2019 Dawlish Warren recovery report

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This is my seventh consecutive annual report in which my objective is to document all of my observations of marked birds seen at Dawlish Warren NNR, Devon throughout the calendar year. This year, much like previous one's has brought about its fair share of fascinating discoveries. This year's report is long, at 42 pages my biggest to date. I make no apologies for this yet hyperlinks from belows list will allow for those interested to head directly to areas of interest.

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Also within this report, although irrelvant to being Warren based I've incorporated a feature regards an exciting opportunity undertaken this year. The passion and skill-set that I've honed over the last seven years would come to the attention of Dr Lucy Hawkes, a senior lecturer at Exeter University. She would ask for my assistance throughout the majority of June, deeming my expertise in this line of work invaluable in her exciting three year Arctic Tern research programme that began in Iceland in 2018. Several of these birds are now fitted with GPS locators and my role would focus upon finding as many of these twelve months later at their breeding colony near Sandgeroi. Something I will touch upon at the end of this report. Deeming it a significant enough undertaking and personally from a reading persective the undoubted highlight of my year

Getting back on track, Dawlish Warren or more precisely the high tides grant me the necessary opportunities and impetus to engage in this very specific form of birdwatching. Through such dedication I'm now often referred too as being Devon's leading advocate of ring reading. Ringed birds are not uncommon yet invariably overlooked and one of my core aims in writing a report such as this is to promote this fascinating aspect of birding. Another core objective is loftier still, more far reaching. My ambition to place Dawlish Warren as arguably one of the very top sites in the whole of the UK in this context.

With that in mind my ethos regards my frequent visits over the last few years has evolved whereby less attention is now paid to just birdwatching and more target driven. Each find and read I make fuels a degree of self-fulfilment, with each discovery helping better understand more about the commoner birds we see onsite, and the importance Dawlish Warren plays in accommodating them.

How do I achieve this, the answer is simple. I've no formal training, no guidelines or mentor just a keen eye and 'hardwired' mindset along with the very best optical equipment on the market, the fabulous Swarovski ATX 30x70 telescope. This incredible piece of equipment is a vital element in my armoury, for without the sheer magnification and clarity it provides many of the reads I've acquired would not be possible. I should also give praise to the longstanding placement of the hide, a place where I'm often ensconsed. Its close proximity to an array of gathering roosting birds over the high tides likewise should not be downplayed. The rest is then down to me.

What birds do I record? the answer to that is very simple, if it's ringed and I can read it any bird. Although the results as you will see lean in essense towards waders, gulls and terns.

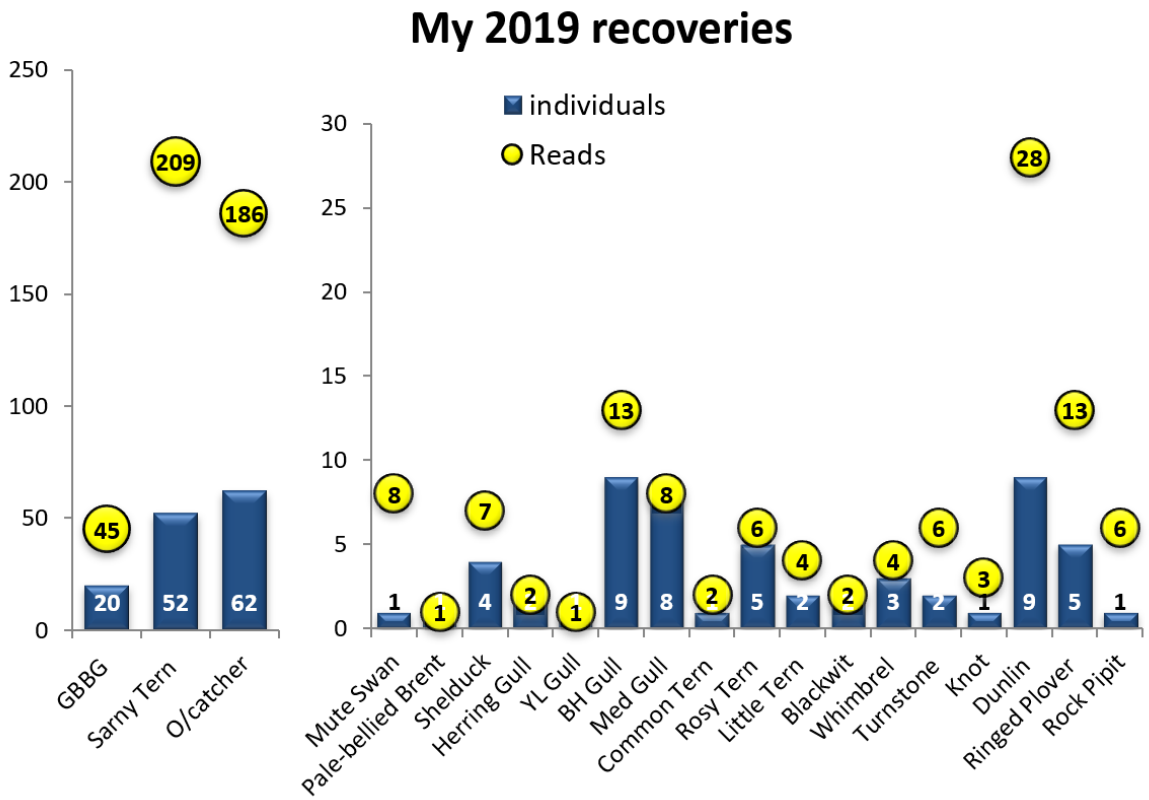
In keeping with my 2018 report the Oystercatchers are addressed into two distinct forms. Split, whereby the main report excludes the colour-coded birds ringed onsite during 2018 and 2019 by the newly formed Devon and Cornwall Wader Ringing Group (DCWRG). My rationale behind this to give a balanced year on year means of statistically analysing my findings against earlier years.

Here's an overall summary of my year in numbers-

- Visits onsite= **193**
- Time spent onsite= **911 hours**
- Tidal visitations= **169**
- Individuals identified= **191** (2015/18 mean average = 207)
- Reads made= **554** (2015/18 mean average = 491)

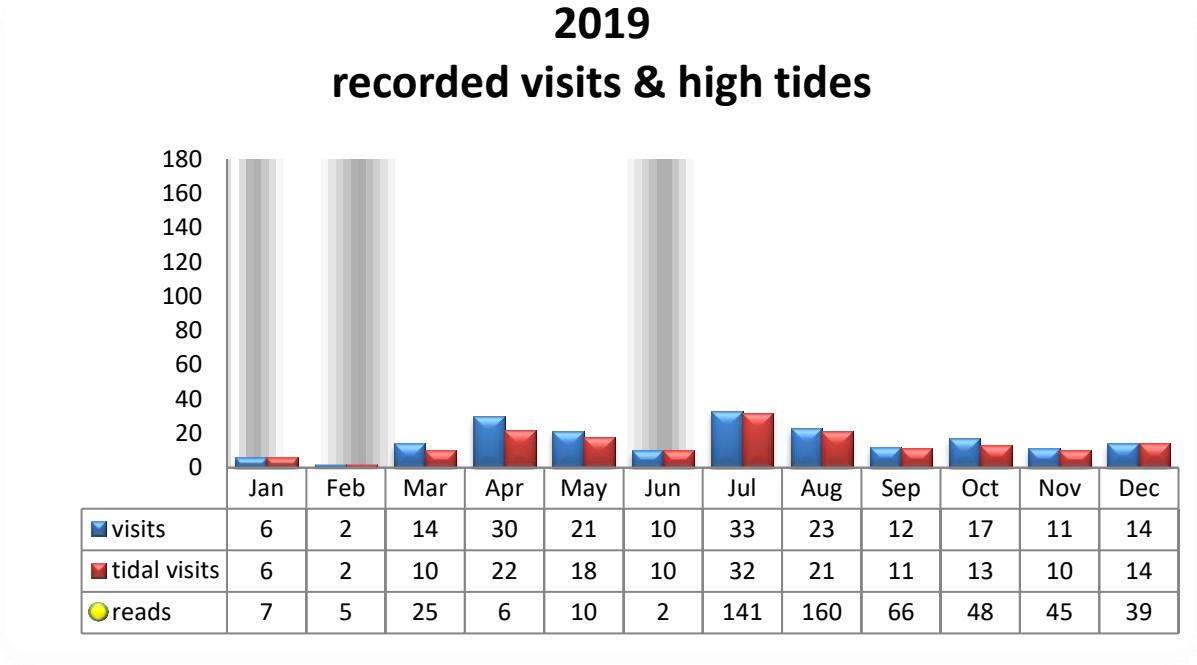
Highlights were numerous, included amongst them two new marked species- Yellow-legged Gull and Rock Pipit. Five Roseate Tern and two Little Tern recoveries also held great significance although my abiding memory of the year was the collective effort and subsequent results on my work on Sandwich Terns, two of which were ringed in **South Africa**.

The chart below uses a simple graph, highlighting two sets of data. The blue column quantifies the number of marked individuals recorded onsite during 2019. The second dataset in yellow, illustrating reads acquired. This articulates upon multiple sightings gathered over differing days.



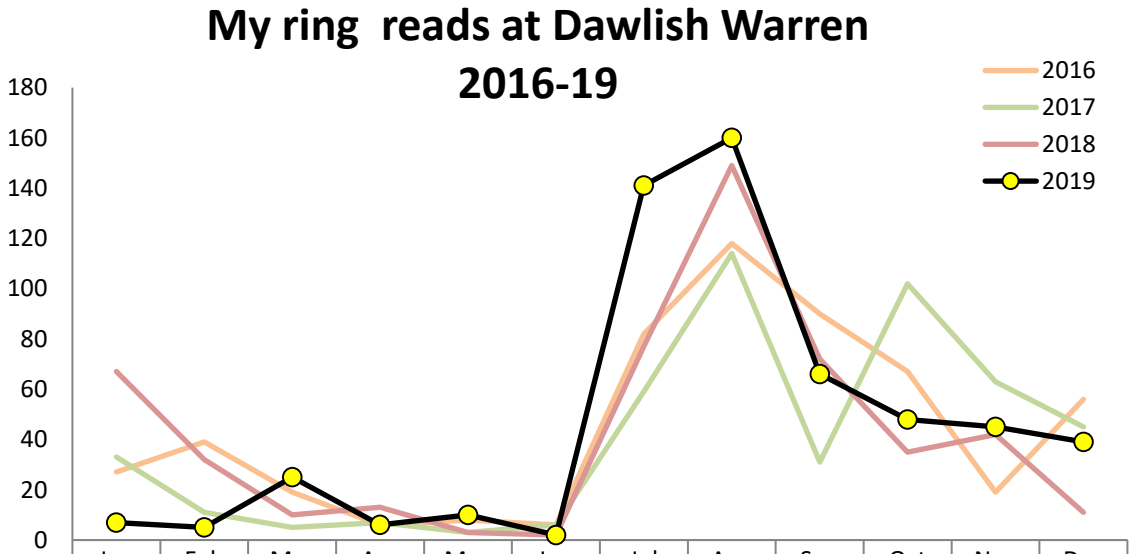
It clearly reveals that multi-day observations were frequently recorded in predominantly all of the species I recorded this year. Most relate to migratory species of varying degree's and therefore ascertaining any duration of stay has genuine scientific merit. Sandwich Terns are an excellent example of this. The data I've accumulated in relation to this species over the last few years has been fairly groundbreaking.

