



SOUTH EAST DEVON
HABITAT REGULATIONS
PARTNERSHIP

South East Devon Habitat Regulations Executive Committee

*Exe Estuary wildlife refuge monitoring –
3rd Annual report and scheme review.*

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Teignbridge District Council

October 2021



Exeter
City Council



Legal comment/advice:

There is no direct legal comment to be made at this time, each and any individual issue will need to be considered as it arises.

Finance comment/advice:

No financial implications.

Public Document:	Yes
Exemption:	None
Review date for release	None

Recommendations

It is proposed that the Executive Committee:

1. Notes the results from the third annual wildlife refuge monitoring report.
2. Receives a future report in January 2022 proposing next steps for the refuges.

Equalities impact: Low

Risk: Low. This report provides the results of the third annual report of the Exe estuary wildlife refuge monitoring programme. These results are compared across a three year programme dataset. The objective of the programme is to determine the efficacy of the approach to preventing recreational disturbance to the protected bird species on the Exe estuary. This is important because without robust and effective mitigation which enables the partner authorities to be certain of no net impact to protected sites, continued development as outlined in respective local plans and within 10km of the estuary is at risk of legal challenge.

1. Summary

1.1 As a Special Protection Area (SPA) regularly supporting a community of at least 20,000 waterbirds, the Exe estuary is afforded legal protection against the deterioration of its habitats and disturbance (and deterioration) of the species for which it has been designated.

1.2 Disturbance can modify the feeding and roosting habits of protected bird species and place additional energetic stress through increased activity and lost feeding opportunities. This is likely to reduce fitness and survival, particularly if it occurs during periods when they are already stressed by other factors, such as poor weather, food shortage or prior to/after long distance migration.

1.3 Ongoing and regular monitoring of bird species and numbers via the Wetland Bird Monitoring Scheme (WeBS¹) shows that the majority of the internationally important populations of Dark-bellied Brent Goose, Wigeon and Oystercatcher in the estuary are found at Dawlish Warren National Nature Reserve (NNR) and Exmouth Local Nature Reserve (LNR). Protecting these habitats and species from disturbance goes to the heart of the mitigation strategy for the Exe estuary.

¹ The Wetland Bird Survey (WeBS) is the monitoring scheme for non-breeding waterbirds in the UK, a partnership coordinated by the British Trust for Ornithology (BTO).

1.4 The Executive Committee approved the recommendations to establish wildlife refuges, at Exmouth from 15 Sept – 31 Dec and all year round at Dawlish Warren, in October 2017. No fines or enforcement were suggested or recommended and an annual monitoring programme, to report over a 3 year period, was integral to the recommendations.

1.5 Following a competitive tendering process, Footprint Ecology were awarded the contract and began monitoring the areas in February 2018, prior to the official launch of the refuges². This was so that, in time, it would be possible to discern whether there were any observable changes in behaviour prior to and after the refuges were officially established.

2. The study.

2.1 The main objectives of the monitoring are:

- To determine (as far as is practicable) whether the Wildlife Refuges at Dawlish Warren and Exmouth a) work to reduce disturbance to water birds from recreational activities within these areas and b) positively contribute to the ability of the Exe Estuary to support designated bird populations in the SPA.
- To undertake a 3 year programme of monitoring (by direct observation) of the Exmouth (15 Sept – 31 Dec) & Dawlish Warren (all year) Wildlife Refuge areas, to ascertain their efficacy. Gather sufficient new data to establish the base line for new refuge areas.
- To ascertain the type, frequency and impact of disturbance events at the Exmouth Wildlife Refuge area outside of the date range of the refuge, when SPA designated species are present.
- To determine the level of adherence to the refuge areas (whether leading to a disturbance event or not).

