off area the adults rose from the colony leaving their nests exposed. Unaccompanied dogs roam the burrow and Portrane beach and I became familiar with their regular visitations. Thankfully as the project progressed their visitations declined.

Another threat to the Portrane Little tern colony was the weather. We had a long hot summer with only one day which had light precipitation during the entire incubation period. Post incubation we had several days of heavy rain, however the older chicks went untroubled by it. Chicks under five days took refuge under the wings of their parents during the heaviest of downpours. The suggestion that we install ridge tiles was an excellent one as it offered the chicks protection from the very hot weather. We also placed a number of pallets throughout the site to offer further protection. These too were used by the chicks as both shelter from the sun and wind. Little tern chicks sought refuge behind plastic, tin cans, pieces of wood in fact anything that offered shelter. The week that started the tenth of June was a week to remember. Fortunately I was on duty when the observation post was attacked by two unleashed dogs and an intimidating owner whose bullying tactics were to define our rules for health and safety. On Wednesday the thirteenth I confirmed to Paul Lynch that our nest sites were in fact nests with eggs. We now had seven original nests labelled L1 to L7, L8 was a re-nest from the jackdaw attack. There were three to five other adult birds about and it was hoped that

they too might re-nest. Despite the losses morale was high and Elena speculated that we might ring the chicks after they hatched. At this time we didn't have the expertise or the permission to ring any bird.

Then came the anticipated storm Hector. Thursday the fourteenth of June was a day that shall remain long in my memory. As I journeyed from my home to Portrane there was a gale blowing. Upon reaching the site sand filled the air and no adult tern was visible or audible. Shortly after 08:30am the wind abated. I could see that many of the posts were down and much of the netting was tangled. I searched for traces of the nests and checked L4 which was the nearest to the edge of the enclosure. All I could make out was the orange beak with its black tip sticking above the sand. Suddenly the adult shook itself and there it was. It nestled back down and appeared to burrow into the sand. I later learnt that the adults have the ability to raise the eggs in such circumstances. All of the sitting adults in turn resettled and I put out a message for some extra help as the storm took hold again. Once again the adults disappeared beneath the sand. Cormac Crowley quipped that he was expecting Omar Sharif to appear on a camel. His timely arrival gave better coverage for what was about to unfold and we decided that the repairs would have to wait until after high tide which was due about 12:30. Little terns are highly vulnerable to spring tides as they nest just above the high water mark. With the addition of the low pressure area generated by the storm there was an expectation that the sea would go beyond the high water mark. By 11:30 the inevitable was about to happen. I watched as the sea breached the ridges and the dip filled quickly. The north end ridge gave way and the sea continued unremittingly. Around midday as the adult on L4 sat, the sea surged past it. It seemed almost bewildered by the experience as it sat looking around. A low wave broke over the adult forcing it to rise. It plunged back down in a vain attempt to cover the eggs but to no avail. L8 was next to succumb, quickly followed by L5, L6 and L7. The adults on L5 and L6 also plunged despairingly into the sea but like L4 they too were unable turn back the tide. The colony was in turmoil the screeching of the adults was intense. The jackdaws struck taking advantage of the chaos and the exposed eggs. During the inundation the ringed plovers, meadow pipits and skylarks also lost nests. Facing me L1 and L2 sat opposite backs to the sea. I checked the time I estimated that L3 in the old area would be safe. I rued the loss of the other old area nests to the jackdaws earlier in the month. We were being wiped out. The sea crept towards L1 and L2. L1 was lost shortly after 12:20, this time there was no forlorn plunge. The adult rose and joined the disordered colony now squatting in the dunes. L2's head twitched from side to side the sea now only millimetres away. At the final moment it turned 180° and defiantly pecked the incoming tide. It was 12:23 and the high water mark had been reached and L2 was safe for now. In the confusion an intact ringed plover nest was left unguarded. A highly distressed adult tern sat on the eggs for over two hours as the plover parents stood looking on bewildered. We stood and watched as signage and posts from the eastern side toppled over and float away on the outgoing tide.

It was for me a defining moment nothing was going to prevent me from saving L2 and L3. Our calculations were that the next spring tide during the night was even higher, however the storm was over and the air pressure was rising. I was assured by other team members that the tide would not be as high and that we should be safe. I marked the new high tide and hoped that the overnight tide would leave L2 intact. Our hope was that with luck some of the birds would re-nest later. We had been informed that the birds could lay eggs up until the summer solstice.