The next chart is used to emphasise my findings measured against both visits and also high tides attended. Shaded areas have been added to denote periods of absenteeism, this due to birding commitments abroad. This would accounted for almost 8 weeks away (or over 15% non-attendance) and thus reflect upon poorer than expected monthly reads from the months in question.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
visits	6	2	14	30	21	10	33	23	12	17	11	14
tidal visits	6	2	10	22	18	10	32	21	11	13	10	14
reads	7	5	25	6	10	2	141	160	66	48	45	39

Another means of representing my results is by plotting them against that of recent years. It showing an interesting and ongoing level of consistency to my work.

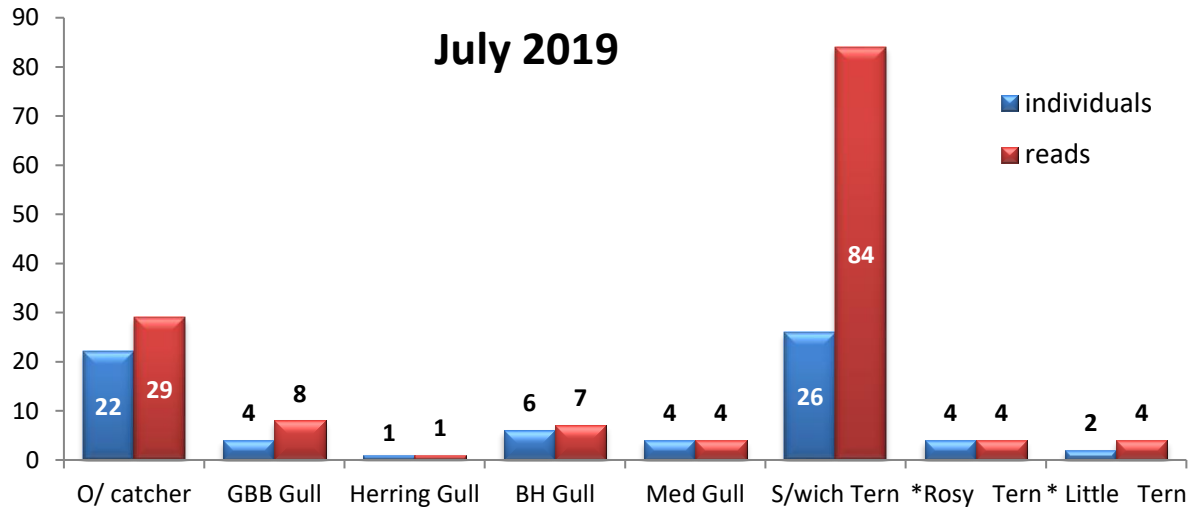


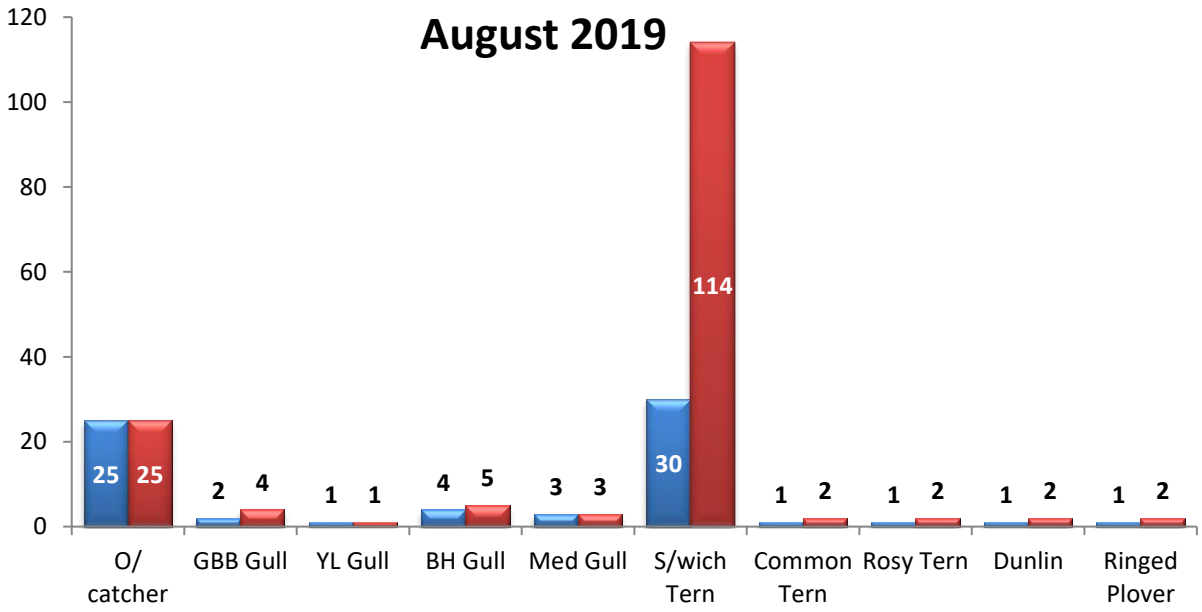
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	27	39	19	6	8	6	82	118	90	67	19	56
2017	33	11	5	7	3	6	59	114	31	102	63	45
2018	67	32	10	13	3	2	77	149	72	35	42	11
2019	7	5	25	6	10	2	141	160	66	48	45	39

Two key months clearly stand out as being extremely productive, July and August. Why? The graph clearly depicts the expected dramatic upsurge in my recoveries over this period, this in line with post breeding dispersal but why were 2019's results so much better than previous years? The reason is down to one primary factor, visitations.

July would see me onsite almost daily, making 33 visits over 28 dates (where feasible covering both daily high tides). My haul of **141** confirmed reads is a huge 73% increase on my previous July best and accounts for **69** individuals. Historically August has always proven to be my most productive month and this year my coverage was again frequent, although less so than July. It accounted for 21 tidal visitations over 20 dates and the results an accumulation of **160** reads, my largest ever monthly haul, also comprising **69** individuals.

Based on the sheer volume of these recoveries over this two month period it seems logical to take a greater look at these figures.





What is clearly evident is that Sandwich Terns undoubtedly dominated most of my recovery work during these months. This period is also a pivotal time with regards Oystercatchers. A time whereby I purposely monitor the return of migratory individuals back to their wintering grounds. Furthermore, additional highlights would include the challenging task of reading rings on Roseate (5) and Little Terns (2), both much coveted although these were eclipsed in recording the Warren's first ever confirmed read of a Yellow-legged Gull.

Now to take a greater look at my findings, species by species.

Oystercatcher

Individuals identified during 2019: 62

- Metal rings= 36
- Wasp-marked individuals= 23
- Colour-coded, non 2018/19 Warren ringed birds= 3

Number of positive field reads made in 2019: 186

- Metal reads= 59
- Wasp reads= 87
- Colour-coded, non 2018/19 birds= 40

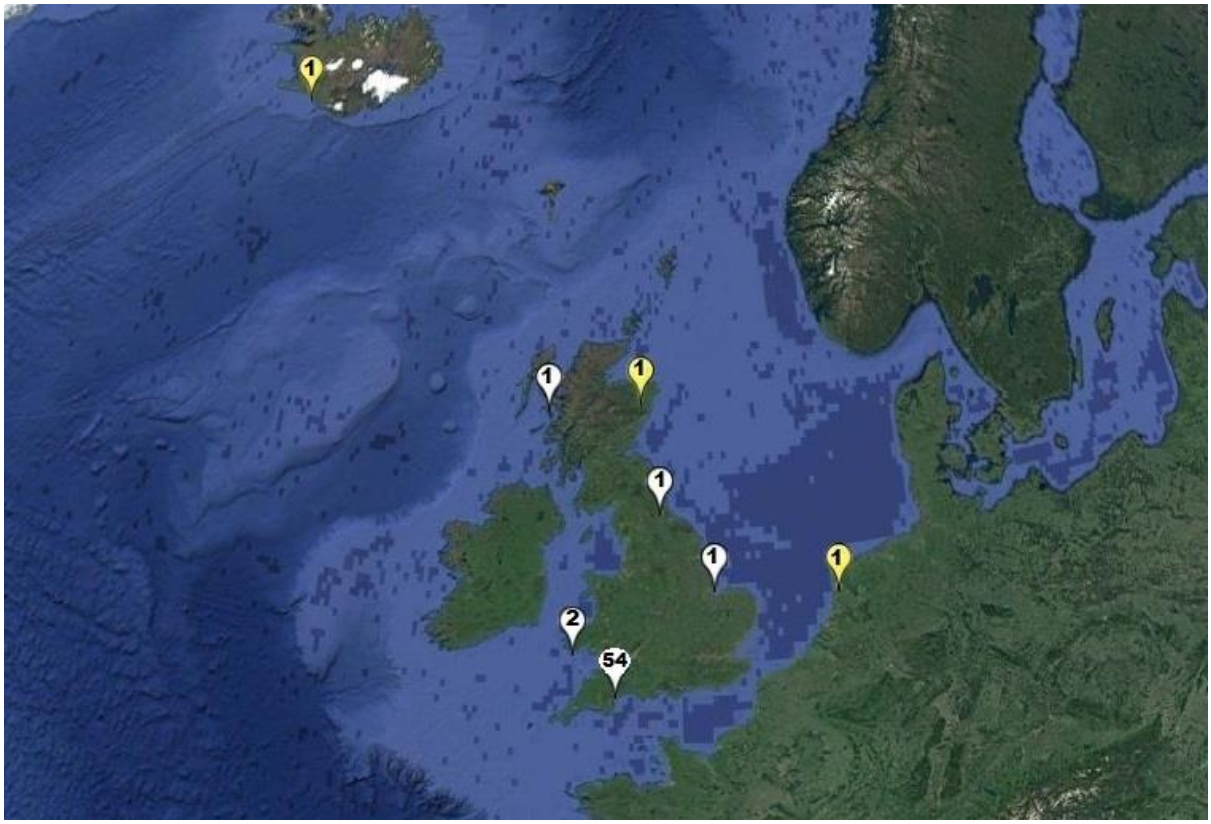
(*these figures down on recent years, attributed by the fact that I now only selectively record individuals with wasp rings only once in each given month over the autumn/winter period. In previous years recording each and every read*).
Timings: all year round

A healthy percentage of the birds regularly observed onsite are ringed (c.10%). Most of these applied during 2018/19 although several other additional marked individuals occur. Most of these are from an older Exe project, which due to their longevity interest me greatly as well as others that were ringed elsewhere.

I'll start by focusing attentions towards the results of my findings in regards the non-colour coded birds from 2018. Those invariably being individuals that are either solely metal ringed or some that still bear the wasp rings administered pre-2005. In late 2012 I can still vividly recall seeing a metal ringed Oystercatcher in comparatively close quarters and thinking to myself 'lets give the read a try'. In doing so I was pleasantly surprised to discovered the relative ease of acquiring a full read and buoyed by this the rest as they say is history.