2.2 Essential components of the survey include the following elements:

- To survey, record and quantify any disturbance events (type, response, distance, impact, species, number, time, tide) caused to water birds from different types of human activity within the refuges – on the water, inter-tidal and foreshore. This should also include activities in the refuges which do not result in disturbance.
- To survey and assess the effects on waterbirds of any consequences of displacement of water based recreational activity to other ecologically important areas in the Exe Estuary.
- Use existing studies to inform survey methodology, to ensure a growing and consistent evidence base. To use any available data (such as WeBS) to help gauge any discernible changes in the patterns of waterbird population and distribution as a result of the Wildlife Refuges.

² The first annual monitoring report was approved by the Executive Committee at their meeting on 16 July 2019.

- To compile an annual report including summary of results, interpretation of the data, full results and any issues arising.
- To compile an overarching report after a period of 3 years monitoring. This report to include comprehensive summary of results, interpretation of the data and (if appropriate) recommendations for future management.

2.3 To ensure clear and concise output from the 3 year programme, 5 key questions need to be answered by the monitoring survey. These questions look to establish how effective the refuges are:

- 1) How well are the Wildlife Refuges adhered to in general?
- 2) Are the Wildlife Refuges working to reduce disturbance to the designated bird species on the Exe?
- 3) Have the Wildlife Refuges positively affected the ability of the Exe Estuary to support designated bird populations? I.e. if a reduction in disturbance is observed, is this enough to conclude no adverse effect on site integrity for the SPA features?
- 4) If there is an insufficient reduction in disturbance to conclude no adverse effect on site integrity for the SPA features, what further actions in these areas can be taken to avoid and minimise the disturbance to waterbirds from recreational activities?
- 5) Do any particular activities continue to cause disturbance within the refuges?

2.4 As in the first year of the survey, two different monitoring approaches have been utilised:

- Core Counts, involving continued observation over a fixed time period (1 hour and 45 minutes), recording the birds present, human activity, and any interactions between people and birds, and;
- Vantage Point Counts (VPC), involving quick, 'snapshot', counts recording the number of birds present and the distribution of human activity.

2.5 Core Counts provide detailed data relating to the responses of birds and prolonged observation across a fixed recording area. This approach builds on the Exe Disturbance Study and has been developed in line with a series of studies across the UK. Each count involves the following elements:

- Two counts of birds, one count at the start and one at the end of the survey period;
- A diary of all potential disturbance events observed during the 1 hour and 45 minutes following the first count;
- A record of the response of selected bird species to each of the potential disturbance events recorded in the 'diary', including counts of birds present and the number of birds flushed, etc., and;
- Any additional information.

2.6 VPC are much quicker and easier to carry out, cover a much wider area, and are undertaken much more frequently than the Core Counts. The VPC therefore provide the best indication of how frequently there are people inside the refuges. These consisted of 'snapshot' counts, each lasting around 15 minutes, whereby a wide expanse of the estuary was scanned with binoculars from pre-selected vantage points, and a count made of any people, activities, and birds present. These counts are simple to complete and provide an easily replicated approach which meant that the Habitat Mitigation Officers were able to undertake these counts, providing supplementary data to the Core Counts.

2.7 Four survey locations have been consistent throughout the 3 year monitoring programme – two at Exmouth and two at Dawlish Warren. To ensure coverage across a range of conditions and circumstances, visits were timed to coincide, as far as possible, with the following:

- A range of weather conditions, including some dates with strong winds when water sports and sailing are likely to take place;
- Any particular events that were known to be taking place;
- Weekends and weekdays and different times of day, and;
- A range of tide states.

3. Monitoring results – Year Three summary

3.1 Key findings from the third annual report, contained here as Appendix A, represents data collected throughout the entire period February 2018 to March 2021³. As well as detailing the results of the three-year monitoring programme, the report also makes comparisons with the findings of the Exe Disturbance Study, carried out between 2009-11. The key findings are as follows:

Overview of bird numbers

- Higher counts were made at the two Exmouth Core Count locations during the autumn/early winter period, when the Exmouth refuge was active, before declining over the course of December and January.
- The largest wader counts at the Dawlish Core Count locations were generally made between mid-autumn and early winter, but with atypically large numbers recorded from Dawlish Warren in February 2021.
- There was evidence that the maximum numbers of wildfowl recorded in and around the Exmouth refuge, when the refuge was active, showed an annual increase over the three years of the study.

