

Alderney's West Coast and Burhou Islands

Ramsar Site and Other Sites

Annual Action Programme

2019

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List of Acronyms

ABO Ltd – Alderney Bird Observatory Trust Ltd (a group being formed at the time of writing from the previous ABO Committee and Warden)

AIA – Apparently Incubating Adults

AOB – Apparently Occupied Burrows

ARS3 – Alderney Ramsar Strategy 3

ARSG - Alderney Ramsar Steering Group

AWT - Alderney Wildlife Trust

BPL – Bird Protection Law

BTO – British Trust for Ornithology

CIBRS – Channel Island Bird Ringing Scheme

GONm - Groupe Ornithologique Normand

GPS - Global Positioning System

GSC – General Services Committee

IUCN - International Union for Conservation of Nature

JNCC – Joint Nature Conservation Committee

RSPB – Royal Society for the Protection of Birds

SoA – States of Alderney

T.A.G – Track A Gannet

WeBS – Wetland Bird Surveys

Executive Summary

This action plan describes the work to be undertaken in 2019, within the Alderney West Coast and Burhou Islands Ramsar Site and associated areas, as required under the States of Alderney's (SoA) Ramsar Management Strategy 2017-21 (ARS3; SoA/AWT, 2016) and incorporates input and review from members of the Alderney Ramsar Steering Group (ARSG). The document contains all the operational details as proscribed by the ARS3 strategy, but the following summary collates the main points for quick consideration.

This year, the Alderney Wildlife Trust (AWT) would like to set procedural goals for 2019 and beyond. Going forwards we would aim to submit this document to the SoA Member for the Environment for briefing before presenting to the General Services Committee (GSC). When the Annual Action Plans are submitted to the GSC, the AWT is then requesting approval to undertake works as proposed within the document and at the same time is committing to the delivery of said works (resource and weather dependant). All works proposed are necessary for continued monitoring and management of the Ramsar site and to meet the obligations of the Ramsar Convention. If the GSC have any issues concerning particular items of work within the Action Plan, these can be brought back for consideration at a later date once the main plan has been approved.

The main objectives proposed for 2019 include continuation of;

- seabird monitoring and management, as continued long-term effort, to include bird ringing (currently to be undertaken by the ABO Ltd and/or CIBRS) and T.A.G (co-ordinated by the Alderney Ramsar Steering Group), following full ethical and practice review and the subsequent issuing of individual ringing licences by SoA. On-going T.A.G research provides data to identify important bird areas at sea and can inform decision making such as regarding future developments in the marine sector. As in previous year's puffin monitoring cameras will be installed on Burhou and,
- following success in 2018, a voluntary puffin exclusion zone on the coast on Burhou will be in place during the breeding season, coinciding with Burhou's closed period, in collaboration with stakeholders and the Alderney Harbour Office.
- In order to protect sensitive seabirds, a small mammal monitoring and control programme will be implemented where necessary with the support of the SoA Public Services Department, with the aim of improving seabird nesting success on Alderney's south coast, it is hoped we may see Puffins return to nesting sites on mainland Alderney.
- AWT aims to support and undertake research into the impact of human debris on Gannet colonies in Alderney (subject to funding), working with the Alderney Animal Welfare.
- Marine monitoring will continue with surveys of the environment (e.g. cave systems) and important species (e.g. seals and green ormer).
- Public participation, events and publications will be organised to increase awareness of the site, in particular, the AWT, working with the Guernsey Youth Commission and St. Anne's School, has committed to take local school children on educational boat trips of the site. The aim will be to give every student from year 7 upwards the opportunity from 2019 onwards.

AWT continues to support the SoA and its Ramsar site, by acting as the co-ordinator for works, working with a variety of groups so that Alderney can deliver one of the most advanced and proactive research and conservation programmes of any Ramsar site within the Channel Islands.

N.b. In 2006, the Alderney Ramsar Steering Group (ARSG) was formed, made up of interested parties and independent experts across the country (e.g. RSPB, BTO, States of Jersey, CIBRS) which provide advice and guidance on all aspects of Ramsar management. The Alderney Ramsar strategy is made possible through the SoA's Ramsar budget, support from SoA departments, as well as the AWT's staff contributions estimated at 1500hr's per annum and additional funding for work such as the seabird foraging studies (T.A.G) contributing a total of £10,971 between 2015 and 2018, and educational boat trips for students of St Anne's school, estimated to contribute £1,200 for 2019.

1. Introduction

In 2019, Alderney's West Coast and Burhou Islands Ramsar Site (Figure 1) enters the third year of its third five-year Management Strategy (ARS3; SoA/AWT, 2016).

This document highlights the planned works to be carried out during 2019; adhering to requirements set out by the 5-year Management Strategy, and with consideration to the 2018 Annual Review of the Ramsar site (AWT, 2018a). Section 3 lists all work planned to take place this year, with estimated time periods the work is to be carried out in brackets. Further details of selected items are marked by reference number to the appropriate paragraph in section 4.