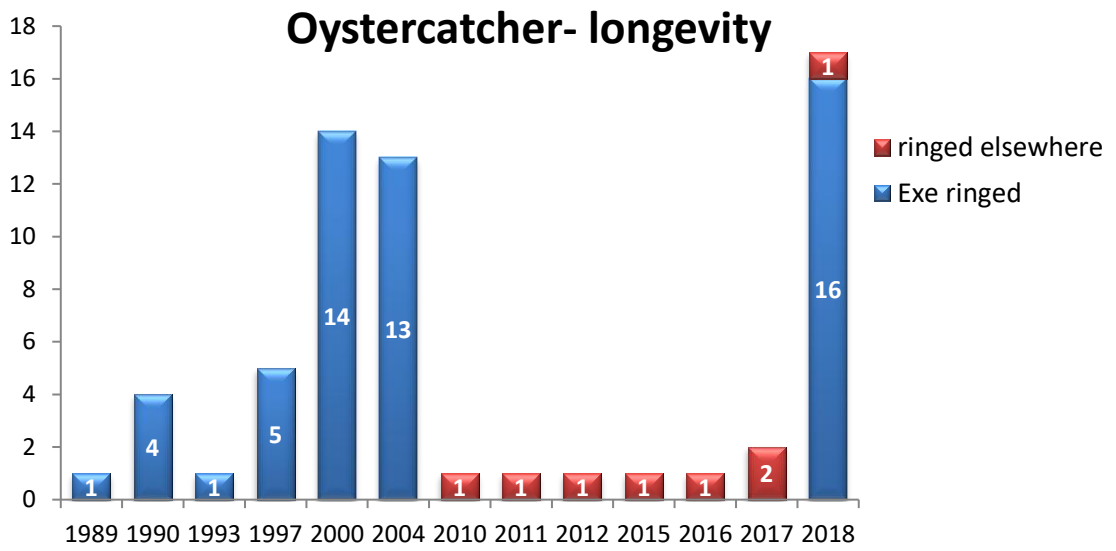
Over the last seven years I've spent untold hours doing just this, by doing so have positively identified 182 individuals, in the most part due to their often close proximity in front of the hide. Along the way it has brought about a fair degree of challenges. Throughout those early formative years remaining resolutely determined to overcome and defy the readability issues that often presented themselves. Through this mindset and self taught nature married with a dogged persistence to succeed the results would follow. In time my achievements gaining widespread acknowedgement and respect, especially given some of the invaluable longevity accounts that recorded.

Where they were ringed:



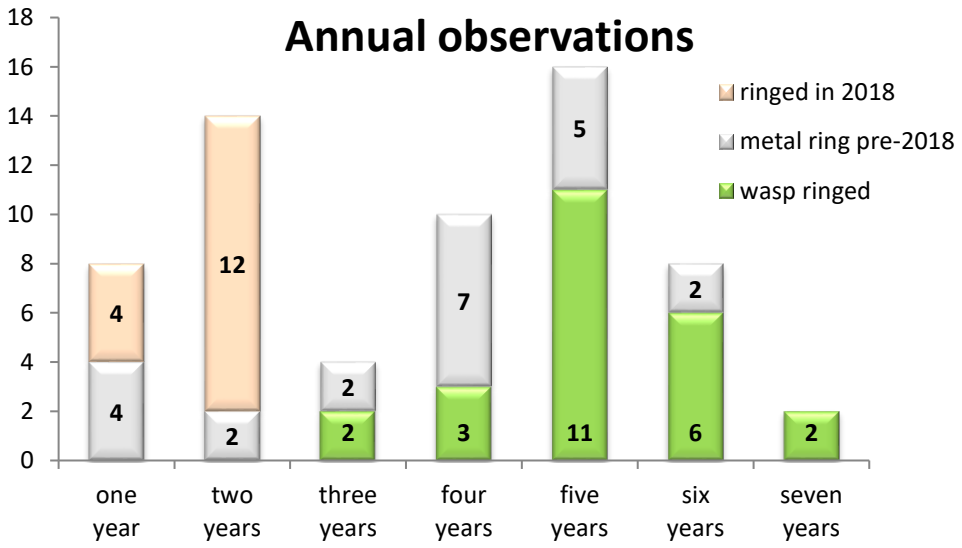
Longevity: This is fundamentally the key aspect of why I continue to monitor and undertake reads on all of the non-colour coded marked birds. During the 1980/ 90's through to 2004 ringing was irregularly undertaken at Dawlish Warren. Large numbers were caught, some solely metal ringed while many of the later individuals applied with additional barred colour ring known as a wasp ring. To my knowledge no-one from 2004 or thereafter persisted in monitoring these birds on the Exe Estuary until my intervention back in 2013. To this day I alone undertake the monitoring of these birds and the outcome has indeed brought a great deal of success in respect of establishing the longevity of the small numbers that still remain.

This next chart shows the results of all my reads gained throughout 2019 in respect of <u>when</u> they were ringed. What it shows is that well over 60% recorded were over 15 years old, a few close to double that age. What is also worth a mention which the graph doesn't address is that not every marked bird seen onsite would have been read. With a four figure sum wintering onsite gaining a read on every bird is hypothetically impossible and testified by the fact that just 16 of the 40 applied with metal rings in 2018 were positively identified this year.



Taking this a step further, by focusing solely on old wasp ringed individuals, for these are the most readily identifiable, 21 were positively identified between July/ December 2019. These rings applied onsite between 1989 and 2004. In comparing this directly against similar observations made twelve months prior when 26 were present it suggests an annual survivability rate of just over 80%. This figure interestingly falls in line with a similar research made on the birds ringed throughtout 2018, which is discussed in more detail **here**.

The graph generated below is interesting. Its aim to plot 2019's core data in a manner to represent how many years each individual has been recorded by myself onsite over the last seven years. In understanding what it illustrates is crutial. The key element being year on year site fidelity. Individuals bearing a wasp ring, these applied pre-2005 show the strongest tendency to be re-read, showing the visual importance of their application. It also shows that individuals either new for 2019 or with one addition previous years resighting is heavily bias towards birds ringed in 2018.



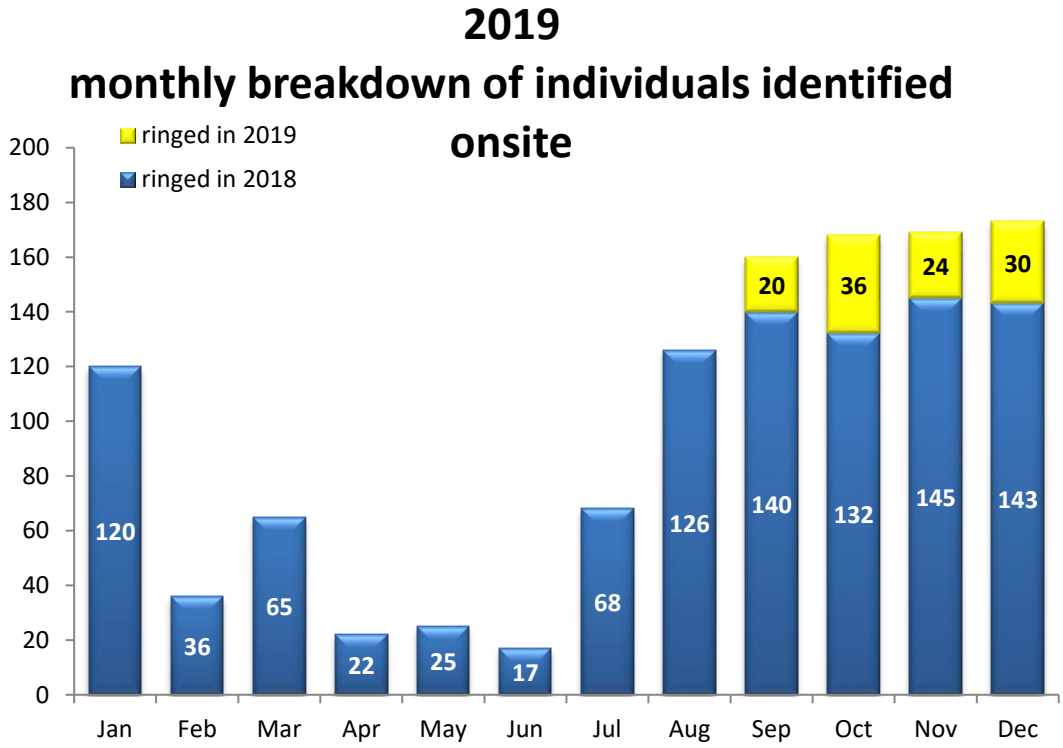
2018/ 19 colour-coded ringed birds

Individuals identified during 2019: 231
Number of positive field reads made in 2019: 1379. This figure would have been much higher but for me only recording individuals once in any given month from July through to years end.
Timings: all year round

I'll now turn my attention towards the individuals caught during 2018 and 2019 that were applied with a blue coded rings. A decline in numbers both nationally yet more significantly locally prompted Tim Frayling to set up a new ringing team called the Devon and Cornwall Wader Ringing Group (DCWRG). A key objective from the outset in forming this group would be to once again study the Exe Estuary wintering Oystercatcher population, bringing an end to a 14 year absenteeism of ringing onsite. Several successful catches were made throughout 2018/19 in which 262 were marked with blue colour-coded rings including 21 applied with additional GPS trackers. The very readability of these rings would ensure a dramatic increase in recovery sightings in which I would play a major role.

During 2019 I'd devote a significant allocation of my time to recording them onsite and over the next few pages will document some of my findings. I'll start by highlight by way of a chart a monthly breakdown of the individuals I observed.

February's results impaired due to me being out of the country for most of the month but gives a clear indication of a drop off from February through to June. This in line with adults departing to breeding grounds, the small numbers that would remain over the summer non-adults.



The figures of those individuals ringed in 2018 and recorded from August 2019 through to years end is interesting. There is some degree of consistancy to these monthly figures. The margin of difference is fairly narrow and yet despite my best effort over those corresponding months each one would never better more than 84%, as 173 overwintered.

Given this vast array of data now available at my disposal it was inevitable that a natural interest in their survivabilty ensued, provoking me to analyse the data I'd personally acquired on the 219 individuals ringed throughout 2018. Here's a detailed breakdown.

Ringed (2018)				Reads- Jul/ Dec 2019					
Date	**Total**	**Ads**	**Sub ads**	**Total**	**%**	**ads**	**%**	**Sub-ads**	**%**
Feb 2018	150	109	41	112	**74%**	81	**74%**	31	**75%**
Sept 2018	12	2	10	9	**75%**	2	**100%**	7	**70%**
Oct 2018	8	4	4	7	**87%**	3	**75%**	4	**100%**
Nov 2018	49	41	8	45	**92%**	39	**95%**	6	**75%**
Totals	219	156	63	173	**79%**	125	**80%**	48	**76%**

I genuinely had no preconceived idea on what the outcome would reveal, although having studied in great detail other marked birds from an older scheme over the last few years I'm aware that some individuals still remain some 30 years later after being ringed. Breaking matters down further, would it show any statistical anominalies between adults and sub-adults? This was another matter of personal interest.

The 2019 recovery data as shown above (reads) was acquired during 101 high tide visits, this high degree of coverage sufficient enough to establish a level of accuracy. The results shows that a survivabilty rate of **79**% exists, with little discernable difference between that of non-adults to adults. This figure is remarkably similar to that of the wasp ringed birds that I'd also evaluate this year.