³ Covid-19 lockdowns affected surveys during this timeframe and is covered in the report.

Species present within each refuge

- Vantage Point Counts recorded 19 species of wildfowl and wader from the Exmouth refuge. The refuge supported very large numbers of wildfowl on occasion, and notable Vantage Point Counts were made for: Pale-bellied Brent Goose (maximum count comprising 352.9% of the 5- year mean WeBS count for the entire estuary), Mallard (119.7%), Dark-bellied Brent Goose (93.1%), Pintail (57.4%), Shelduck (80.0%), Wigeon (43.3%), and Mute Swan (39.5%). The refuge was also used by waders, with notable counts from the Vantage Point data for species such as Bar-tailed Godwit (43.3% of the 5-year mean WeBS count for the entire estuary), and Turnstone (25.7%).
- 21 species of wildfowl and wader were recorded during from the Vantage Point counts at the Dawlish Refuge (from Cockwood. Notable Vantage Point counts were made for: Ringed Plover (82.4% of the 5-year mean WeBS count for the entire estuary), Knot (67.1%), Dark-bellied Brent Goose (50.1%), Goldeneye (33.3%), Shelduck (29.8%), and Oystercatcher (29.8%).

Relative proportions of birds inside compared to outside the refuges

- The Vantage Point Counts included a large area of the estuary outside the refuges and counts were split to record the number of birds (within the Vantage Point Count area) that were inside and outside the refuge. Many more waders were counted outside the Exmouth refuge compared to inside throughout the survey period, irrespective of whether the refuge was active or not. When the refuge was active, however, a higher relative number of waders were recorded inside the refuge than when it was inactive.
- Counts of wildfowl inside and outside the Exmouth refuge were much higher during the refuge's active period, being approximately two and a half times higher overall inside the refuge compared to outside during the active period and approximately one and half times as high inside than outside during the inactive period. There was no evidence of a higher relative number of wildfowl inside the refuge when it was active.
- The total number of both waders and wildfowl counted inside the Dawlish refuge was always (usually much) higher than the number counted outside the refuge boundary.

Number of recreation events

- The Exmouth Core Count locations, incorporating areas in and outside of the Exmouth refuge, were much busier than those at Dawlish across the entire study period. Dog walking was the most commonly recorded activity at the Exmouth Duck Pond, with slightly smaller numbers recorded at Exmouth North. Dog walking was far less commonly observed at Dawlish. Watercraft dominated observations throughout at the two Dawlish Core Count locations. Exmouth Duck Pond was also a key location for recreational watersports, and bait digging was also frequently recorded.

- Peak levels of recreation activity at the Exmouth Core Count locations were recorded during the summer, although many activities still occurred when the refuge was active during autumn and winter. Activity levels at the Cockwood Core Count location, and to a lesser extent Dawlish Warren, showed a marked seasonality, with activity peaking in the summer and autumn.

Changes in levels of use since the Exe Disturbance Study 2011

- Core Count data suggest that bait digging, motor vehicles, and the number of people observed working on boats have all declined across the entire study area in the period between the 2011 and current studies.
- The data also suggests that birdwatchers, canoeists, and large motorboats at Cockwood have shown large increases in the same period, alongside smaller increases in the number of dog walkers and RIBs. All other watercraft-related activities at Cockwood have however declined.
- At both the Duck Pond and Exmouth North the data suggest a decline in the numbers of dog walkers, walkers and RIBs. The rate of observation of canoeists, jet-skis, and windsurfers at the Duck Pond have however increased, whilst both the number of kitesurfers and people accessing a boat or the water have halved. At Exmouth North the rate of observation of RIBs and windsurfers has declined sharply, but the figure for small sailing boats at that location has increased by 40%. The rate of observation of birdwatchers at Exmouth North has also increased by a large amount, and it is the only location where the number of dogs off lead has increased.