It was also suggested that re-nests usually produced only one egg. We repaired the site as best we could, the signage would have to wait. Early the following morning as I walked towards the site I could see that the overnight tide was far lower than the previous morning. L2 and L3 were still sitting. We were indeed failing better but it wasn't appealing. Through my observations I became acquainted with Big Tip and Little Tip the parents of L2. The breeding black tip to the orange beak differed considerably on these adults and thus they were identifiable. Big Tip also had a metal ring on its leg on its right leg. Only one other adult in the colony had a metal ring and it was on the opposite leg.

By that afternoon a third pair were courtship displaying. We decided that the re-nests would be labelled R as in re-nest. R5 was created above the high water mark and the others intensified their courtship rituals. By the 18th we confirmed our 4th re-nest, the latest three were below the high water mark. There was concern about this and preparations were made for the possibility of moving the nests to higher ground if the eggs hadn't hatched before the July spring tide. We had still five adult birds performing courtship displays and we were hopeful of two further re-nests.

Niall Griffen had the privilege of observing our 1st hatchling. It confirmed that Little Tip was male and his partner Big Tip was a mom. The research that I had undertaken earlier on gender identification was confirmed by my observations. It was the 19th of June five days after the storm and I reflected upon what might have been. After the 2nd chick was seen I observed what might be described as a family moment. In beautiful sunshine both parents sat about 50cms apart with both chicks sitting between them. They seemed to be taking store of their achievement and it lasted for about two minutes. From my notes taken the 20th June. The nest had been abandoned and Big Tip was sitting with both chicks under wing about three metres to the left of the original position. One of the chicks left Big Tip and went under its dad for approximately two minutes. Little Tip then rose and the chick returned to its mom. Little Tip flew off "Little Tip returned at 13:40 and presented a sandeel to one chick" Big Tip had raised its left wing when its partner had returned and the chick waddled towards its food enthusiastically, mouth gaping. Still wriggling the sandeel disappeared. I still wonder how a chick the size of my thumb can consume a volume of food about ½ its own body weight. By now the second chick was standing begging for food. It was the only time I saw Little Tip regurgitate food. Little Tip flew away and returned at 13:50. There then took place what I referred to as beak chatter between adults. Little tip made five discernable audible chattering sounds during the 4th he opened his beak in a wide gape. Big Tip seemed to reply on two occasions. This communication was interrupted by an over curious jackdaw and a herring gull. Little Tip stretched his neck skyway, rose and dispatched both with ease. It was 13:59 Little Tip returned and one of the chicks went for a 15 second walk. Both adults were noticeably more alert. At 14:04 Big Tip left and Little Tip took over until Big Tip returned with no food at 14:22 and resumed parental care duties. An inquisitive ringed plover was poked away by Big Tip. Little Tip returned at 15:05 and gave a sandeel to Big Tip who in turn gave it to a chick. Little Tip took over parental duties at 15:07 for 2 minutes and then flew away. Big Tip sat and covered both chicks. At 15:12 Little Tip returned with a sandeel none was hungry so he flew away with fish in beak. My conclusion was that we had a very good food source close at hand and that the birds were full. This scenario occurred so many times with later broods that indeed Portrane sands appear to be an ideal site for breeding Little terns. By 15:58 that eventful day the adults were

confident enough to vacate the site and the chicks were alone for the first time. Big Tip returned at 16:01. At 16:55 all adults rose as two walkers ignored our plea and walked close by, all the birds were back on track within two minutes. At 18:08 two dogs no leads with two dog walkers. The result was that every tern rose but all returned after the walkers had passed. At 18:15 this time an unaccompanied dog, again all up but fortunately I knew who to contact and all was well. 18:21 the kestrel was forced North over the golf course it returned later but was forced out over the sea and shepherded South beyond the pines. Upon reviewing my experiences of this day, I wondered if there were other calls that might be beyond my audible range. We might consider some recording equipment for future research and projects.