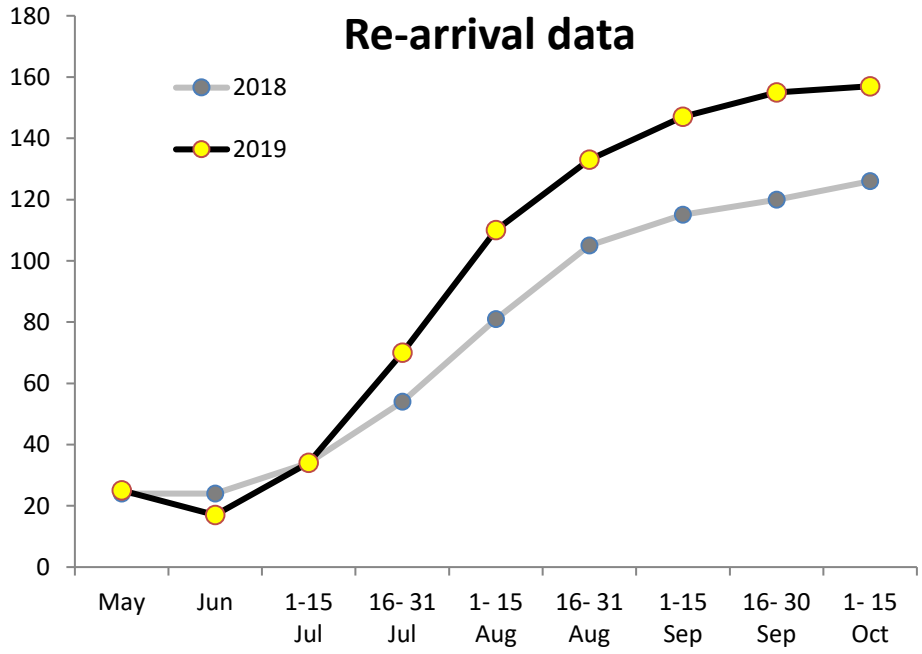
Particular interest should be drawn to the data on survivability to those caught in February 2018. These rates show no discernable difference to those caught later that year. I draw focus upon this in light of the severe weather system that followed shortly after they were ringed, infamously entitled 'the Beast from the east' that ravaged the entire country during late February of 2018.

Over the last seven years my dedication to ring reading has resulted in making over 5,700 recoveries. This has involved an inordinate amount of man-hours, my time willing devoted into looking for, the finding of and reading of these rings. An irony not lost on me is that in doing so it's the monitoring of these colour-coded Oystercatchers over the last six months in order to accomplish and evaluate these survivability rates is both my most important work to date yet the easiest form of recovery work I undertake.

Looking ahead and my aims and objectives during 2020 and beyond remain broadly similar. The monitoring of these Oystercatchers are of high priority. The simplicity, practically speaking in gathering the data needed into researching this line of interest will remain an ongoing project of mine. Will year on year rates remain broadly similar? or a dramatic change help flag a worrying decline? Only time will tell.

Taking this matter a step further, one that is especially pertinent and one I have more than a vested interest in is by calculating wintering survivability. This will allow some degree of assessment to be made to determine a local wintering rate of decline against that of their annual loss.

Over their lifespan, each individual will dedicate at least 50% of their year loyal to wintering quarters. The return data below showing that in 2019 over 76% of our colour-coded birds arrived back from breeding quarters by the end of August.



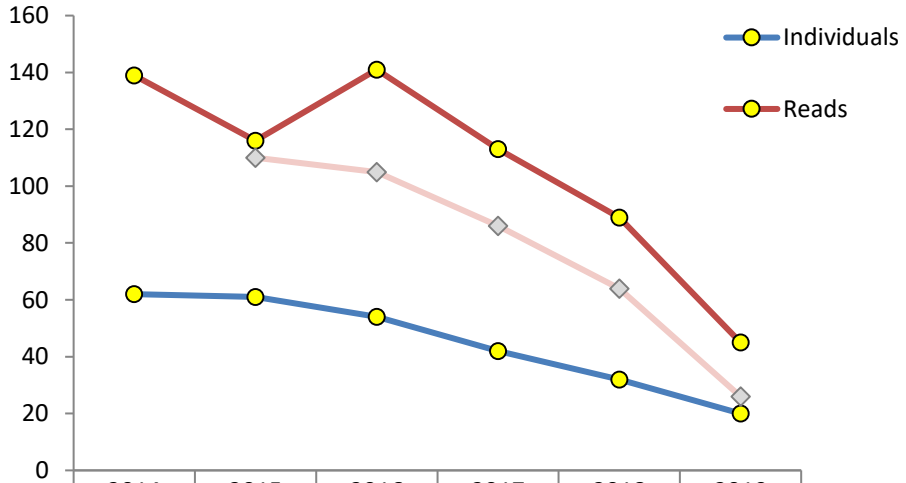
Numbers remain constant throughout the second winter period, the first signs of migratory movement appear to begin as early as the first week in February, numbers dropping although some adults, their breeding sites unknown can linger on the Exe well into the latter stages of April. It is with this in mind that during 2020 I intend to ascertain this second set of survivability rates, target driven to establish the rate of decline here on the Exe Estuary during the winter period.

I'd like to finish by saying this. Many birders display zero interest in recovery work such as this, this despite my valiant efforts. Much can be learnt by helping making a small but telling contribution. If birding anywhere on the Exe Estuary you comes across such a marked bird please don't overlook or ignore it. Make some notes, detailing the ring number, its location and date, even add a time, flock size or behaviour observed, such as feeding/ roosting and submit your findings to- exeoystercatchers@gmail.com. Get involved!

Great Black-backed Gull

Individuals identified during 2019: 20
Individuals I've now identified onsite since 2009: 255
Number of positive field reads made in 2019: 45
Timings: all year round pursuit, although most recorded between August/ December.

A very poor year, disturbingly so with regards the alarming decline. The table drawn up below clearly highlights this dramatic loss. This year, as previously, one's one individual P:87B was frequently seen. During 2019 it accounted for over 42% of my recoveries, therefore given this one bird imbalance a third dataset in pink has been added, for without its inclusion gives a misrepresentational account of reads acquired.



	2014	2015	2016	2017	2018	2019
Individuals	62	61	54	42	32	20
Reads	139	116	141	113	89	45
reads excl P:87B		110	105	86	64	26

These figures are startling, in just four years, from 2015 to present I've witnessed a huge 68% decline in marked individuals recorded, with reads acquired also showing a similar decrease. Not surprisingly this mirrors the recent decline in counts.

What of the 20 individuals noted this year. Twelve would be locally ringed, ten from nearby Portland and two from Looe. French marked birds have historically been well represented so it was most surprising that only three were recorded this year. To round matters off two would be from the Channel Islands, the remaining three eastern clinal variants from Norway.

The theme of multi-year site fidelity was again clearly evident this year. Aside from P:87B with its almost continual all year round presence 53% or eight of fifteen had at some point in time been previously recorded onsite. The four omitted from this analysis for reasons of age, being juveniles ringed this year.

The strongest degree of site attachment is most prevalent in our eastern clinal marked individuals ringed in Norway. These are indistinguishable in the field, their presence only confirmed through being marked. One such individual is JP558. This was ringed as a pullus in Harkniba in 2012 with records confirming it summers around its natal colony yet habitually found to winter in South Devon. I've personally recorded its presence thirty-one times, spanning seven years. Black JT288 shows an identical trait. It was ringed as a pullus at Knibringen in 2014 and likewise faithfully loyal to wintering here with 47 personal resightings over the last five years. The third, J24M would not exhibit a similar pattern of behaviour yet was far from uninteresting. Of the 255 Great Black-backed Gulls I've now identified onsite this would constitute my second oldest. It was ringed in June 2003, making it sixteen years old. Its blue colour-coded ring, present ever since now showing obvious signs of wear, now heavily abraded and gnarly, most of the blue base colour now worn away and the digits therefore hard to discern. Its sixteen year life history remains somewhat sparse with only six submitted recoveries, three being mine from 2019 and two in the autumn of 2014, the others within a 11 km radius of its natal colony in Norway, the last in August 2017. I can only surmise it winters to our west and drop in occasionally when passing through.

Western clinal variants, these defined as locally marked individuals don't exhibit a similar overall attachments to site. Their reappearance is invariably directly linked with adverse weather and during the second winter period it's fair to say we had our fair share of this. Given these favourable conditions the numbers assembled were relatively modest, gatherings much lower than anticipated,. The only positive observations I could draw upon suggested it had been a good breeding year based on the reasonably good numbers of first calendar year birds, four of which were locally ringed.

Smaller gatherings inevitably meant fewer ringed birds. Once, not so long ago finding marked birds was commonplace, easy and often half a dozen or more on any given day. Sadly, nowadays a sign of the times means on finding one reflects a good return,signalling my efforts are not in vain. In fact these are as important as ever, as each read made verifies its ongoing survival.

Sandwich Tern

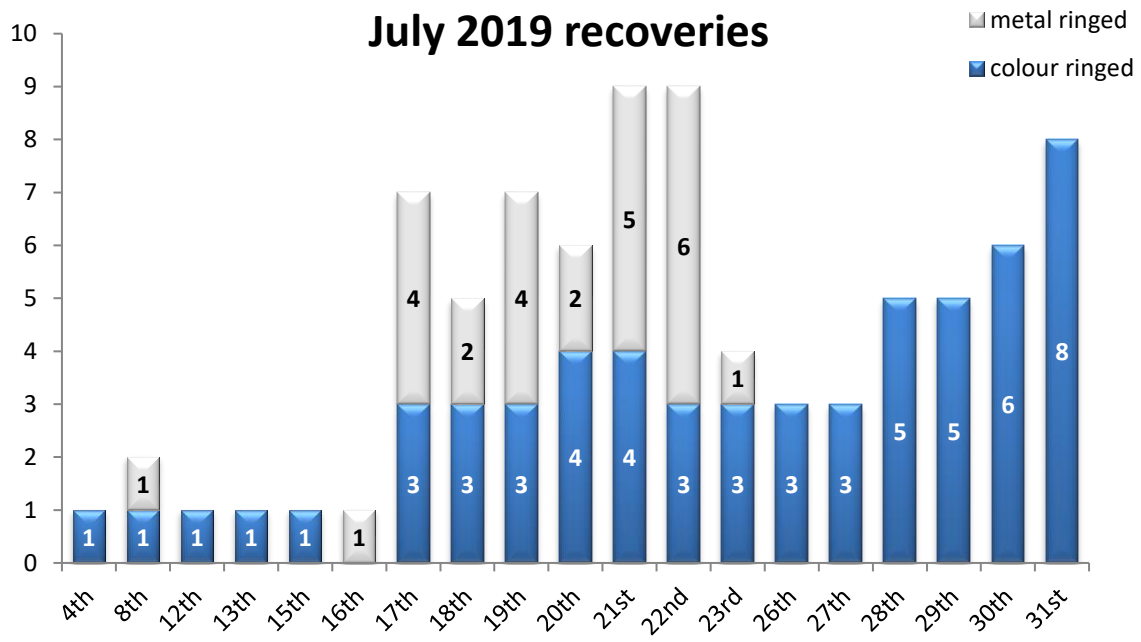
Dawlish Warren is without a shadow of doubt the best site in Devon to see this wonderful species. High tide gathering during July/ August regularly assemble in close proximity to the hide, with annual counts exceeding 200+ the norm, this years maximum being c.270 in mid- August. Broadening matters beyond our own County borders I've discovered it's actually the best site in the whole of the South West, as nowhere in Cornwall or Dorset have locations to rival ours barring the breeding colony at Brownsea Island, east Dorset.