Changes in level of use inside the refuge areas since the Exe Disturbance Study 2011

- There has been an 11.9% increase in the number of residential properties within 10km of the Exe Estuary SPA in the last 10 years (with postcode data indicating around 99,093 residential delivery points in 2011 compared to 110,872 in 2021). This will mean more people living in the vicinity of the estuary and growing pressure on the Estuary for recreation. This potentially explains the increase seen in the prevalence of several recreational activities across the Exe Estuary, and the recording of several new ones, between the current study and that carried out in 2009-2011.
- Vantage Point Count data allow us to compare changes in the use of the Exmouth Duck Pond recording area between 2011 and the current study. Excluding those activities not recorded in the 2011 study, during the Exmouth refuge's active periods the number of canoes on the water, windsurfers, and 'other' (i.e. non-categorised) activities was higher overall (both in and outside the refuge) during the current study than in 2011. Conversely, the number of bait diggers, dog walkers, kids playing, kitesurfers, small sailing boats, and walkers (without a dog) was lower compared to 2011 (both in and outside the refuge).
- The results indicate that the refuges are generally being well adhered to despite a small number of participants within certain user groups (mainly dog walkers, crab tilers, bait diggers, windsurfers, and walkers) remaining an issue.

Incursions into the refuges/adherence to the refuges

- The data show a reasonable level of compliance with the refuges since their activation, although incursions (when the refuges were active) were still logged in all years of the study. Over the three years of the study, 67 incursions in total were recorded into the two refuges (when they were active) during the Core Counts and 139 were recorded during the Vantage Point Counts. The largest number of incursions were observed at the Duck Pond/within the Exmouth refuge, with the lowest number observed from Exmouth North.
- Dog walking comprised the most frequently recorded incursion activity overall across the refuges, with crab tiling/bait digging, walking, and fishing from shore also frequently recorded (although note that crab tiling is not subject to the voluntary restrictions). Incursions by windsurfers and kitesurfers were also recorded, albeit less frequently and exclusively into the Exmouth Refuge, in each year, whilst incursions from birdwatchers, canoeists, small motorboats, RIBs, picnickers, and “other” activities were noted less than annually.
- Most of the incursions recorded from the Vantage Point Counts were in close proximity to the refuge boundary. A total of 23 incursions across the 3 years involved people more than 50m from the refuge boundary (i.e. well inside the refuge), and 8 of these were crab tilers (for whom the voluntary exclusion does not apply).

Changes in the number of incursions over the study period

- In the final year of the study hardly any incursions occurred within the Exmouth Refuge during its’ active period. There has also been a decrease in the small number of sporadic incursions occurring within the Dawlish refuge since its’ activation.
- The Vantage Point Count data showed a year on year decrease across the three years in the number of observations involving recreational activity inside the refuges when they were active (although no such pattern was evident from the Core Counts).
- The relative proportion of walkers and bait diggers accessing the Dawlish refuge decreased over the study period, whilst the proportion of dog walkers accessing the refuge showed greater interannual variation.
- The proportion of dog walkers, walkers, bait diggers, and water-based activities accessing the Exmouth refuge varied across the three years of the study, although a larger relative proportion of water-based activities were observed inside the refuge during its inactive period, compared to when it was active, in the first and second years of the study.

Sizes of groups entering refuges and duration of incursions

- Incursion group sizes varied, but generally comprised 1 to 5 individuals. Larger group sizes were however noted on occasion.
- Incursions within the Exmouth refuge, at the Duck Pond, incorporated the largest number of dogs (on and off lead).
- Most incursions within the refuges were of relatively short duration, although incursions from some activities (e.g. bait digging) often lasted much longer.