Having chicks on the beach was not part of the 2018 plan. I had thought that it might happen years from now. I had been advised that our problems would only begin with the arrival of chicks. The informed opinion was that chicks roam and their protection would become incredibly difficult. The informed opinion was so, so, correct. The 3rd chick arrived on Saturday 23rd of June from L3. It was the 1st of three. By Sunday afternoon all three chicks were moving about with the adult male taking over parental duties at 15:07. We now had five chicks and counting them became almost an obsession. On Thursday the 28th of June the “kestrel took chick at 11:04” from the L3 brood. I had observed the chick being fed about 18 seconds earlier its parent had flown away about 10 seconds later. It was the youngest of a brood of three from nest L3. I could identify it by its smaller size when compared with its older siblings. It was a wanderer unlike its siblings who were dispersed discretely in the old area about 10 metres from the nest site. My error was that I was birding rather than protecting. The kestrel had been watching the site from a distant pine tree. I noticed it as it swooped low over the beach, past some sun bathers and then skimmed over the anti-dog netting before I realized what was happening. The terns never saw it until it was too late. They gave a forlorn chase but to no avail. Birds of prey are just that, when protecting a colony, recognise the threat not the specie. The kestrel had worked hard for this kill but she would have to work a lot harder for the next one. “Not on my watch” became our protection philosophy courtesy of Mags Foley. The colony seemed to know about the loss as the level of vocalisations rose considerably for the remainder of the day.

Big Tip and Little Tip were working overtime as 6 sandeels were delivered in under four minutes. The local cuckoo was causing problems with the meadow pipits and the Little terns mobbed it. I was now chasing a cuckoo and she was persistent. On Monday the 2nd the kestrel attacks intensified as my records reveal. At 11:52 a double kestrel attack, 13:39 a single attack, from 15:07-1519 another double attack at high tide. 16:05 another single attack, 18:44-18:47 another single attack, the final attack of the day was from 19:50-19:56. Tuesday saw the arrival of the NPWS but the kestrels didn’t care. The over-worked but supportive Niall Harmey would later introduce us to Jen Lynch who would ring our chicks if they survived long enough. It was with his fullest support that we were promptly received our video and photographic licences which enabled us to record our charges. The possibility of ringing other species was discussed and in particular ringed plover, however the resources required would be greater than those available to the project at the moment.

On Wednesday 4th of July I noticed what I believed was “chick education”. The chick was taught that fish must be eaten head first. The cuckoo and kestrel had become omnipresent but we held firm. On the 5th of July as predicted the single egg from R4 was the first to hatch. We were

now on our 2nd batch. Like most of our chicks it was born early in the morning. Later that afternoon Jen arrived to ring the 4 eldest chicks. We had extra help as this process was something new for us all. We had been observing the chicks all day and we knew their exact locations and prepared to capture them. The chicks from L2 were 16 to 17 days old and the L3 chicks were 13 days old. We went for the youngest first. They were captured within the site and brought to the observation area. They were ringed, measured and weighed. I watched, full of the wonder of it all, camera rolling. A metal identification ring was attached to the left leg of the chick and a green plastic ring with white text was placed upon the right. IZ5 or Izzy 5 as it became known as, was the first bird ever to be ringed on Portrane beach weighing 45.8 grams wing length 77mm, IZ6 its sibling was 50.4 grams wing length 80mm the elder of the siblings was what was referred to as a blonde. With their parents protesting overhead, the chicks were released to ease the stress of all concerned. Then it was the turn of L2's chicks. As Paul and Jen closed in on the chicks, one took off to our amazement. It flew towards me then changed course it was now out over the sea and as it turned into the wind it stalled. It flopped squeaking into the sea. Without thinking I waded in and plucked it from the sea, funny how you get over a fear of hurting a wild creature. What would be ringed as IZ7 was now safe its wing length was 112mm and weighed 48.2grams. Its sibling would remain the one that got away. It flew 50 metres and with its welfare in mind it was deemed uncatchable. We learnt during the ringing process that the legs of Little tern chicks get thinner as they become adults so the rings will be snug rather than constricting. We observed the chick's incredible rate of food consumption. Their high protein diet resulted in their ability to fly after 16 days. It would appear that like some other avian species Little tern chicks lose weight as they mature. The Little tern migration strategy demands that their offspring are equipped for the journey to Ghana, Mauritania and Guinea Bissau.