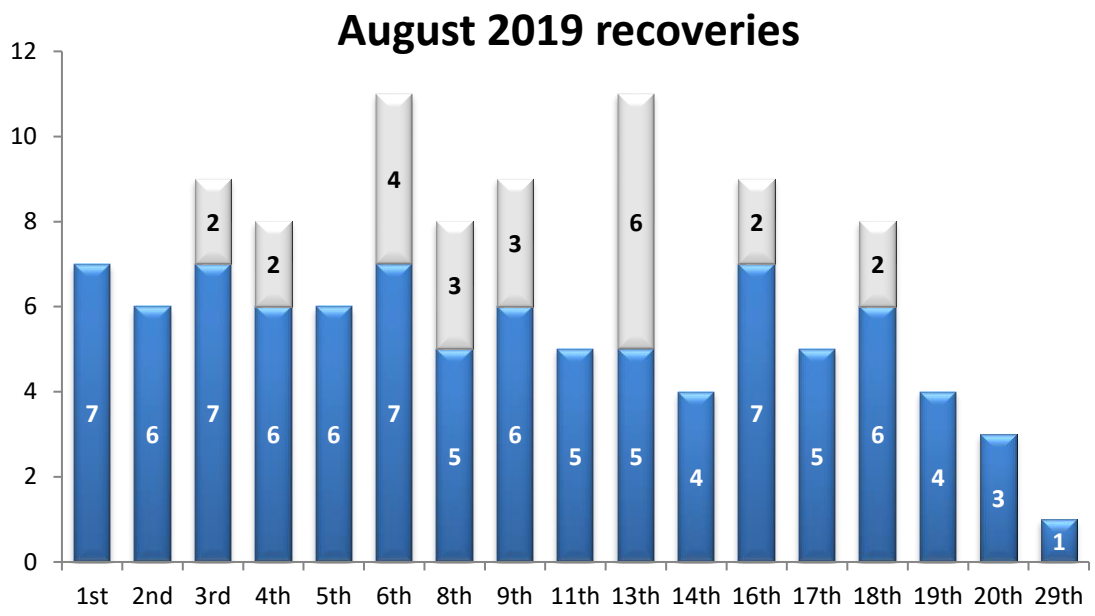
An additional and somewhat unexpected bonus this year witnessed a prolonged season. Large double figure counts remained well into early October, offering some very late opportunities to compile more reads.

Here's a detailed account of my observations.

Individuals identified during 2019: 52, (*previous best 35 in 2015*).
Total number of individuals I've identified onsite since 2013: 163
Number of positive field reads made in 2019: 209
This incredible accumulation of reads would represent my overall yearly highlight given in context the record breaking numbers. This feat a 168% increase on my previous best, that of 81 in 2016. An even more poignant representation of this figure, especially given the limited 13 week window of opportunity ranks it as my most recorded species this year. A claim I'd never believe achievable, surpassing that of Oystercatchers and accounting for 37.7% of my successful reads this year.

Timings: My first was recorded on the 4th July, with individuals identified thereafter on practically all my tidal visits throughout July and August. The heaviest concentration of recoveries, 190 or 91% were acquired over just a <u>five</u> week period between the 17th July and 20th August. My last read was acquired on the 7th October, my lastest ever by 16 days. A read breakdown: July= 84; August= 114; September= 5; October= 6.





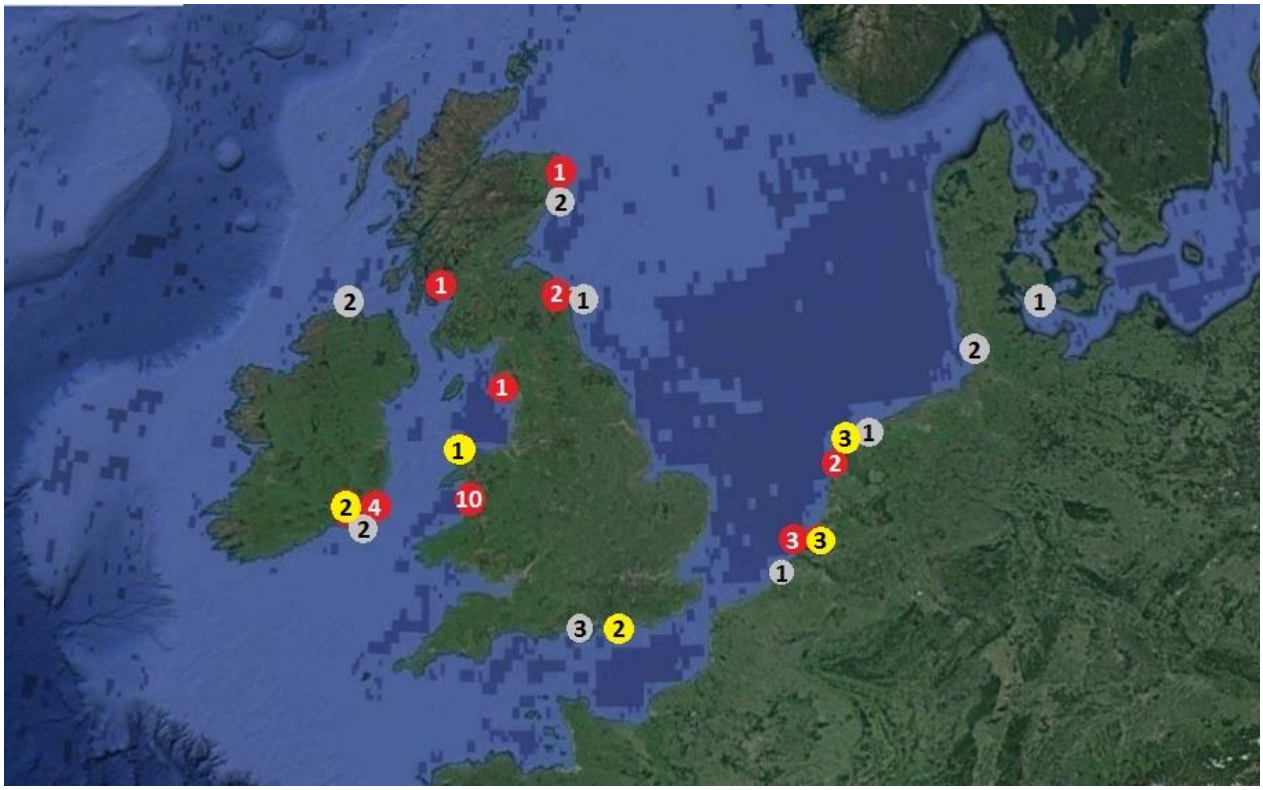
Marking types: These fall into one of two categories: coded-colour rings (predominantly) or colour-coded flags (unusual), both of which are the most visually obvious and easiest to read, whilst the other means account for solely metal rings. The latter are certainly more abundant than the former, although significantly harder yet not an impossible undertaking. Given this challenge they understandably drew far less reads.

Where they were ringed:

- **England**= 9 (*three from Pylewell Lake, Hants, two from Pagham Harbour, West Sussex, one from Hodbarrow RSPB, Cumbria and three from Inner Farne/ Coquet Island, Northumberland*).
- **Wales**= 11 (*ten from Ynyslas [a non-breeding site] and one from Cemlyn Bay, Anglesey*).
- **Scotland**= 4 (*three from Ythan Estuary, one from Clyce Port, Ayrshire*)
- **Ireland**= 10 (*eight from Lady's Island Lake, two from Donegal*)
- **Holland**= 12 (*four different colonies- three from Griend, six from Harlingvlient, two from Texel and one from Terschelling*)
- **Belgium**= 1
- **Germany**= 2
- **Denmark**= 1 (*my first Danish Sandwich Tern recovery*)
- **South Africa**= 2

To express a better understanding of these results I've plotted each on a map, the visual representation conveys a greater sense of their movement from ringing to recovery site. As you will see the overall findings show no particular structured pattern, with a diverse set of results. Ranging from a healthy collection of Irish Sea records to our northwest and many from due east primarily from Holland and other countries neighbouring the North Sea.

I've also coded the map as to differentiate between both ring types and also adults from juveniles. The use of red dots indicating colour-coded adults, grey dots metal ring adults, yellow dots that of juveniles.

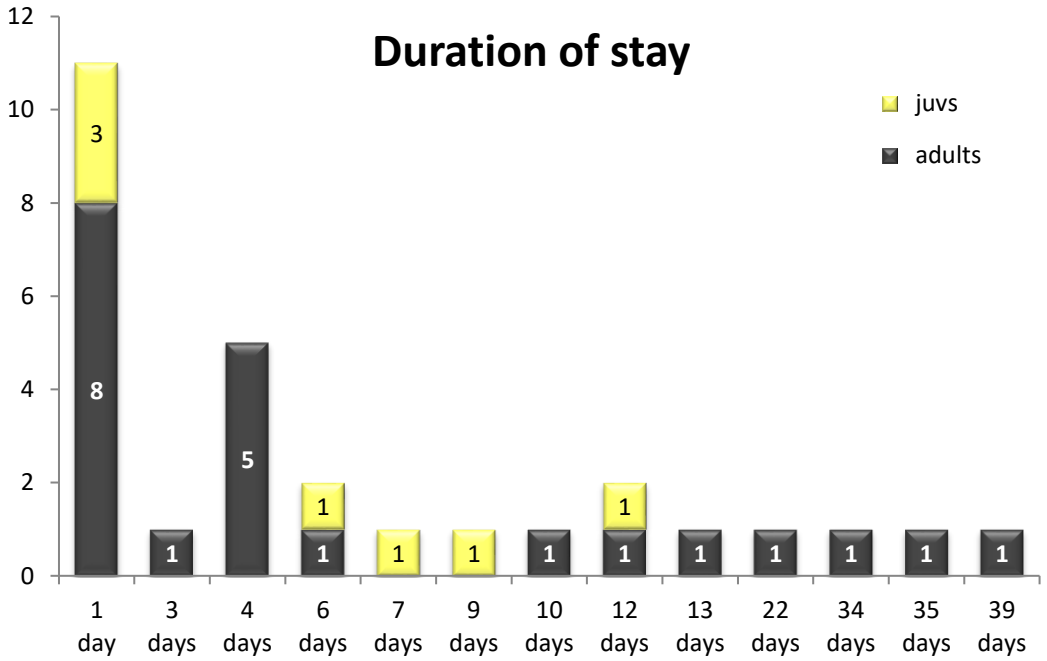


Duration of stay: First of all it's important to clarify that the birds we see in late summer are migrants, dispersing from breeding colonies and therefore not local breeders.

How long each individual chooses to stay is extremely varied. Taking the entire 2019 core sample of marked birds I'd observe it shows that 31 or 59.6% were noted onsite over multiple days. A higher rate to 2018's figure of 51%, although sample sizes and level of attendance over both years differed markedly.

As for my core sample, each individual as stated earlier falling into one of two catagories: colour-coded or solely metal rings. Twenty nine marked with colour-coded rings would account for 56% of individuals positively identified yet observationally represent over 75% of my 209 resightings. Consequently it determines that I was able to positively identify an impressive figure of 23 metal ringed individuals. These a significantly harder undertaking and given this obvious readabilty challenge drew far less reads, making analyzing their duration of stay far less straightforward.

Here's a graphic that takes data of the 29 colour ringed birds. These the more readily identifiable individuals and depicts their observed length of stay.



In reviewing this data one must first recognise that these birds are just starting out on their long migration south to far fetched lands thousands of miles away in Africa, the furthest travelled reaching South Africa. Faced by this one would expect Dawlish Warren to be a mere brief stopover and yet the results don't always back this up.

My findings are certainly varied. Single day observations clearly dominating this graph, yet representatively only accounts for about one-third recorded. Furthermore, although accurate it's likewise also somewhat misleading, as what the graphic fails to depict is that of these eleven recorded eight were noted either during early July (two) or after the principally busy period, with an additional single in late August (adult), a single in September (adult) and four very late birds in October (an adult and three juveniles). Both these periods inclined to fit in with a behaviour of passage rather than lingering birds.

To counteract this a generous percentage did linger a week or longer, three remained for over a month. These behavioural traits are very interesting and without doubt more significant yet likewise

not unique, merely underlying similar prolonged observations documented by myself over the last five years.