2. Background

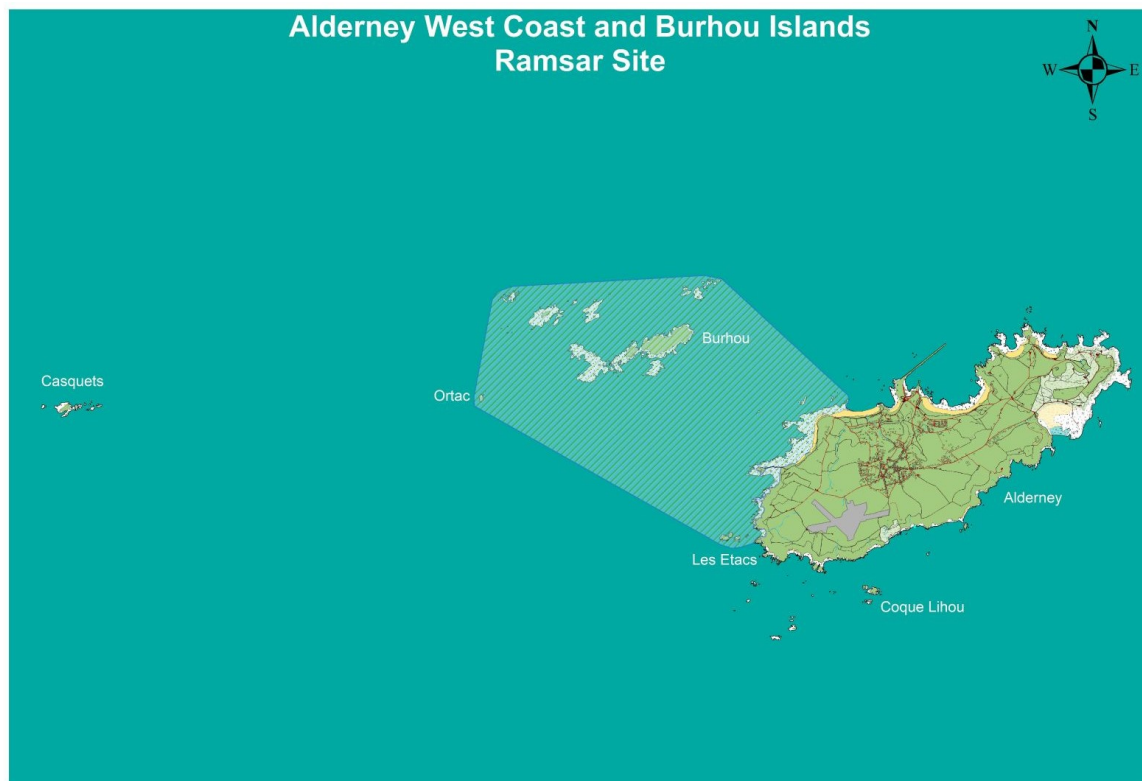


Figure 1: Shows the Ramsar site boundary in relation to Alderney and its surrounding islets.

On 25th August 2005, the Alderney West Coast and Burhou Islands Ramsar Site was designated and gained global recognition as a wetland of international importance under the Ramsar Convention.

The site covers 1,500 hectares of land and sea and was the first site to gain Ramsar designation within in the Bailiwick of Guernsey.

In 2006, on behalf of the States of Alderney (SoA), the General Services Committee (GSC) requested the support of the Alderney Wildlife Trust (AWT) in the preparation of a management strategy, as required under the commitments of the Ramsar Convention. The completed Ramsar site strategy outlines the need to monitor seabird population trends (including population and distribution assessments) and to continue the management of these populations where necessary.

The objectives of the strategy are assessed annually through various research projects and conservation management techniques. The Ramsar Site 5-Year Management Strategy and Annual Action Plan are prepared by the AWT on behalf of the SoA.

All Ramsar reports are developed and reviewed in consultation with the Ramsar Steering Group (ARSG). The ARSG was established in 2006 to support the AWT and SoA in the effort to create management strategies. The group is made up of both interested parties (staff of the AWT), and independent experts (e.g. RSPB, BTO, States of Jersey, CIBRS). The ARSG have been involved in developing and reviewing all 5-year Management Strategies as well as meeting annually to review each year's work against both the ARS and the annual Action Plan, and contributing to the drafting of the subsequent year's action plan.

3. Objectives

To meet with the objectives of the 2017- 2021 Ramsar Site Management Strategy, the following areas of work are to be completed in 2019*.

**Please note that by approving this Action Plan the SoA is agreeing to all the proposed work therein. Similarly, the AWT commits to the delivery of the work described (accepting the availability of resources necessary and favourable weather conditions) and accepts the Committee's requirement to inform the appointed SoA representative if any aspect of the work requires significant alteration from the parameters contained within the Action Plan, or if any new element of work not described in the Action Plan is found to be required, prior to altering the details of the Action Plan.*

3.1 Seabirds

- 3.1.1 Re-installation and maintenance of the puffin monitoring cameras and equipment on Burhou, for seabird monitoring and streaming online (March – August; see 4.1.1).
- 3.1.2 Continuation of all seabird monitoring on Alderney, Burhou and other islets (Puffins: February - August; Gannets: March - September; Fulmar: May/June - August; Common Terns: May – August, Ringed Plover: April – July; see 4.1.2).
- 3.1.3 Support academic research into the impact of human debris on gannets, providing data on entanglement and mortality rates (April - September; see 4.1.4). Attempt to secure funds and investigate working with Alderney Animal Welfare to further investigate gannet mortality by performing autopsies on birds washed up on the island. This will be undertaken specifically with a view to establishing the impact of anthropogenic debris.
- 3.1.4 Work with the Marine Management Forum to continue supporting a voluntary marine exclusion zone around rafting puffins during their breeding season, through liaison with stakeholders, building on success in 2018 (see appendix 6.1; exclusion zone in place March - August).
- 3.1.5 Review the possibility of creating a full marine exclusion zone around rafting puffins by issuing a notice to mariners, which would identify this zone on marine navigational charts. This will be dependent on resources and the support of the Alderney Harbour Office and local stakeholders (see appendix 6.1).
- 3.1.6 Continuation of 'Track A Gannet' (T.A.G) programme (on Ortac in June/July; see 4.1.3).
- 3.1.7 Supporting the continuation of the traditional ringing effort undertaken on Burhou, Les Etacs, Ortac and other islets. Both 3.1.6 and 3.1.7 will be dependent on the issuing of suitable licences by the States of Alderney for work on the Ringed Plover: April-July; Gulls, Storm-Petrels and Shags on Burhou: June/July; Gannets on Les Etacs: June/July; Gannets on Ortac: July; seabirds on Coque Lihou: June/July; Common Terns: date to be confirmed; (see 4.1.2).
- 3.1.8 Population counts of Seabirds on Coque Lihou (resource dependent; see 4.1.4).
- 3.1.9 Monthly Wetland Bird Surveys (WeBS) conducted and submitted to the British Trust for Ornithology (BTO) and AWT Ramsar databases (every month; see 4.1.5).
- 3.1.10 Review the possibility of a collaborative project for ringed plover with French stakeholders and ornithologists for a focused monitoring effort helping to build a better picture of our population and build relationships. This work will be undertaken in support of twinning efforts underway via VisitAlderney (resource dependent).
- 3.1.11 Review contact with Groupe Ornithologique Normand (GONm) annually (resource dependent). This work will be undertaken in support of twinning efforts underway via VisitAlderney.
- 3.1.12 Annual review of seabird data (after data collection).
- 3.1.13 Annual review of T.A.G. data (after data collection).