Ranger visibility during incursions

The majority of observed incursions occurred when the ranger team wasn't present.

- Nevertheless, a relatively large proportion of the incursions by dog walkers (44%) and anglers (45%) occurred during survey periods when the rangers were noted as present (for at least part of the count). Smaller numbers of incursions by birdwatchers, walkers, RIBs, kitesurfers, and windsurfers also occurred during periods when the rangers were noted as present.

Distribution of recreational activity

- The southern half of the Exmouth refuge and the Duck Pond shoreline supported a large volume of recreational activity during the refuges' inactive period, whilst the smaller numbers of observations in proximity to the Dawlish refuge were mostly spread along the main channel running north of the Dawlish refuge.
- During the refuges active periods the majority of observations were made outside of the refuge boundaries, with a dense concentration of observations in the main channel immediately north of the Dawlish refuge boundary and on the perimeter of the Exmouth refuge at the Duck Pond. A small number of observations were nevertheless made inside both of the refuges during their respective active periods.

Effect of disturbance on the number of birds present

- The number of birds present at the end of each Core Count generally showed a negative relationship with the number of potential disturbance events recorded during the count (i.e. the preceding 105 minutes). In other words, when there had been higher levels of human activity there were fewer birds present in and around the refuges.
- A temporal effect was also noted at Exmouth North, with fewer activities and more birds recorded in the final year of the study and more events and fewer birds recorded in the first year.

Responses to different activity types

- At Dawlish Warren crab tiling and walking were two of the more frequently recorded activities and led to a behavioural response (i.e. birds walking away or flushed) in >40% of cases. Passing trains were observed on many more occasions than any other activity type there, and led to a short or major flight on >35% of occasions. The majority of watercraft observations caused no response from the birds present.
- At Exmouth, dog walking was the most frequently observed activity and led to a behavioural response in the birds present in >70% of cases (with c.45% of these comprising short or major flight response). Of the other more frequently recorded activities (i.e. 10 or more observations), walkers, kitesurfers, and windsurfers led to a high proportion of behavioural responses, with the former causing a major flight (such that birds were displaced >50m) in c.55% of observations and windsurfers doing so in 60%.

- Of the less frequently recorded activities at Exmouth, canoeists, fisherman, paddleboarders, and small watercraft all led to a disproportionately high frequency of behavioural responses from the birds present.

Events that flushed birds

- In general, across all the Core Counts (i.e. regardless of whether the refuge was active or not), small wader species and wildfowl were proportionately the most commonly flushed bird groups and also those with the largest numbers of individual birds caused to take flight. Most instances of flushing resulted in approximately 10% to 90% of any birds present taking flight. Wildfowl generally flew a much greater distance than waders when flushed, and larger waders flew farther than smaller wader species. Most species soon resumed their previous behaviours after individual disturbance events, however.
- People accessing boats or the water, and windsurfers, caused a larger proportion of the birds present to take flight. Windsurfers, in particular, appeared to flush a disproportionately high percentage of birds, although several other activities each led to at least 40% to 60% of the birds present being flushed.
- Canoeists, dog walkers, RIBs, trains, and windsurfing activity resulted in some large flocks being flushed, with dog walkers causing several hundred birds to fly on several occasions. Canoeists and windsurfers, in particular, flushed larger numbers of birds more frequently, but dog walkers caused birds to flush more frequently overall (when adjusted for the prevalence of that activity in the dataset).

Disturbance events within the refuge

- 1,617 wildfowl and 123 waders were seen to be flushed more than 50m (a major flight) by refuge incursion events across the study period.
- The data suggest that the number of potential disturbance events recorded per hour halved in the year following activation of the two refuges, with the number of birds flushed per hour decreasing by approximately 75%, although the latter figure rose slightly in the final year of the study. The mean number of flight responses per hour remained similar throughout each year of the study and the rate of incursions into the refuges increased ever so slightly. Furthermore, while the total number of potential disturbance events decreased when the refuges were active the number of behavioural responses seen at most of the Core Count locations increased.
- These results indicate that the relatively small number of incursions which are still taking place when the refuges are active can nevertheless result in a marked behavioural response from the birds present (i.e. causing them to flush/take flight).