Multi year site fidelity: My observations over 2019 continue to show a behavioural trait whereby many marked individuals target Dawlish Warren as a migratory stopover. Do other sites in UK show this? By excluding the eleven juveniles recorded this year and therefore working with data on the 41 adults seen during the late summer period it shows that 16 had in fact been seen onsite previously, this statistically about 39%.

Of course the most readily identifiable individuals are those bearing colour-coded rings and it's these that unsurprisingly account for the majority of my multi-year observations, but must stress not all as I've also plenty of additional examples of returning metal ringed individuals too.

The greatest example of such site fidelity is red KAH, a bird ringed in 2013 in west Wales. I've been able to document its presense here at Dawlish Warren over six differing years, recorded 43 times, 15 during 2019.

Amazingly a bird caught on the same catch, arguably its offspring is red KAL. It to demonstrates a similar behavioural trait, recorded here over five different years, accounting for 21 observations, ten of these between 30 July and 11 August of this year. Furthermore, interestingly it appears to show wintering site fidelity, with observations from a site on the Western Cape of South Africa over three different wintering periods (November 2017, February 2019 and November 2019), this last observation 85 days after its last confirmed sighting at the Warren.

Red KDB, touched on earlier arguably demonstrates the greatest account of onsite fidelity. This bird ringed in 2015 again in west Wales (from the same scheme as red KAH and KAL) has been seen over four differing years, accounting for 63 onsite observations, 29 over a prolonged 39 day period this year. It's only other sighting in Walvis Bay, Nambia in December 2015.

Juveniles: A ratio breakdown between adults and juveniles is something I frequently undertake during the months of July and August. This year I found that between 30% to 35% present would regularly constitute juveniles. This proportion statistically consistent with recent years.

Recoveries of marked juveniles on the other hand didn't or indeed never have replicated this statistical figure . Of the 52 marked birds identified 11 would be juveniles (c.21%). These for me are of greater significance, for we're able to accurately document a definitive account of short term movement. Five would be ringed in **Holland**, results that were much in-line with previous findings, originating from two dependant coastal colonies some 130kms apart. Each bird inevitably drawn west, crossing the Channel in the process. Their onsite arrival indicates that the dispersal from their natal colonies, a distance of over 530 kms away isn't instantaneous. The average recovery period from date of ringing to resighting habitually stands at seven weeks.

Sandwich Tern NL3 700, Dawlish Warren, 20th July 2019, Lee Collins

The remaining six were all from British or Irish colonies, their movement varied with the closest ringing to recovery site to our east at Pagham Harbour RSPB, this some 189kms away. Two, both metal ringed came from here, one appearing just 14 days after the ring was applied. My only other English recovery was far greater travelled, ringed in Hodbarrow RSPB, Cumbria, this a site where I'd never recorded a recovery from before. An additional yet overdue first would come in the form of one from Cemlyn Bay, Anglessey, while the remaining two were likewise of Irish Sea descent but from a colony well accustomed to recoveries onsite at Lady's Island Lake, County Wexford, Ireland.

Longevity: nine individuals identified, all solely metal ringed would be at least ten years old with the oldest ringed in June 1993 as a nestling in Wexford, Ireland making it 26 years old.

Recovery analysis: Each individual that I identify is of course forwarded on to the respective ringing scheme. By doing so adding valuable insight into the particular birds life history and movement. A flurry of e-mails throughout the late summer ensued, my inbox awash with thanks and gratitude, along with the life histories of the birds in question. Seven years of regular dialogue, in particular with eight ringing schemes scattered throughout the UK, Ireland and Holland has established and firmly cemented a professional rapport, net-working forged through a common goal and raising my profile within this niche as an accomplish and prolific ring reader.

The application of colour-coded rings is now commonplace. The readability of these rings far outweighs the traditional metal ones. This practice, based on the level of recoveries now being gathered is heartening and clearly validates their usage.

A review of my data gathered this year lends a heavy bias towards adult resightings against that of immatures, a predictably inevitable outcome. My appraisal merely of adults, whom bore a colour-ring stood at twenty-two. Further scrutiny would show that a very healthy percentage of these, twelve to be precise had some degree of pre-Dawlish Warren recovery history. Broadly speaking most had only a single or at best a few resightings, hardly prolific, yet these alone made it undeniable that others were out there finding, reading and submitting their sightings.

This was all very positive news of course, although when one examines this in even greater detail only seven could account for a recovery in 2019. Over two-thirds therefore had probably bred or at the very least had some interaction I assume at a breeding colony, also made landfall during both the spring and autumn passage yet had gone undetected. Of the seven, one would solely account for a southern hemisphere resighting, red KAL seen during February and November at the very same site in South Africa.

In years gone by I've always found it lamentable the paucity of resightings from breeding colonies. Perplexed as to why so few are found there, especially when colour-ringing schemes are active within them. My views mellowed somewhat given my experiences in Iceland this year. Three were noted in such colonies, one a loyal Northumberland bird noted on the Inner Farnes, the other two in Dutch colonies, one of which showed an adept turn of speed. It present at the Warren on the 26th July, noted in Holland the day after, only to reappear back at the Warren the following day.

The remaining three would all be late summer, post breeding dispersal migrants, these discovered in Cornwall, Pembrokeshire and northern France.

Mute Swan

Individuals identified during 2019: 1
Number of positive field reads made in 2019: 9
Timings: late first winter and September through to end of year

This individual, yellow DDN was ringed in Abbotsbury in 2015.

My accumilation of observations during both 2018 and 2019 clearly indicates it over-winters on the Exe, although could in fact be resident all year round.

Pale-bellied Brent Goose

Individuals identified during 2019: 1
Number of positive field reads made in 2019: 1
Timings: December

Details still awaiting but known to be ringed in Iceland

Shelduck

Individuals identified during 2019: 4
Number of positive field reads made in 2019: 7
Timings: January, October and November

All four individuals were unsurprisingly from the nearby Axe Estuary Ringing Group (AERG) Shelduck project. Just one, a colour-coded ringed bird new for site, surprising given it was ringed in 2013. This trait is certainly not shared by the other three, each very site loyal each winter, with two in particular NJ and SL regulars over the seven years

Herring Gull

Individuals identified during 2019: 2
Number of positive field reads made in 2019: 2
Timings: May and July

Very much a standard year. Numbers wise although small very much in line with previous years figures. Based on the volume of birds present throughout the year, sometimes in very large numbers the recovery rate is certainly unreflective of the true figure that must be present. These large gatherings are in general to be found on exposed sandbars either offshore or within the estuary, far enough away to ensure recovery work is impossible.

Both birds would be found on the beach, both of a similar age, second calendar years and both from the same scheme in Bath. What is of interest is that these urban birds once fledged didn't remain sedentary, having moved southwest just about 113 kms.

Yellow-legged Gull

Individuals identified during 2019: 1
Number of positive field reads made in 2019: 1
Timings: 19th July

This is a 'new' species recovery for me, one which over the last few years I'd eagerly wanted to see. Four days prior to seeing it this bird was found at Exmouth beach by my good friend Matt Knott and must confess a pang of envy when he found it and felt I'd little chance it would hang around or get seen again. How wrong this would prove to be.

This individual was ringed at Les Ains, **France** as a nestling just 69 days prior to seeing it. Its life history showed it stayed at its natal colony until at least the 4th July and upon fledged moved north, travelling over 500kms when reappearing off the mouth of the Exe Estuary.

Yellow-legged Gul R:OF5, Dawlish Warren, 19th August 2019, Lee Collins

Black-headed Gull

Individuals identified during 2019: 9
Number of positive field reads made in 2019: 13
Timings: most mid July/ late August, plus first ever October record

July customarily see's a large influx to the River Exe, although most prefer to feed or roost further up the estuary. Evening high tides offer the best opportunities to scrutinise and gather reads. This can attract large numbers to assemble around Warren Point to feed although the numbers that now congregate here pale into insignificance from just a few years ago.

Due to the vast wealth of recovery opportunities during this time of year, time management would unavoidably have its repercussions. Opportunities to scan the beach for small gulls were almost totally neglected this year, devoting my efforts to tern-based work instead. Given this enforced lack of involvement much to my surprise my recovery rate was comparible with 2014, my best ever.

Nine individuals were positively identified, most being adults plus a single second calendar year bird. Four of these birds had been seen onsite in previous years, reaffirming post breeding dispersal site fidelity including three colour-ringed birds from **Poland**. New birds would all be of British origin, one from Dorset plus two from both Berkshire (Hosehill Lake) and Essex (Pitsea Landfill).

Mediterranean Gull

Individuals identified during 2019: 7
Number of positive field reads made in 2019: 7
Timings: mid July/ late August

A yearly review shows that eight marked birds were identified and on reflection a reasonable return, although in light of 2018's haul of 26 still very much fresh in the memory tinged with a degree of underwhelming disappointment. In truth 2018's results were totally unreflective in comparison to previous years..

Three of the eight birds identified would be juveniles, two metal ringed birds from **Belgium** and a colour-coded one from **Germany**. Of the remaining five, all were marked colour-coded birds, two ringed in **Poland** and **Belguim**, with the last from **Germany**. Both Belgian birds of interest in the context that both show some degree of post breeding dispersal site fidelity, particularly white **3EXH**. It ringed as a pullus in 2013 and has been noted almost annually here since 2014.

Common Tern

Individuals identified during 2019: 1
Number of positive field reads made in 2019: 2
Timings: late July/ early August

Common Terns recoveries are a bit of an enigma for me, especially given my undoubted success with Sandwich Terns. It's true we see far less Common than Sandwich Terns but of those I do see I would estimate at least 20% would be marked. The problem that I'm constantly confronted with is that virtually all only bear a metal ring and given the size of these, in addition with their proximity from the hide, invariably leads to a failed outcome.

Common Tern, Dawlish Warren, 9th August 2019, Lee Collins

Yellow P41 would be only my second ever colour-coded individual. It was found on the 1st August and much to my surprise was seen again on the 9th.

Much like my findings with regards other small tern species recorded this autumn it too formed part of an Irish Sea recovery theme. A bird I was to discover was ringed in 2017 as a fledged juvenile in Dublin Bay, **Ireland** and my sighting would represent its first ever recovery.

Other reads of metal rings were attempted, each rather frustratingly failed to lead to a successful outcome. One worthy of a mention suggested it to be Swedish ringed.

Roseate Tern

Individuals identified during 2019: 5
Number of positive field reads made in 2019: 6
Timings: Late July/ early August

Roseate Tern recoveries undeniably rank as my most sought after. They are a very challenging proposition and therein underlies my motivation and desire to accomplish these reads. Over the last few years I've successful identified five individuals, four being from Rockabill in Ireland, the other from Coquet, Northumberland.

In positively identifying another five this year was a phenomenal haul, far exceeding expecations, especially given the poor showing over the last two autumns. It would all start on the 20th July when a single bird would join the roosting Sandwich Terns.

Roseate Tern, Dawlish Warren, 20th July 2019, Lee Collins

The following day four birds were present, a high late summer count by recent standards. News was put out early and so found the normally quiet hide somewhat over crowded. Three of them were marked and given this I was hell-bent on securing reads of as many as possible. A prolonged and careful vigil ensued until I was confident all three had been read. By doing so confirming all were different to yesterday's individual. The following day two were again present and based on a combination of bill pattern and ring combination I was adamant these were the same from the day before although unable to secure a positive read to confirm this.

Roseate Tern, Dawlish Warren, 21st July 2019, Lee Collins

Several weeks later my fifth read would be made on the 8th August, also noted on the 9th.