3.2 Terrestrial

- 3.2.1 Last year, evidence of rats was found on the twin sisters, La Quoire and the Hanainne Bay islets, whilst active Rat control was undertaken on Houmet des Pies in Saye Bay. In 2019, it is proposed that monitoring stations are deployed on Burhou to determine presence (or absence) using chew sticks/wax blocks. In addition, active rat control will be undertaken on Twin Sisters, La Quoire, Hanainne Bay and again Houmet des Pies (February/March; see 4.2.1). This work will be undertaken in collaboration with the SoA Public Services Department and is resource dependant.
- 3.2.2 Review of small mammal monitoring effort to establish the long-term sustainability of control measures (winter).
- 3.2.3 Continued monitoring of the presence and extent of bracken and invasive species such as Hottentot Fig on Burhou, with subsequent management as needed in collaboration with SoA Public Services Department (after puffin breeding season in August).

3.3 Marine

- 3.3.1 Contact Capturing our Coast (Capturing our Coast, 2019) to request data to update intertidal species information for Alderney (February).
- 3.3.2 Habitat mapping of Clonque Bay (Davies *et al.*, 2001, p. 165-178, methodology, using JNCC habitat guidance/classification with supplementary European Nature Information System habitat descriptions for habitats difficult to classify under the JNCC classification; from April).
- 3.3.3 Green Ormer population assessment at Clonque Bay following Dr. Mel Broadhurst-Allen's methodology (April and October; see 4.3.1).
- 3.3.4 Invasive species assessment at Clonque Bay and Hanaine Bay (same time as ormer hunts in April and October, see 4.3.2).
- 3.3.5 Boat based surveys of marine mammals of the entire Ramsar site (following Sea Watch Foundation methodology, SWF, 2019; minimum 1 trip per month; April - October).
- 3.3.6 Conduct a fish/shellfish surveys at selected areas within the Ramsar Site, following the success of this project last year (methodology in appendix 6.2; August - October).
- 3.3.7 Grey seal population dynamics study following JNCC grey seal survey methodology (JNCC., 2005) at offshore islets of known breeding locations (breeding season: August - October).
- 3.3.8 Grey seal photographic ID catalogue kept up to date following the guidance from the Cornwall Seal Group Research Trust. Members of the public will be invited to submit any good pictures (year-round).
- 3.3.9 Intertidal desk-based review of methods, results and activities (to be conducted by a MSc placement project from the University of York over the summer).
- 3.3.10 Strandline surveys at Clonque Bay, Hanaine Bay, Platte Saline Bay and Burhou to assess strandline presence, size and composition (dead, live and litter content; methodology in appendix 6.3).
- 3.3.11 Capturing our Coast citizen science project at Clonque Bay to promote marine life within the Ramsar Site. The citizen science project provides the public with training to conduct the intertidal surveys of species and invasive species. (spring/summer).
- 3.3.12 Intertidal habitat survey of selected caves and investigation of the coastline to establish the presence of any additional caves within the Ramsar site (timing to be confirmed, during summer; see 4.3.3).
- 3.3.13 Continue to liaise with and support Seasearch groups in conducting scuba diving marine ecological surveys in the Ramsar site (as required).
- 3.3.14 If our funding proposal is accepted by the Alderney Marine Forum/SoA monthly sea water quality testing of selected bays (see 4.3.4).
- 3.3.15 Marine mammal desk-based review of surveys conducted within the Ramsar Site (October - December).

- 3.3.16 Support the local British Marine Life Rescue Divers group on Alderney (as required).
- 3.3.17 Support marine management activities and the community led Marine Management Forum (as required).
- 3.3.18 Support and lead marine based academic projects within the Ramsar site (as required).
- 3.3.19 Annual review of contact with Agence des Aires Marines Protégées (AAMP; resource dependent).
- 3.3.20 Annual review of baseline marine data to ensure work steams are relevant and up to date (winter).

3.4 Events

- 3.4.1 Continuation of boat tours on Sula of Braye to increase public awareness of the Ramsar site while contributing to costs of boat operation by the AWT** (April - August).
- 3.4.2 Educational tours for students at St Anne’s School to enhance local knowledge of the Ramsar site and key seabird species, including gannets and puffins (see 4.4.1).
- 3.4.3 Community engagement and public awareness of the Ramsar Site through events (year-round; see 4.4.2).