The 2nd Batch

After the final re-nest took place and Paul Lynch took the initiative of checking and labelling the re-nests. R1 contained three eggs, R4 contained a single and R2, R3, R5 and R6 had two eggs each. R6 was next to hatch we had two more chicks by the 8th July. The Kestrel continued its foraging visits. John Lovatt arrived most mornings before 07:30. On Wednesday 11th of July John reported that R3's eggs had hatched 07:14 and 08:59 respectively. He also recorded that some eggshell was seen being carried away from R2 at 08:13. I confirmed his sighting of R2's 1st chick at 10:10. At 10:59 our records show that our un-ringed chick flew for 90 seconds approximately. One of the adults from R2 had a metal ring on its left leg and because of its behaviour was believed to be the male. At 13:01 it returned with a sandeel but neither chick nor partner were interested so he ate it himself and flew away. He returned shortly afterwards without any food and a changeover took place. Our observations revealed that foraging and feeding were most intense as the incoming tide covered the exposed sands. The 2nd chick for R2 arrived the following morning. We now had 11 chicks. An inquisitive Arctic tern was mobbed and driven away. We thought this unusual as both common and sandwich terns had been seen roosting with the Little terns on the sand spit off Rush. This behaviour was observed on four

separate days. Later in the season Arctic terns roosted with the other tern species without incident.

There was a concern about R5. Paul Lynch had confirmed earlier that there were 2 eggs in the nest. It was due the hatch around the same time as R6 however the later established nests R2 and R3 were producing chicks. When the nest was later re-checked an egg was missing and the other egg appeared cracked. The parents continued to incubate but their pattern of changeover was noted to be unlike any other pair. It was so irregular it was thought that one of the adults had abandoned the nest. This was not the case but unfortunately the nest was eventually abandoned.

Fortunately for us we had shifted our observation post at the suggestion of Barney Johnston. It was Barney's opinion that we were too far from both eggs and chicks and any intervention by us would be ineffectual. Thursday the 12th of July saw the kestrel's boldest attempt yet. At 18:40 she flew in low from the Northwest. I spotted it just as it rose over the net. Alarm, Sonya O'Connor and I raced towards the intruder as the kestrel paced towards the adult tern who was sitting covering its two chicks. The tern stood its ground beak pointing at the aggressor. With horn blaring and whistle blowing we cleared the net. The kestrel saw us coming and rose into the air where she was mobbed by the remainder of the colony and driven off. Fortunately for us the July Spring tide arrived just after our last chick had been hatched. The adult birds led their chicks to higher and safer ground by waving sandeels in front of their young as if to feed. The chicks were led to safety in this manner as their parents backed away.

How to deal with Spring tides and storm surges was researched. Loosing nests prior to the June solstice only extends the time taken to warden. On a project that is staffed by volunteers it is imperative that time apportioned to the project be kept to a minimum. It must also be stated that the delayed access to the restricted area is also an inconvenience to the public. We discussed the possibility of watering the low lying areas of beach prior to nesting to deter nesting in that space. We got this idea from our observations as it took the terns over 4 days to re-nest on the area that had been covered by the storm surge. Another suggestion was to artificially raise the nest just prior to the Spring tides. By lifting the nest using a snow shovel we would then place two bags of gravel at the site. A third bag would be placed on top. The centre of the bag would be removed and replaced with sand and shale and the nest would be replaced on top. When the threat of inundation passed, the bottom two bags would be removed and the 3rd bag lowered into the beach so that the hatched chicks had ease of access to the beach.

Moving the nests to higher ground would be another possible solution. The anchoring of pontoons would also create a more secure breeding space however aerial predation would go unchecked.

It should be noted that there was little competition for food from other terns for the original breeding. Another issue that requires further investigation is the effect of competition for food by visiting terns. There is no evidence that in 2018 that their visits influenced the growth and development of our 2nd batch chicks. However if the colony at Portrane were to increase then food source and supply may become an issue. From our records the last 10 days of July saw Little tern visits from both Baltry and Kilcoole ringed birds.