Roseate Tern, Dawlish Warren, 8th August 2019, Lee Collins

All would be adults and the resulting feedback from the coordinator would show them to be from **Ireland**. Now given the large numbers that breed there this wasn't unexpected. Four would be from Rockabill, the other from Lady Islands Lake, County Wexford.

What is in fact the most interesting discovery is that a pattern is now emerging in that the birds we're seeing onsite are all of a similar age. Each individual concerned was ringed as a pullus (nestling) and given this we know each birds true age. Third calendar year birds are invariably non-breeders, making there first migratory journey north as during the previous year (their second calendar year) having remained in winter quarters. Four of the five identified or 80% were ringed in 2017, making them 3cy's, the other a 4cy.

Significant or coincidence? On this years findings alone it could be levied merely an interesting pattern of occurance and nothing more. That is until you take all ten known onsite recoveries into consideration, whereby we see that 90% are all of the same age, third calendar years.

Little Tern

Individuals identified during 2019: 2
Individuals I've now identified between 2014/19: 5 (*these being the only recoveries in Devon*)
Number of positive field reads made in 2019: 4
Timings: 30th/ 31st July

These recoveries remain some of the hardest for me to accomplish. Their tendancy to avoid close enough views, combined with the fact the colour-coded rings are miniscule ensures an element of luck and patience is needed in equal measures.

In late July four birds would spend two days onsite, two of which were clearly marked, one green ringed, the other yellow. Securing reads on both would require patience and on the ebbing tide they would finally join the Sandwich Tern gathering allowing me to confidently secure the reads on both.

The green ringed bird I knew from the outset would be from the Kilcoole project in **Ireland** having previously identified three from this scheme over recent years. This individual was of particular interest in that it formed part of their early project, ringed five years prior in June of 2014.

The second individual, a yellow ringed bird I'd assumed was from the relatively closeby colony in Dorset but later I was to discover my assumptions proved ill-founded. It was initially marked with a metal ring as a nestling at Baltray, **Ireland** in June 2013. Interestingly this bird was retrapped in 2019, whereby the yellow coded ring administered, although not at its natal colony but at the breeding site in Gronant, North **Wales**.

Whimbrel

Individuals identified during 2019: 3
Number of positive field reads made in 2019: 4
Timings: all during the first week of May

This migratory species is seen in good numbers as they pass through site during the spring, although recovery accounts based on the volume seen poorly reflected. Prior to this year I'd found just one, D63 back in 2016 and 2017. And so it is with some justification I would conclude that in finding three this year would merit a huge achievement.

The 3rd May would be a hugely significant date, for that day alone I would swell my recovery rate by 200%, finding three marked birds. All seen within a large double figure assemblage foraging on the Golf Course.

The first individual as you will see was D63, arguably the most significant find of the three. Ringed in the spring of 2015 in Wales this individuals life history is both interesting yet equally vexing. Having now been marked for 4 years its resighting history is as follows: five sightings from Dawlish Warren during April 2016, plus one from Exmouth, one resighting in April 2017 at Dawlish Warren, one resighting in August 2017, where? you guessed it, Dawlish Warren. I could now add resightings on the 3rd and 4th of May this year, further emphasising a degree of migratory behaviour yet nothing else is known about its movement in light of no additional resightings elsewhere.

My second bird, A21 was also ringed from the same scheme in west Wales. This caught in May 2011, making it at least nine years old although much like D63 nothing is known about its movement for my recovery would constitute its first resighting in eight years!

The third would prove the most challenging, for this individual was solely metal ringed. Carefully manoeuvring myself into an advantageous position without disturbing the flock the birds I procured the read. This I would later discover was ringed in Borg, NW **Iceland** as a nestling back in 2009 and once again my resighting its first.

Turnstone

Individuals identified during 2019: 2
Number of positive field reads made in 2019: 6
Timings: late March/ early April; November

This is another species that despite being commonly seen onsite has just one prior recovery, a Spanish colour-ringed bird I found in 2014.

In light of this 2019 proved to be a very productive year. The first individual, a metal **Norwegian** ringed bird found in late March proved particularly obliging. Virtually point blank views of it meant the read was a relatively straight-forward affair. It was part of a small group foraging along the shoreline near Finger Point. Two further resightings over the next 15 days implied it had probably over-wintered. Details stated it was a second calendar year bird, ringed the previous year at

Jomfruland lok in August. Verifying beyond doubt its wintering status onsite would necessitate a read during the second winter period, something I was dubious if honest that would happen. Much to my delight and dispel such pessimism I'd rediscover its presense in late October.

The second individual, this an orange colour-coded flagged bird by contrast was seen only once in late November. It ringed only 82 days prior at Schiermonnikoog, Holland.

Given it was found in late November my instinct leant towards it also over-wintering. It may well have done so, the Exe Estuary is vast, Turnstones common, so it may well still be present locally, although avoided further detection by myself during the remaining five weeks of the year.

Knot

Individuals identified during 2019: 1
Number of positive field reads made in 2019: 3
Timings: 26/ 29 November

Another particular highlight for me, given that this is only my second ever Knot recovery. It long overdue, given my first was in 2009.

Found late in November within a 100+ flock the chances of it overwintering seemed high given the date found. Two additional observations followed just days later supporting this theory and although great efforts were made thereafter no further resightings during December would follow.

Being marked with a coded yellow flag I knew immediately it would be Norwegian. The coded figures faint indictating wear, hence what I'd hope a long lived individual with a rich recovery history. My hunch based on ring wear was proven correct. It being ringed in May 2013 as an adult at Brenna, Porsanger, Norway. Sadly my wish for a detailed account of its life history was dashed. Despite being ringed six and a half years ago my observation was its first ever resighting.

Dunlin

Individuals identified during 2019: 9
Individuals I've identified 2013/19: 19
Number of positive field reads made in 2019: 28
Timings: May (1), August (1), November/ December (7)

Dunlin recoveries come with a whole host challenges, hence the overall low return rate. Many circumstances contribute towards this: fundementally the primary factor lay in their concealment. We have a four figure wintering population, that over any given high tide roost in tightly formed flocks. Given this finding any in such circumstances is highly fortuitous. Non-roosting birds fair marginally better, although pose an array of differing challenges. Once active, this mobility makes the act of not only finding a ringed bird but actually reading its ring taxing. This hampered furthermore when doing so by feeding or wading in shallow water. All scenario's I'm generally faced with and I've yet to touched upon the fact such views are invariably at least 50 yards away.

This makes any read tricky, it characterised by an almost absent collection of field reads in Devon by any one else, to my knowledge only four others, all Warren-based birders have successfully achieved

this. There is no secret formula in what I do, no sagely advice to pass on. The remit behind my success equates to time, effort and a fair smattering of luck, which given my high attandance levels means that every once in a while I strike it lucky.

My first was found in May, marked with a yellow coded ring, the second marked in a similar manner was discovered in August, both clearly passage migrants. Each ringed in the autumn of 2017 at Ynyslas, Wales.

Dunlin 'U75', Dawlish Warren, 24th May 2019, Lee Collins

Historically virtually all the marked birds I've identified are done so during the winter period. Over the last few winters betweeen two to five Polish ringed birds are invariably found, accounting for on average just under a dozen reads per annum. This winter, in actual fact from the 16th November would herald a flurry of observations, by doing so prompting me to evaluate not only my recovery rate success but the reasons that lay behind this.

On the evening of the 16th November during a DCWRG mist-netting session four birds were caught and each applied with a blue coded ring and red uncoded ring. An additional bird would under similar circumstances be caught on the 17th December.

My records would show that I'd make 21 tidal visits from the 17th November to the years end. Dunlins very much occupied my mind and were obviously targeted, gaining my first read on my first visit but what was to follow was an unprecedented return rate in which 17 of the 21 visits yielded a recovery. Seven birds would be positively identified during this period, all five of the recently marked individuals plus two from **Poland**, these both ringed in 2017 at Swibno. In total 24 reads were made, a revelation in itself yet the greatest significant realisation I discovered was in the disparaging findability rate from each scheme. Four reads of the two Polish ringed birds would ordinarily represent a decent return rate, these applied with a single white coded ring. The five Warren ringed

birds by contrast had a far higher find rate with 20 reads. It could be levied that this is a 150% increase in individuals justifying the probability of refinding them to be higher, this is clearly true. But finding one of two or five within a four figure assemblege, given the constraints I touched upon earlier is an ardous task.

The single fundemental component that would differentiate between these two schemes, which by doing so radically increases the chances upon finding one lay in the application of the second (red) ring. The merit of this was initially not comprehended although ongoing fieldwork has now proven how invaluable its utilisation has been. For it's by this means and this means alone, red being such a contextually eye-catching colour that on every occasion its alerted me to the bird in question.

Dunlin 'AE', Dawlish Warren, 3rd December 2019, Lee Collins

Ringed Plover

Individuals identified during 2019: 5
Number of positive field reads made in 2019: 13
Timings: August/ October, December

Five marked individuals would be found and in keeping with most of the 16 I've previously recorded onsite before most would account for migratory birds. Interestingly four were non-adults. This heavy bias age-wise somewhat reflective of an overall trend in which 57% or 12 of the 21 I've ever seen onsite are of a similar age range.

Each encountered this year would be foreign ringed, this again 100% in line with past findings, all hinting towards recent east to west movement rather than north to south as per historic Icelandic recoveries. Three would be **German** ringed, the remaining two from **Norway**.

My first was discovered on the 6th August and also positively confirmed to be present five days later on the 11th. Based on the time of year, peak passage time for this species I considered it migratory stopover. It was ringed as a nestling on the western reaches of the Baltic Sea at Insel Landenwerder, Nordwestmecklenberg, **Germany** in August 2018. Given that it was solely metal ringed my two sightings unsurprisingly represented its only known history. In discovering a non-adult marked bird four months later in late December efforts to secure a positive read were successful and much to my surprise confirmed it to be the same individual, it clearly now over-wintering.

My second was again **German**, this a colour-ringed juvenile from Fastensee Beach. Found on the 25th September, 50 days after being ringed and remained a short period, last seen on the 29th. My third **German** bird was from the very same scheme, ringed at the same site (Fastensee), found much later on the 12 October. It was ringed as a pullus on the 15 July 2018 and interestingly I was informed was seen back at its natal colony during May/ July 2019, in which no evidence of breeding was confirmed, yet assumed to be prospecting.

Both my **Norwegian** recoveries were again via a scheme familiar to me, these fitted with a yellow coded flag to their tibias. Both were first calendar year birds, caught as migrants via mist-netting at Makkevika in September. The ringing site is calculated to be 1440 kms away from Dawlish Warren and with each turning up just 12 and 20 days after being ringed provided a great account of long distant movement over a short period of time. Much like previous autumn migrants each would stay a short while, one over four days, the other five before moving on.

With now a collection of twenty-one positively identified individuals recorded since 2013, the vast majority found being (a) colour-ringed [19] and (b) generally found whilst on migration rather than over-wintering one obvious feature prevails. This concerns the complete lack of multi-year observations, a trait I've often observed with migratory gulls and terns yet seemingly not a characteristic shared by small waders.

Scandinavian Rock Pipit

Needless to say this would be my first ever Rock Pipit recovery, it found on the seawall on the 26th October by Ivan Lakin. It was a great find in the context of recoveries, not only in the perspective of our paucity of passerine reads but a long distance resighting as well.

This individual was ringed on the 6th March 2019 at Giske, **Norway.**

Scandinavian Rock Pipit, Dawlish Warren, 17 November 2019, Lee Collins

Arctic Terns in Iceland

I'd spend 19 days in Iceland from the 10th to the 29th of June 2019 at the request of Dr Lucy Hawkes, a senior lecturer at Exeter University as part of her assembled team. Participating in the second of a three year programme. Their objective to study the annual movement of Arctic Terns using GPS tags.