*** The AWT maintains a 10m coded Cat 2 (MCA Coded) vessel to undertake all its works within the marine environment of the Ramsar site. This work is charged at base costs back to the Ramsar budget and the AWT must then charter or operate scheduled services to cover all other costs of operating the vessel in order to maintain it in operation.*

3.5 Advisory and Legislative

- 3.5.1 Review and update the 5-Year Ramsar Strategy and following reports, to include altering the title to “Alderney West Coast and Burhou Islands Ramsar Site and Other Sites Strategy” to better define the scope of work carried out, following recommendations from the 2018 Ramsar Review (AWT, 2018a). The 5-Year Ramsar Strategy will also be updated to include correct methodologies and justifications for any acts that are invasive, such as ringing and small mammal trapping (to be completed as soon as possible).
- 3.5.2 Installation of a sign displayed inside the Burhou hut detailing sensitive areas on the islet where seabirds nest on the ground or in burrows, requesting visitors to avoid such areas (March).
- 3.5.3 Signpost placement, production of a publication and press releases detailing where the puffin exclusion zone will be (April - August).
- 3.5.4 Review and signpost placement alerting the public to breeding waders and exclusion zones on Alderney’s beaches (March).
- 3.5.5 Production of publicised materials to educate the general public on the Ramsar site, seabirds and the work of SoA/AWT, including puffin cameras, information boards about the Ramsar site, a Ramsar information leaflet and radio interviews (year-round; see 4.5.1).
- 3.5.6 Maintain communication links and collaboration with Channel Islands Ramsar Steering Committee (year-round).
- 3.5.7 Twin Alderney’s Ramsar Site with Iles de Chausey in Normandy (by 2020).
- 3.5.8 Review Bird Protection Law (BPL) – liaise with bird experts and the States of Alderney to include legal implications for disturbance to breeding sites (not a priority for this year – for consideration at the end of the year).
- 3.5.9 Support the SoA in the development of appropriate legislation in regards to the monitoring and protection of wildlife within the Ramsar site to enable the Ramsar Strategy programme.
- 3.5.10 Support the Channel Island Ramsar website for pan channel island Ramsar co-operation.

4. Further Details

4.1 Seabirds

4.1.1 Re-installation and Maintenance of Puffin Monitoring Cameras and Equipment on Burhou

Re-installation of puffin cameras on Burhou will proceed, similar to previous years. These will provide;

- up to date and live images to the public, and we will work with VisitAlderney to enable direct feeds onto SoA websites if required
- a source for educational content:
 - working with See Nature to help UK schools access “puffincam” as part of their educational programme in combination with other webcams in England
 - to raise local awareness of the puffins and work of AWT via public screens
- use in key puffin monitoring surveys (see 4.1.2)
- monitoring of the puffin exclusion zone, accessible by the States of Alderney Harbour Office

A new Pan-Tilt-Zoom camera has been purchased this year in order to allow more detailed remote surveys of the puffins, reducing the chance of disturbing other breeding seabirds on Burhou. Due to this new methodology, all the wooden pegs marking burrows will be replaced this year, allowing easier reference to individual burrows when surveying. Please note, pegs are installed before puffins return to the island therefore they often mark empty burrows. The pegs are used to help identify burrows which are in use by referencing their location from a marked burrow. Care is taken when installing pegs to keep them low to the ground and not to impact burrows during their installation.

Equipment will be installed in March, with an overnight stay on Burhou probably required. Any relevant visits to Burhou for maintenance will be carried out as necessary before the equipment will be retrieved in August. Pegs marking burrows will be left out during the open season to help mark sensitive areas that visitors should avoid, helping to reduce disturbance.

4.1.2 Seabird Monitoring and Ringing

4.1.2.1 Proposed Work

Survey and ringing work proposed for seabird species during the 2019 breeding season across the West Coast of Alderney and the surrounding islets (Burhou, Coque Lihou, Ortac and Les Etacs) include:

- **Northern Gannets:** productivity surveys (March-September), ringing on Les Etacs (June/July) and Ortac (July)
- **Northern Fulmar:** productivity surveys on the cliff next to Les Etacs (late May/early June – August)
- **Atlantic Puffins:** raft counts near Burhou (February - August), burrow entrance census on Burhou, one on island session to coincide with Storm-Petrel Ringing (June/July)/remotely using cameras during the rest of the breeding season (April - July)
- **Gulls:** ringing on Burhou (June/July)
- **Shags:** ringing opportunistically (June/July)
- **European Storm-Petrel:** ringing on Burhou (June/July; note evidence of any Manx shearwaters using Burhou could be gathered during this trip (resource dependent), as recommended by AWT, 2017).
- **Ringed Plover:** productivity surveys on Alderney beaches and ringing (March - July)
- **Common Terns:** estimation of colony size (May-August) productivity surveys (July-August) and one ringing effort (date to be confirmed) on Houmet des Pies
- **Burhou islets seabird census boat survey:** rotational work as required by the 5-Year Ramsar Management Strategy (AWT, 2017; May/June)
- **Seabirds on Coque Lihou:** ringing and productivity monitoring (June/July; resource dependant)

N.b. Productivity = chicks fledged per breeding pair of birds (i.e. a productivity value of 1 would mean that every breeding pair monitored produced one chick).

Monitoring will continue in accordance with the JNCC Seabird Monitoring Handbook (Walsh *et. al.*, 1995) and the 5-Year Ramsar Management Strategy (SoA/AWT, 2016), with the appropriate adaptations for the use of the Pan-Tilt-Zoom camera for puffin monitoring (methodology in appendix 6.4) and clarification of ringed plover (see 4.1.2.10.1.) and common tern (see 4.1.2.11.1) monitoring methodology. The puffin monitoring methodology has been changed, as recommended by the 2018 Annual Ramsar Review (AWT, 2018a), to include more remote surveying of the colony, therefore reducing the chance of surveys on Burhou disturbing other sensitive breeding birds.

Despite recent events, AWT would like to highlight the importance of continuing this vital work for the protection of these important bird species. Ringing on the island has been a long-term scientific effort, which would be compromised if it did not occur this year. All ringing excursions are to be planned to minimise disturbance to seabird colonies in collaboration with bird experts and with input from the Alderney Ramsar Steering Group (ARSG; proposed methodologies in appendix 6.5). The AWT will work with the SoA to ensure that all handling of birds within the scope of the 'Alderney West Coast and Burhou Islands Ramsar Site **and Other Sites Strategy**' will have proper ethical and practice review and all ringing licences will be applied for before any activities are carried out, in recognition of licencing needs as required by the SoA. The AWT has supported the Channel Island Bird Ringing Scheme (CIBRS) members ringing within the Ramsar site since it first become involved in 2005 and will continue this support, it has also worked with the BTO and UK academic organisations to undertake more specialised projects such as T.A.G. In order to standardise methodology and improve consistency between years, all ringing effort should be fully documented, following best practice, with a clear definition of what the effort is. It is recognised that this has historically not always been done. All data (including effort) will be added to the AWT seabird data sheet at the end of the season and published.