3.2 The results broadly show that the refuges are well used by the birds, with some high counts and (for some species) a high proportion of the SPA population using the refuges. Recreational use in and around the refuges includes a wide range of activities, but in general relatively few incursions were recorded when the refuges were active. Nevertheless, a proportion of those occurring comprised activities well within the refuge (i.e. not just skirting the edge). Activities such as bait digging, windsurfing, kitesurfing, small motorboats, dog walking, walking, and fishing were recorded well within the refuges on occasion and these, when present, had a marked effect on the birds present, with a high proportion of such events resulting in birds being flushed (and potentially leaving the refuge).

3.3 The report goes on to state that the refuges have a role to play in providing mitigation and are part of a package of measures that includes wardening, codes of conduct, awareness raising, and the provision of alternative sites for recreation. It is this package of measures together that ensures the long-term resilience of the estuary and the effectiveness of mitigation.

4. Coronavirus pandemic

4.1 The latter stages of the three-year study played out against the backdrop of the ongoing Coronavirus pandemic. This led to restrictions being imposed upon non-local travel at several points subsequent to March 2020, which consequently affected public access to the coast during the final year of the study.

4.2 The survey visits conducted during early winter 2020/21, in particular, were carried out in the wake of a number of earlier restrictions, which were introduced and/or subsequently retracted (and occasionally reinstated) over time.

4.3 Between the 5th November and 2nd December a short national lockdown was instituted. During the lockdown schools, colleges, and universities were allowed to remain open, but overnight stays were not permitted (unless for work) and non-essential retail, hospitality venues, and gyms were closed. Furthermore, individuals were only allowed to exercise 'in [their] local area'.

4.4 This will have had implications for recreational access; with hospitality venues and gyms closed, potentially more people will have accessed the countryside in their leisure time (plus individuals who were furloughed and/or not working). However, with individuals allowed to exercise only in their local area, visits from individuals from further afield may potentially have decreased. Importantly, the South East Devon Habitats Regulations Partnership (henceforth SEDHRP) ranger team were also furloughed for several weeks in early spring 2020.

4.5 Over the course of mid to late December 2020 a series of increasingly severe restrictions were imposed upon individual Local Authorities, based upon rises in cases and mortality within their areas of jurisdiction. This culminated in another national lockdown, commencing 4th January 2021. Of particular relevance to the study, the Exeter Port Authority consequently issued a guidance notice on 5th January 2021 indicating that it did not consider that general boat maintenance constituted either sport or physical activity (permitted under Government guidance during the lockdown).

4.6 The split timeline provided in the report⁴ identifies the timings of the imposed Coronavirus restrictions in England between March 2020 and March 2021. The restrictions did not ultimately affect data collection (all survey visits were still carried out), but it should be noted that the project rationale and survey methodologies detailed in this report were not specifically designed to monitor the impacts of the pandemic on site use.

5. Summary

5.1 The Exmouth refuge is particularly important for Wigeon, Mallard, Pintail, and Dark-bellied Brent Geese, and also regularly holds high numbers of Oystercatcher and Curlew. The importance of the refuge for wildfowl is presumably due to the presence of the eelgrass beds.

5.2 The Dawlish refuge has been shown to be particularly important for wader species (especially Oystercatcher, Dunlin, Curlew, and Redshank) and contains the main high tide roost within the estuary. The Dawlish Warren refuge area is also important for several species of wildfowl (namely Wigeon, Dark-bellied Brent Goose, and Shelduck). The two refuges are therefore clearly different and complement each other in the habitat and role they provide.