Tuesday the 17th saw the return of Jen Lynch with Steve Newton from Birdwatch Ireland. All of our re-nest chicks had silver rings placed on their left leg. Our youngest and smallest chick however was too small for a green identification ring. The single chick from R4 was ringed as

I20, R6 were IZ8 and IZ9, R2 were IX0 and IX1, R3 were IZ3 and IZ4, R1 IZ1 and IZ2, IX2 would be placed on our youngest chick later that week. Before Jen and Steve left we discussed the setting up of a training course for ringing birds. I had previously discussed the idea with Paul Lynch and he agreed that it was a good idea. A number of our volunteers also expressed interest in learning to ring birds. When IX2 was recaptured it was re-weighed. It had put on 10 grams in five days despite being the youngest of three.

Birds of prey and Gulls *Larus sp.* were also a threat but the most persistent and dangerous was the Common kestrel *Falco tinnunculus*. At first the falcon attacked in the traditional way hovering and swooping to the West of the site. It seemed to be concentrating upon the Skylark and Meadow pipit nesting in the dunes. The adult terns reacted by mobbing it and driving it away. As time went by the kestrel changed its tactics to coming in low over the grass akin to a sparrowhawk. It was presumed and rightly so that it too had a mate and chicks to feed. It used the sun to shield its attacks thus masking its approach to its targets. On occasion it perched in various trees and studied the site from afar. We made the initial mistake of allowing it to hunt near the site. Having initially targeted meadow pipits and skylarks then the ringed plover were targeted. This led to attacks upon the tern chicks which were relentless. We purchased gas horns and whistles to deter its attacks. Later when the kestrels started attacking in pairs, one adult would sweep in from the seaward side drawing away the adult terns whilst the other went in low after the undefended chicks. These tactics were effective for the kestrel however the only chicks taken were ringed plover. The Kestrel on one occasion used a rising flock of Oystercatcher *Haematopus ostralegus* to screen its approach, however it was spotted and our gas horns did the job.

The need for netting is an essential priority in the protection of the colony and special thanks to F.C.C. and Hans Visser for their support in this matter. F.C.C's support saved the colony on numerous occasions. Next year we hope to enclose the entire area with netting. The need for volunteers is paramount for tern colony protection. They should be volunteers and if at all possible, be locals. In our case BWI Fingal branch members were contacted for their support and a Tolka branch member posted details of a contact number for those interested in supporting the project. N.B. when posting personal contact details on the web, it is important that permission to do same be sought.

What happened then was amazingly wonderful. The volunteers came and their generosity made what materialised later, possible. All gave with the warmest of generous hearts non-birder and birder alike. A roster began to take shape and it soon became possible to have at least two people on duty between the hours of 0700 hrs and 1930 hrs approx. on any given day. Ideally there should be four people on duty at certain times of the day. Distraction for one volunteer lessened the protection at the site. Kestrels take advantage of unprotected areas of a colony as we discovered. Those who volunteer to warden should sign a registration form and this would give them the protection of Birdwatch Ireland.

As the colony became accustomed to our presence we decided to open the netting on the West side to enable ease of access by the volunteers at times of attack. This policy proved very effective in that we were able to stand in the colony and blast the attackers with voice, horn and whistle. Our tactics forced the kestrel into the air where the adult terns took over and were able to drive the predator off. Prior to the wardening I believed that gulls would be a threat to the colony. Whereas many *Larus sp.* overflowed the colony about 60% were escorted away some

in pain from having their tails plucked. The remainder were simply ignored. Whether *Larus sp.* failed to recognise the feeding opportunity or whether it was too small and therefore not worthwhile requires further observation and data analysis. The conclusion that the breeding colonists were aware that we were there to support them was evidenced by a number incidents. John Lovatt reported that days after the hatching of R1 a chick had wandered out through the net. Upon his arrival he observed that the adults were distressed and were hovering and screeching above the northerly end of the site. Upon investigation he found a chick that had wandered and was unable to return. He simply lifted the chick over the net and everything returned to normal. In 2019 we hope to surround the entire colony with netting. To allow access to and from the colony we plan to insert half piping tunnels under the netting. Our defensive strategies by and large were accepted and didn't appear to cause the colony much distress. That is not to say that we were totally accepted by the breeding adults. There were a number of other occasions after the re-nests had hatched and straying chicks had wandered up to 50 metres from the site. These wanderings brought chicks way beyond the protected areas and when patrolling these areas we were dive-bombed upon by agitated parent birds. On Friday the 27th of July 3 adults were observed delivering food for their chicks in the marram grass at 12:46. This meant that at least chicks from two nests were wandering west of the site. There were also occasions where one of the non-breeding adults took occasion to dive upon anyone who left the observation or even moved about the observation area. I labelled it the grumpy one. It appeared to be unattached to any chick.