4.1.2.2 The Importance of Bird Monitoring

Seabird populations are arguably the most significant part of the Channel Islands' bird life. Being such a high conservation priority, the Alderney Ramsar Strategy has put in place a long-term programme of work to monitor and conserve them. Seabirds are indicators of environmental change and, being long-lived birds (some living up to 50 years old), it is important not only to monitor changes in numbers, but also survival and productivity. In poor conditions, seabirds will always prioritise themselves over their chicks and, whilst adult survival may not be affected, the impacts of low productivity from nest abandonment will not be reflected in the population for many years. This has been observed in many seabird populations, for example, in the 1980s and 1990s, decades of low or no productivity were observed in the arctic tern population in Scotland due to the overfishing of sand eels. This meant the population was aging and susceptible to a large crash, which inevitably happened years later (AWT, 2018b). As apex predators, seabirds are indicators of the health of the marine environment, with changes in their population dynamics indicating changes in the food chain underneath them. Therefore, monitoring aspects such as productivity and the number of breeding birds can provide important pieces of information for the future health of individual seabird populations and the marine environment in Alderney. Such monitoring of seabird population trends and management of these populations where necessary is required as outlined in the 5-year Ramsar Strategy (SoA/AWT, 2016).

4.1.2.3 The Importance of Bird Ringing

Bird ringing is an important research tool for the study of migratory birds, allowing individual birds to be marked and their movements and other life history traits to be tracked. Information on bird dispersal, migration, longevity, behaviour, survival rate, reproductive success and population trends can all be obtained from ringing. For example, following severe storms in 2014 resulting in over 28,000 dead seabirds along the coasts of southwest Europe from Spain to northern Scotland, the British Trust for Ornithology was able to use rings on individual birds to identify their age and origin (BTO, 2014). Alderney's unique geographical location means that the island is a key location for migratory birds,

providing the opportunity to monitor known migration patterns and changes in bird migration due to pressures such as climate change and renewable energy development. Such research is important at global, regional and local scales. Alderney holds significant numbers of breeding seabirds and seabird monitoring, including ringing, has had a long history and has been used to make management decisions, produce scientific papers and train ringers. Over the years, visiting seabird ringers from Guernsey and Jersey have developed safe methods of working to minimise the disturbance to the birds and ensure the safety of the birds and ringers themselves (see appendix 6.5).

4.1.2.4 Northern Gannet (Morus bassanus)

Alderney's gannet colonies consist of just less than 2% of the global population of northern gannets, with 5909 and 2777 breeding pairs counted on Les Etacs and Ortac, respectively, in 2015 when the last population count was completed. Both rocks have been regularly visited by ringers since the 1950s and several tens of thousands of chicks have been ringed. Using ringing data, summaries of the movements of the gannet population and their survival have been published (Veron and Lawlor, 2009 and Warwick-Evans *et al.*, 2016). Both standard metal rings and plastic colour rings have been used to ring the two gannet colonies. Colour rings enable gannets to be re-sighted in future years without the need to enter the colony to gather data. Mixing chick and adult ringing can produce the data required to make survival estimates more precise than the ringing of chicks only (Warwick-Evans *et al.*, 2016). Rings enable the movement of birds to be identified and recorded by other bird observers around the world, helping to monitor the species movements. Due to the size of the gannetries in Alderney, monitoring and protecting these colonies is of global importance.

For more information on tagging with geolocators, see 4.1.3.

4.1.2.5 Northern Fulmar (Fulmarus glacialis)

Globally the population of northern fulmar appear to be increasing due to a large range expansion over the last two centuries whilst Arctic populations have remained relatively stable over the last four centuries. In Europe however, since declines began in the mid-1980s (about 1 generation) the population size is estimated to have declined by more than 40%. Although there is uncertainty in the projected magnitude of the decline, owing to the long generation length of the species, the population size in Europe is estimated to be decreasing by 50-79% in the period 1985-2077 (3 generations). The species faces many threats including predation, being caught in fishery nets, oil spills and plastic ingestion. Plastic loads are higher in juvenile birds and there is some evidence that adults pass on plastic to chicks, however the effects of plastic ingestion on the northern fulmar population is unknown (BirdLife International, 2018a).

In Alderney, the northern fulmar population appears to be relatively stable (AWT, 2018a; Figure 2). Monitoring of the species is important to determine population trends and ensure correct monitoring and management of threats.

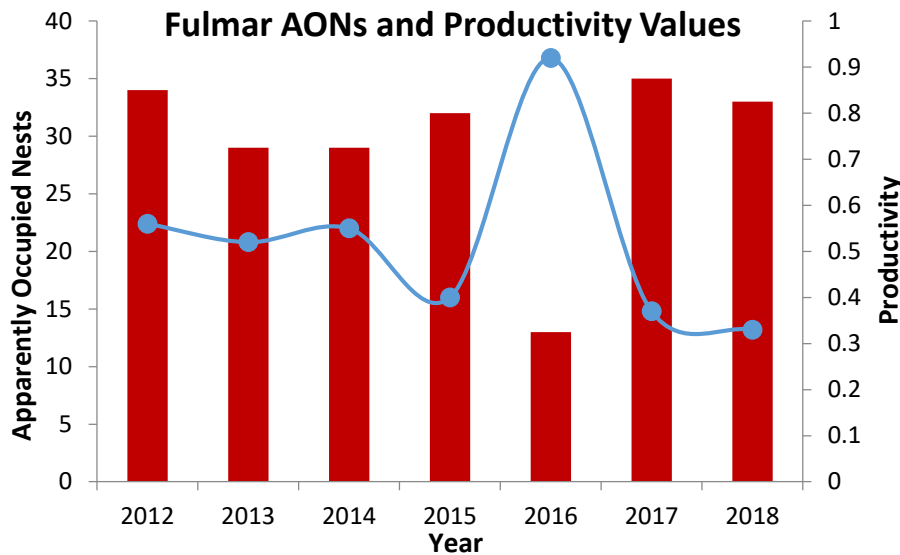


Figure 2: Fulmar Apparently Occupied Nests (AONs) and productivity (chicks fledged per breeding pair; blue), for 2012-2018. Reasons for the anomaly year of AON and productivity date in 2016 cannot be confirmed.