5.3 A much larger number of wildfowl are found within the refuges when they are active than when they are not and the survey data indicates that the total number of wildfowl using the Exmouth refuge when it is active has increased over the study period. The data also indicates that total wildfowl numbers have increased within the Dawlish refuge since its activation. These results imply (albeit based only on 3 years data) that the refuges are becoming more important for birds over time.

5.4 Data shown in the report⁵ indicates that the number of potential disturbance events recorded from the Exmouth Core Count locations, and from Cockwood, during the relevant refuge's active period have declined in each year of the study, but varied between years at Dawlish Warren.

5.5 This translated to an approximate halving in the number of potential disturbance events recorded per hour across the entire study area, during the refuges' active periods, between the first and second years of the study⁶. This figure then remained relatively static in the second and final year. This shows that the number of events with the potential to disturb birds has decreased following the implementation of the refuges.

⁴ Figure 1, page 19.

⁵ See figure 20, page 88.

⁶ See Table 7, page 89

5.6 The number of disturbance events across the study area have generally decreased year on year⁷, although the observed behavioural responses to the remaining intrusions are often extreme (i.e. causing major flights), with the number of flight responses overall remaining the same.

5.7 The majority of incursions into the refuges observed over the study period occurred when the ranger team was not visible to the surveyor⁸. This suggests that the presence of the ranger team is having a positive impact upon the level of voluntary adherence in avoiding the refuge areas. This is to be expected and the effectiveness of the refuges is likely to depend on associated measures such as wardening, signage, awareness raising, etc.

5.8 However, incursions by a relatively large proportion of certain activity types (e.g. dog walkers) were recorded when the rangers were visible. This is potentially indicative of a) certain individuals within the relevant activity categories being resistant to the ranger's message, or b) the large numbers of individuals carrying out a particular activity, such as dog walking, limiting the overall number of possible interactions with the ranger team, or c) that those entering the refuges are able to avoid the wardens (e.g. by accessing the shoreline at a different location). These incursions have a disproportionate impact on the birds present.

5.9 The report states that the results provide evidence that the refuges are playing a role in providing foraging and roosting habitat for the SPA bird interest and ensure that a range of disturbance-reduced areas are always available for birds to use. It goes on to state that it is clear that the refuges on their own are not a panacea to completely address recreation impacts on the SPA, but rather they fit within a package of measures.

5.10 The importance of the refuges is likely to change with time, particularly if the number of incursions continues to reduce with time. The use by birds will likely be affected by changing conditions around the estuary and also be dependent on the levels of disturbance in other parts of the site. The pandemic has highlighted how access levels and types of use can change in unexpected ways and it is not clear how access levels might further change in the future, in the post-pandemic period.

5.11 The report highlights that the number of birds using the refuge areas and wider SPA, and their distribution within them, is not solely driven by recreational activity. Variation in bird numbers year to year may be affected by a range of different factors, including adult survival, breeding success, as well as food availability, water quality, and climatic impacts.

5.12 This report provides an overarching review of the results of the 3 year monitoring scheme, established when the refuges were approved by the Executive Committee in October 2017. It is recommended that relevant members of the Officer Working Group form a sub-group to work to propose next steps in a report to a future meeting of the Executive Committee.

⁷ See Table 7, page 89

⁸ See 5.45, page 66

Fergus Pate
Principal Delivery Officer

Teignbridge District Council
October 2021

Natural England comment:

We commend Footprint Ecology on collection of this extremely valuable monitoring data, which meets the objectives set in paragraph 2.1.

Of the five questions in paragraph 2.3, the report can give a qualitative answer to Q1 and Q4, however we advise that to fully answer Q2, 3 and 4 in relation to the integrity of the Exe Estuary SPA will require further discussion with Natural England.

We agree that further monitoring should be undertaken, because:

- a) Data for a longer period of time will allow more robust conclusions to be drawn;
- b) To allow for any effects of the pandemic on recording, also changes in recreational activity.

The timescales for the monitoring will need further consideration but we recommend a budget should be considered for this purpose.