Conveniently the study area chosen is a mere 10 minute journey from Kevlavik airport. The colony itself is huge, totals unknown, I'd estimate it certainly a large four-figure number. Nestled conveniently within this lies an Eider down farm, its boundaries fenced off, the intention to protect the abundant breeding Eiders from marauding Arctic Foxes or Mink predation. This 'safe-haven' is mutually beneficial to a significant proportion of the tern colony and it was from here Lucy would focus her study programme with the willing agreement of Palle, the local landowner.

This was my first experience in an Arctic Tern breeding colony. First impressions brought feelings of awe and unbridled excitement. Lucy's remit to me was straightforward. Go out, do your thing and try to find my marked birds. Now here, charged with finding so few within such an enormous colony a pang of anxiety arose, we were a long way from the relative comforts of the Warren now. Lucy being, well Lucy, beguiling, upbeat, turbo-charged and over-flowing with positive energy meant the gravitas of our forth-coming quest although challenging would be tackled head one. She portrayed, outwardly at least, no signs of negativity or pending thoughts of failure.

I'd not be alone, her assembled team, initially comprising of four fused my skillset along with those of Jo and Nicole. Both were Lucy's PhD students, each extremely accomplished in an array of capabilities far beyond my own, gifted in the modern art of GPS mapping and tracking, enthusiastic field scientists, articulate in their administration capablities, analytically outstanding and most importantly lovely people. I'd also meet and work along side Freydis and Sara, both University Lecturers from Iceland and the USA accordingly, along with Tom a photographer. Sara's research stateside in Virginia was of a similar nature, her subject matter GPS tagging Common Terns, whilst Freydis is the 'go to' person in her homeland of Iceland, publishing several articles on them.

Me, Jo, Lucy, Nicole, Palle's daughter Solvig, and Sara

The recovery of these GPS tags applied twelve months prior would ultimately define the success of our visit. The emphasis on their retrieval was therefore paramount and placed great enormity on us not only finding the marked individuals but also their nests. By doing so giving us the opportunity to recapture them by use of a tent trap and thus retrieve the tags. Repossession of these tiny devices would, it was hoped, shed light on each individuals movement over the intervening twelve months.

Lucy would divide the human resources at her disposal into two teams. Mine the early shift, starting at 4am (it's light 24 hours a day in June) and officially working through to midday, although most days I would stretch this out much longer. Our first week was devoted entirely towards monitoring. With so many birds in this vast colony and so few requiring not only to be found but also recaptured this was going to be no 'walk in the park'. My proficiency in this line of work along with what I

consider a keen eye the tools of my trade invaluable, although this change of enviroment and subject matter would prove far more challenging than what I'm accustomed too.

The challenges threw down many obstacles in our way, to paint a picture let me elaborate. With breeding season in full swing, each individuals modus operandi was simple. Once paired each would rotate between feeding offshore, thus ruling out our ability to monitor these or otherwise time devoted to incubating, whereby sat motionless in the main with legs obscurred. Point blank views from the roadside allowed for unrivalled and privileged views of this stunning species yet it was impossible and frustrating to determine if we were looking at a marked individuals during such times.

One key advantage at our disposal is that Arctic Terns display a strong tendancy to nest each season in close proximity to previous years. This willingness to do so a behavioural trait we could use to our advantage, given that each bird caught on the nest last year had been mapped.

The old adage ' there are no short cuts' perfectly exemplifies this line of work, as a vast amount of man hours were necessary and undertaken to overcome this. Time predominantly being car-based scanning, either observing incubating switchovers or nearby hangout zones, area's frequented by numerous birds relaxing from their daily ardours.

Both processes met with a degree of success, with all present playing their part, each making their own telling contribution. Initially our first tangible rewards were more biased towards finding several within beachside hangouts, all observations and details carefully logged.

Others would be discovered within the colony itself. We found a surprisingly productive haunt regularly attracting gatherings to be the quiet tarmaced road that divided the colony along with the fortuitous Eiderdown fenceposts that ran alongside it, as depicted in the picture above. Any found here held our undivided attention, many noted having caught and brought back a lumpfish were significant as they presented our first realistic opportunity to watch it return to its nest. It wouldn't take long before this were to happen, the nestsite duly marked with a view to its recapture in days to come, a watershed moment for all involved.

Within the first few days we all became quite adept in discovering and marking newly found nest-sites. Amongst a whole host of paraphernalia brought with us was a large A3 laminated map, in which data from last years marked nest sites had been carefully plotted. Early indications through cross-referencing data collected over the first few days proved enlightening. It irrefutably reinforced this nesting behavioural trait. All of the nests we'd recently located were more or less situated in the same location as the year before. The ramifications of this were not lost on us. Emphasizing that to maximise our chances of finding more marked birds more effectively it was essentially more practical to target our search on specific key locations. This means proved effective if not laborious, a few more were found although our rate of return rather than improving incrementably began to drop.

Lucy's overall aim of the tour was two-fold. With the first week now complete, a raft of resightings and nests found saw a change of emphasis from here on in. Their objective now centred on the recapture of the birds we'd found plus the necessity to increase the sample size by deploying several dozen more GPS tags on additional birds.

To achieve this tent traps were used, a procedure that would work very well. Given the amount of bodies she could call upon my role here was somewhat redundant. They'd use one vehicle as a mobile ringing station whilst I would commandeer the other and while away my time putting this to better use. Armed with my optics, camera, a walkie-talkie, flask and discovering an 80's Icelandic music channel I'd idle my day patrolling the colony, looking for, recording and photographing

whatever marked terns I could find. Mindful amongst other things that several marked birds, particularly beach or roadside habitual inhabitants had yet to reveal where they were nesting. Were they unpaired or had nested elsewhere? Subtle nuances and plumage characteristics pointed in many cases to the former.

Given the long periods of time now at my disposal several other lines of interest were open to me. Broaching this with Lucy, she by now knowing me pretty well she didn't even dwell on the matter. Giving me the sanction to do so, knowing fully well I could accommodate her interests with mine. One line of interest stemmed upon that of solely metal ringed terns, a topic we'd tackled beforehand and one she'd stated that others deemed impossible. This I knew to be inaccurate and wished to disprove this. Upon encountering one, given the close quarter views they were in fact a fairly straight-forward affair. In total I'd positively identify 15 adults, 13 of which had been ringed as nestlings at this colony in 2016, the other two from 2012 and 2014 from nearby colonies.

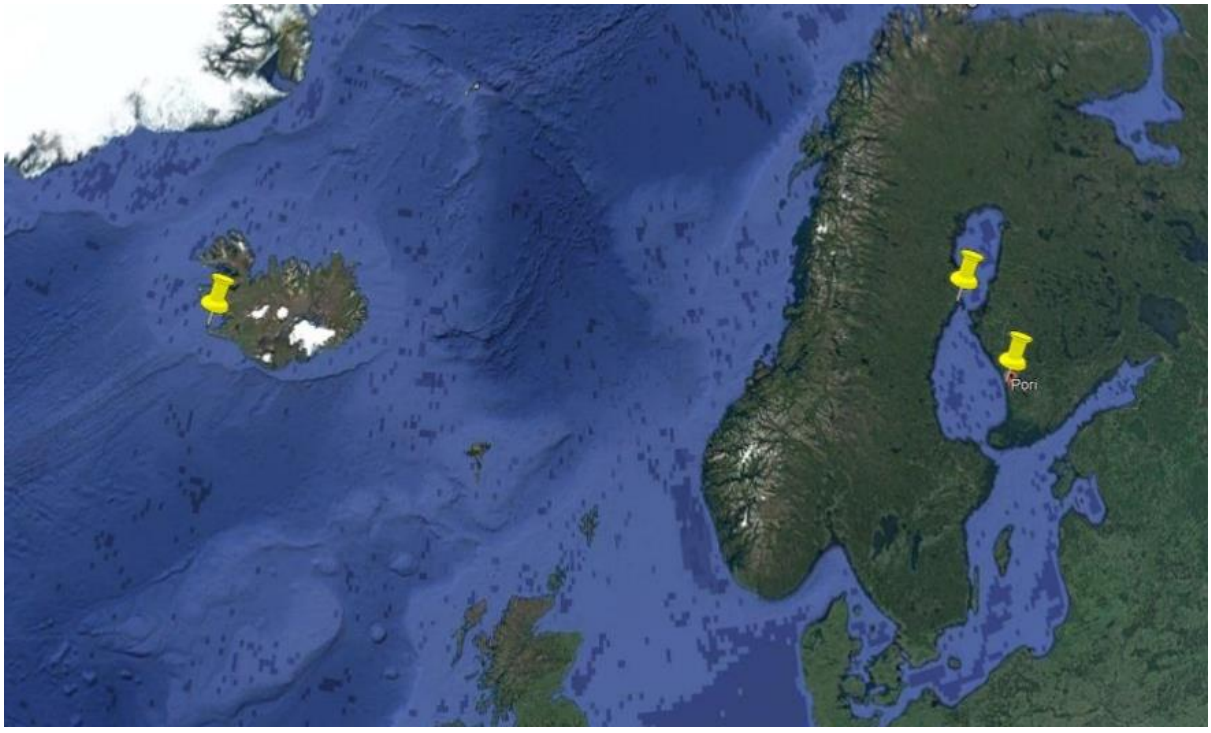
Another interest of mine centred upon sub-adults. Individuals that theoretically should have summered in wintering grounds yet were surprisingly common within the beach gatherings. Second calendar year birds, often referred to as ' Portlandica's' vied for my attention, whilst I became adept at picking out third calendar year birds from adults based on the subtle differences in leg, bill and cap colouration.

Two second calendar year birds were of particular interest to me. Easy to overlook, even easier to dismiss yet both were to prove of national interest. Each were marked, one with a white colour-coded ring the other solely metal ringed, both at the time I believed to have been ringed outside Iceland. My assumptions were to prove correct. Here they are-

Second calendar year (Portlandica)- Swedish metal-ringed

Second calendar year (Portlandica)- Finnish ringed bird- JNZ

At the time I'd no comprehension as to the importance of these finds. It was only later I'd discover that foreign ringed Arctic Tern recoveries in Iceland are very rare, too my knowledge just five prior to mine. Mine made all the more significant as being immatures. As the underlining titles imply, one was ringed in Sweden, the other in Finland, both ringed as nestlings in 2018. Both having returned north during the spring yet digressed far from its natal colony by more than 2000 kms.



Recovery map of the two Portlandica's

I'd take literally thousands of pictures of Arctic Terns, all stored on my pc, none in the public domain so I thought I'd add a few more.

My recovery work although tern-based yielded much more and during my 19 day tenure I would also note 35 marked Lesser Black-backed Gulls, all Icelandic ringed, the oldest ringed in 2002: two Herring Gulls, six Oystercatchers, two Redshank and this fine looking Black-tailed Godwit. A bird that was ringed in Suffolk in 2010.

Black-tailed Godwit

Me trying to grab a few mins rest

I loved my time in Iceland. It's a fabulous country, even if I saw so very little of it. I grew a deep fondness towards the colony and so by given the opportunity to participate I wish to finish by saying I owe a huge dept of gratitude to Lucy. She and her assembled team of Jo, Nicole, Sara and Freydis along with Eliza who we'd meet in situ were all academically brilliant, serious about their study programme whilst individually and collectively great company. My time in their presence gave me a far greater incite into some of the cutting edge technology now being deployed and work being scientifically gathered at first hand. Thank you so much Lucy