4.1.2.6 Atlantic Puffin (*Fratercula arctica*)

Atlantic puffins have attracted tourism to Alderney for years, Alderney tourism markets itself heavily on the population and puffins have appeared as a symbol for the island on postcards, posters, stamps and many more. As such the puffin population significantly contributes to the economy and publicity of the island.

Puffins are classified as a vulnerable species on the International Union for Conservation of Nature (IUCN) Red List, with a decreasing current worldwide population trend (BirdLife International, 2018b). The islet of Burhou has always held the largest puffin population within the Channel Islands, with early records from R.M. Lockley in the 1940s describing “puffins breed in such numbers as to darken the sky during flight” and estimating 50,000 breeding pairs (100,000 individuals; Soanes, L., 2005). Such numbers are no longer present due to impacts of disease, pollution, human disturbance and changes in sea temperature, food availability and vegetation at breeding locations (to name just a few; Soanes, L., 2005; Michel and Soanes, 2006). Since continuous monitoring and management by the AWT, puffin populations appear to be stabilising since the seabird wreck in 2014 (**Error! Reference source not found.**), however data collection in 2019 and beyond will help to ascertain if this is the case. Monitoring is vital in order to protect the species from pressures and evaluate the effectiveness of management

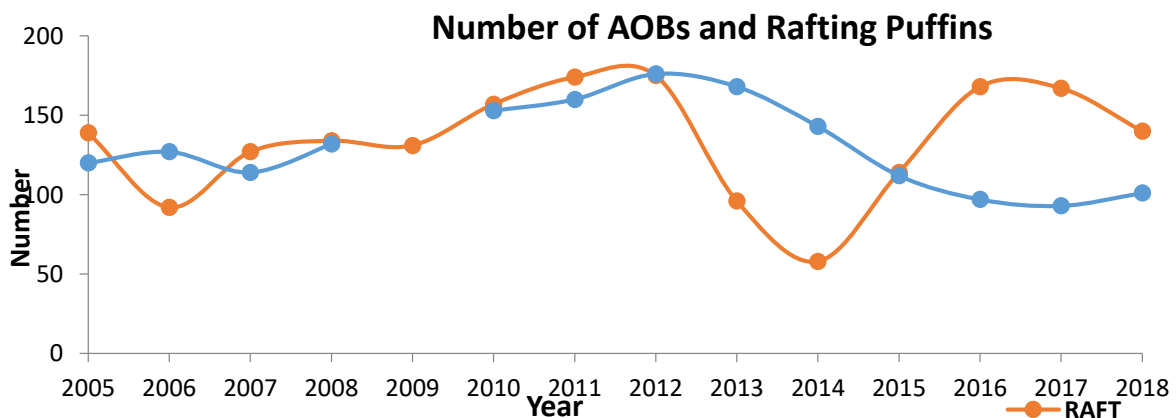


Figure 3: Number of Apparently Occupied Burrows (AOBs) and rafting puffins (rafting is a bird sitting on the sea surface) since contiguous monitoring began in 2005. No data was recorded for AOBs in 2009. The number of AOBs is the most accurate method of census for puffins

4.1.2.7 Gulls

Burhou holds the largest colony of Lesser black-backed gulls (*Larus fuscus graellsii*) in the Channel Islands; in fact, the colony is of regional importance. While being present for many decades, the colony grew significantly and quickly in the early 2000s. Such a rapid growth is likely to have resulted from breeding birds being displaced from elsewhere. Since then the colony size has remained more or less of the same order. Productivity fluctuates wildly though, with some years of almost complete breeding failure being recorded.

Gull populations across Europe grew significantly in the latter part of the 20th Century, but are now generally in decline. Such boom and bust has been linked to anthropogenic changes primarily in waste disposal practices for organic waste and in fisheries discards at sea resulting from evolving fisheries policies.

Alderney hosts a colony of lesser black-backed gulls of regional importance on Burhou. We are fortunate in that the population has been studied over a long period of time, initially through metal ringing of chicks, and then later through adding colour rings to chicks and also colour ringing a sample of adults from the breeding population. In this way much is being learnt of the migration strategies of this species, and also its survival rates and causes of mortality.

It is now known that most of Burhou's lesser black-backed gull population winters in Iberia or NW France, while a minority of birds travel as far as Morocco, Western Sahara and even The Gambia. One chick raised on Burhou was photographed wintering in The Gambia; and this very same bird was found dead on Burhou the following summer.

The work undertaken on gulls nesting on Burhou is amongst the longest running, and most valuable in Europe, and it needs to be continued, especially given the changes to gull populations which are happening across Europe.

The work involves colour ringing chicks over a one or two-day visit in early-mid July each year. It is equally important to record the birds ringed in previous years. This is achieved by reading rings through a telescope over short periods on one to three visits each year (generally coinciding with other work on the island).

The ringing work needs to be undertaken by trained and qualified personnel, who hold the necessary licences, while the ring reading can be done by any trained personnel once they are aware of the best practice seabird etiquette to follow on Burhou.

4.1.2.9 Shags (*Phalacrocorax aristotelis*)

The population trend for shags is decreasing globally due to threats such as development, fishing and pollution (BirdLife International, 2018c). In Alderney however, the bird is very common with observations of nesting at numerous locations (see Sanders, 2007, p.69).