The days went by and our 1st four chicks had now fledged. R4's Izzy 0 was growing fast, labelled Izzy eagle. My records show that it flew for 20 seconds on the 23rd of July. We observed that as the chicks started to fledge they moved eastward towards the sea. This movement however placed them in the path of dog walkers and the public at large. From the earliest we had made a decision that it would be ill-fated if we protected the site through legal enforcement. Through education we hoped to persuade the public to buy into the project. By now over 90% of the public were very supportive but the few were always insistent and persistent in exercising their beliefs in their rights, however ill-informed they might be. The 28th and 29th were the wettest days and heavy rain fell however the bigger chicks didn't seem to mind in fact they seem to find time to wash and preen. At 13:40 around high tide four chicks IX0, IX1, IZ3 and IZ4 took their 1st short flights. My Izzy 7 was seen with Kilcoole's IJ8, IA4, IA1 and an IB who was unidentifiable as all rose and disappeared out to sea at 15:56. We noted that adults often encourage their young to fly by hovering above their offspring with sandeel dangling. On other occasions an adult would land with a fish and offer it to a chick. It was almost a carrot and stick approach. Fly and you'll get fed otherwise you'll go hungry. By the beginning of August IX2 was practice flying. We were in sight of the finish the primary feather counts were changing from three to four, from four to five and five to six. They were beyond the reach of dogs and man. They were on their way and we were now surplus to their requirements. It was decided that Tuesday the 7th of August would be our final day and we made arrangements to deconstruct the site. We made a few visits to Portrane post wardening. Jan Rod reported seeing IZ8 and IZ9 roosting at the southern tip of Rush beach on Wednesday 29th of August. We have continued high tide observations into September and John Lovatt counted six Little terns at the southern end of Rush on September 3rd.

Conclusion

How does one measure success or failure for that matter? The effort in time and resources might be measured against the outcomes. The learning experience, the shared social capital, the observation data gathered, the 14 fledged chicks and the plans for the future may be considered when taking these measurements. If the resources we had at our disposal at the end of Project Portrane 2018 are available in 2019 then I would be very hopeful of a shorter successful project next year. Here's hoping.

Finally, "The thank UUUs". To the people of BWI Fingal who asked me to participate in this project, for sure a thank you. 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 acceptance, cooperation and toleration. Without this we would surely have failed. The residents of the Burrow who brought me coffee, water, fruit, energy bars and kindness, thanks a mil. To Niall T, K, who magically turned our nest sites into nests and whose advice set our course, thank U. To Olive and Clean Coast for their support and restraint, my gratitude and thanks. To the agencies, Fingal County Council, National Parks and Wildlife Service and Birdwatch Ireland thank you for your resources, advice, and approval. And so to the volunteers, Brian called, and you came, your time protected our sea swallows and saved the days. Birders I thought might come but non-birders! A motley crew if ever there was, your commitment, enthusiasm, and resolve turned a gritty probable failure into a shale full of wonder. Because of you there are 10 Izzy's, 3 Ixxies and our eldest who was too strong, too full of life to be ringed. If fortune favours the brave then for sure some of our charges will return and continue their species.

The motley crew

Barney Johnson, Brendan Black, Brian Caruthers, Jim (Chick) McNally, Cormac Crowley, Elana, Frank Prendergast, Olive, Joanna, Peter, Jan Rod, Jen Lynch, John Fields, John Lovatt, Mark Collins, Matthew n Jenny, Niall Griffen, Niall Harmey, Niall T Keogh, Bernadette Fennel, Catherine and Pauline King, Catherine O'Connor, Dean the Welshman, Derek O'Brien, Gary White, Helena Earley, Mags Foley, Michael Keating, Niall Burke, Paul Hanna, Paul Lynch, Paul O'Flaherty, Martina Coyle, Niall Collins, Rachael Hynes, Sandra White, Sonya O'Connor, Steve Newton, Tom n Maureen Carroll, Hans Visser, Wiktoria, and my humblest apologies if I've left you out.

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