4.1.2.10 European Storm-Petrels (*Hydrobates pelagicus*)

Due to their vulnerable size these birds only return to their chicks at night, making them difficult to monitor and their international population trend unknown (BirdLife International, 2018d). From the late 1960s to late 1980s, there was a very rapid decline in the number of storm-petrels breeding on Burhou. The reasons for this are unknown but this species will be vulnerable to changes in the marine environment. Since the late 1990s, the numbers of breeding storm-petrels has increased rapidly from a few dozen pairs to 3000 individuals, counted in 2015 (see AWT., 2017). Such an increase reflects conservation efforts in recent years. Given the population crash in the past, it is important that population monitoring is continued. Monitoring through ringing has documented this change and a

continued programme of surveillance will track how the population changes and potentially monitor annual survival rates.

4.1.2.11 Ringed Plover (*Charadrius hiaticula*)

Internationally, ringed plover populations are decreasing due to threats such as climate change, pollution, avian diseases, predation, wetland drainage, scrub overgrowth and other land use changes (BirdLife International, 2016). Alderney provides an important site both migratory and breeding individuals of the species. As this species is particularly vulnerable to disturbance and predation in the area, continued monitoring is important to protect the species and evaluate management techniques.

4.1.2.11.1 Monitoring Methodology:

Observations will be used to assess the number of nesting birds and their productivity;

From late March suitable beaches are observed for breeding activity (Clonque Bay, Platte Saline, Crabby Bay and Saye Beach). The location of any nests are noted (including clutch size). Nests are checked every 7-10 days, more frequently prior to hatching. Chicks are ringed soon after hatching when they are still likely to be on the nest or close to it (and therefore easier to find). The chicks are thereafter observed every 7-10 days until close to fledging - to estimate survival/fledging success.

4.1.2.12 Common Terns (*Sterna hirundo*)

Although the common terns do not nest within the Ramsar site, this species is considered of special interest and only breed in one location on Alderney, Houmet des Pies. In the past, productivity has been low or unsuccessful however following a successful small mammal control programme in 2018, productivity increased (Table 1). As such small mammal monitoring and control is planned to continue and expand in 2019 (see 4.2.1). Monitoring of the common tern population will therefore enable an assessment of the effectivity of such control measures.

Year	2012	2013	2014	2015	2016	2017	2018
AON	5	14	25	32	-	4	21
Individuals	24	43	28	-	53	48	40
Productivity	-	0.57	0.44	0	0	0	0.14-0.29

Table 1: Common tern population and productivity at Houmet de Pies, 2012-2018. AON = Apparently Occupied Nests.

4.1.2.12.1 Monitoring Methodology

Terns will be monitored by estimating the size of their colony and their productivity following RSPB guidelines;

Estimating the Size of the Colony:

The size of the colony will be estimated by counts of apparently incubating adults (AIAs). Three visits to the colony (one week apart) between mid-May (or soon after the birds arrive) and late June. At least one visit should be made in the late incubation period - about 3.5 weeks after the first egg or incubating bird is seen. All counts will be made from the Fort Albert hill side overlooking the colony to reduce disturbance.

Estimating Productivity of the Colony:

Productivity (chicks fledged per breeding pair) can be estimated by at least one observation (usually in early July) around the middle of the day to count the number of chicks. Count all active nests (including any incubating birds) and any chicks (including fledged birds). Repeat a week later to see if the numbers of chicks counted increases. Productivity is likely an under-estimate but is calculated as the max no. of chicks seen/max. number of incubating adults seen.

4.1.3 Track A Gannet (T.A.G)

Co-ordinated through the ARSG, this is an important project that involves using Global Positioning System (GPS) tags and geolocators to track gannets movements (methodology in appendix 6.6) and is essential to gain an understanding of their distribution, movement and life cycles.

The project has provided concrete evidence of the main foraging areas of Alderney's gannet colonies (from the GPS tags) and their relation to the French colony on Sept Isles. Together with the BTO and the University of Liverpool information from the tags has been used to investigate the impacts of multiple offshore windfarms on gannet populations, with the publication of several scientific papers. Data has also fed into a larger international database (www.seabirdtracking.org) where the data is freely available for use by other researchers. To date T.A.G has contributed to at least two studies that have looked at seabird foraging across much larger spatial scales. The geolocators remain on the birds for longer than the GPS tags, providing important data on bird movements in the longer-term. Data from these tags has shown that individuals from the same colony may move to different locations for the winter. The T.A.G project has therefore gained a lot of attention since it started in 2015, providing positive publicity for Alderney and acting as a fantastic educational resource.

It is crucial to note that research has established that foraging behaviour changes between years in relation to environmental change. Understanding how birds respond to change is vital to better conserve them and to establish potential human impacts. In poor years, birds change their behaviour, foraging further and longer than in good years. Continuing the T.A.G project this year will therefore help to establish a long-term dataset that is vital to understand how birds react to environmental change. With the current development of tidal power off the coast of France continuing T.A.G in 2019 and beyond will provide important data on the impact of such developments. Such data will inform environmental impact assessments in both Alderney's waters and elsewhere. This research will highlight Alderney an island which actively works to assess and protect the marine environment and contribute to advancing research.

For more information, please see AWT (2018b).

The AWT has significantly contributed resources to enable this project. Between 2015 and 2018, due to significant effort from AWT staff, a total of £10,971 was raised (Table 2).

Year	Funds Raised by AWT (£)	Comments
2015	2,586	-
2016	3,288	-
2017	4,137	£97 of this was refunded in 2018 due to events which meant the geocator was not retrievable.
2018	960	Significantly less than previous years due to reduced fundraising effort as T.A.G was unable to go ahead in 2018.
2015 – 2018	10,971	-

Table 2: AWT financial contributions towards T.A.G

Continuation of this project in 2019, will be dependent on the issuing of suitable bird handling licences by the SoA.

4.1.4 Support Academic Research into the Impact of Debris on Gannets

Following discussions with a post-doctoral researcher from the Environmental Research Institute based at the University of the Highlands and Islands (Scotland), AWT is to contribute to research into the impact of anthropogenic debris on gannets by providing data on entanglement and mortality rate from human debris used in gannet nests. Data and photographs will be taken whilst carrying out productivity (chicks fledged per breeding pair of birds) monitoring surveys from boat and land. Exact methods are still to be confirmed, but will be reviewed by the ARSG once finalised.

4.1.5 Population Census of Coque Lihou

Providing resources are available, based on the recommendation of the Ramsar Site 2018 Annual Review, a seabird population count should take place on Coque Lihou as this was unable to take place in either the 2017 or 2018 season. This work will be done in collaboration with licensed ringers during the scheduled ringing effort for this year.

4.1.6 Wetland Bird Surveys (WeBS)

The Wetland Bird Survey (WeBS) monitors non-breeding wetland birds in the UK, with the principal aims to identify population sizes, determine trends in numbers and distribution, and identify important sites for wetland birds. The degrees of consistence over many years distinguished WeBS counts from casual counts, and ultimately allows the monitoring of changes in wetland bird numbers and distribution with the added confidence of knowing that these reflect true changes rather than simply different areas being counted.

AWT is to recruit local birders to help conduct key WeBS Core Counts on priority dates (appendix 6.7) at key sites across Alderney, following methodology for Core Counts from BTO (2017). The data will be regularly submitted to WeBS and AWT records.

4.2 Terrestrial

4.2.1 Small Mammal Monitoring and Control

Although not situated in the Ramsar Site, Houmet des Pies hosts the only nesting site for common terns in Alderney. The nesting area is accessible at low tides and therefore vulnerable to predation by rats that are known to be present on Bibette Head. Due to the effectiveness of rat control programmes in 2018, the following recommendations from the 2018 Annual Review have been made for 2019;

- rat monitoring and potential baiting will continue to determine whether rats have re-colonised Houmet des Pies before the tern breeding season and to thwart the threat posed by the rats to the terns.
- the programme will be expanded, resources allowing, to other key South Cliffs.

Following a consultation process with the RSPB's Predator Control Specialist, Karen Varnham, building on the methodology used last year (appendix 6.8) work will be carried out in collaboration with the SoA Public Services Department who can provide the bait and equipment, knowledge and expertise, as well as carry appropriate licences to deploy poison. Where possible, population assessments of seabirds should be made throughout the breeding season at the sites where rats are present.

On Burhou, an effort to determine small mammal presence on the islet will be made by deploying chewsticks/wax blocks and camera traps before the breeding season, potentially in conjunction with camera traps. A biosecurity plan will be prepared in collaboration with the SoA Public Services Department and Alderney Harbour Office, in case evidence of small mammal presence is detected. Through this monitoring effort and seabird nest checks, future recommendations can be made as to the potential need for invasive species control measures on Burhou.

4.3. Marine

4.3.1 Green Ormer Population Assessment

Green ormers are molluscs that are regionally important to the Channel Islands. Green ormer population assessments will take place at Clonque Bay in April and October, to coincide with low tides to give as much time on the lower shore as possible. The surveys will assess ormer presence, shell size, and quality following Dr. Mel Broadhurst-Allen's methodology in April and October in conjunction with La Societe Guernesiaise.

4.3.2 Invasive Species Assessment at Clonque Bay and Hanaine Bay

An invasive species assessment will be carried out at Clonque Bay and Hanaine Bay during spring and repeated in autumn, at the same time as Green Ormer population assessments. This is conducted using ShoreSearch timed species survey methods (usually a 20 minute search of an area of shore looking for a small number of key species using photo ID cards. This method creates useful, comparable data) to record the presence and location of species such as the Pacific oyster and American Slipper limpet. Monitoring of invasive species is essential to determine their impact(s) on the local environment and to assess if any control measures are necessary.

4.3.3 Cave Surveys

Intertidal habitat surveys will take place at selected caves along the south cliffs (sites to be confirmed) adhering to JNCC standards for intertidal resource mapping using aerial photographs and littoral monitoring using fixed quadrat photography (Davies et al, 2001). Such surveys provide baseline data for unique marine habitats in the Ramsar site and associated areas, many of which provide important nesting areas for seabirds. Reports from last year's cave exploration surveys, detailing methodologies, are available at AWT (2018c) and AWT (2018d). The possibility of conducting bat surveys at the selected sites will also be investigated.

4.3.4 Sea Water Quality Testing

Monthly sampling of water quality at low and high tides of the bays in the Ramsar site and around Alderney will continue, subject to funding. There is also a potential opportunity to collaborate with the SoA to encourage the sampling of bacteria to determine the cleanliness of selected beaches which could lead to Alderney potentially achieving UK accepted designation of clean bathing beaches. This would be beneficial to the island in terms of good publicity and exposure for tourism.

4.4 Events

4.4.1 Educational Tours for School Students

In 2019 the AWT will be offering all senior students at St Anne's School (56 students) a boat trip to see some of Alderney's seabirds including the Puffins and Gannets. It is hoped this will give the students a sense of the island's marine diversity and the importance of Alderney for wildlife. In the following years, the AWT will continue to work with the school to offer this boat trip to all new Year 7 students. This will be funded directly through the AWT and partner organisations and not come from the SoA Ramsar Budget.

4.4.2 Community Engagement

Events planned for 2019 include:

- A minimum of 1 Ramsar related event during Wildlife Week (27th May – 2nd June)
- A minimum of 1 Ramsar related event during Wildlife Weekend in August
- A minimum of 2 rockpooling events at Clonque Bay
- Public events linked with Ramsar surveys: Fish/shellfish surveys linked with boat tours and ormer hunts

4.5 Advisory and Legislative

4.5.1 Ramsar Related Publications

A Ramsar information leaflet will be produced as soon as feasibly possible, including a map of the site, key species and sensitive areas on Burhou for visitors to avoid (April).

If possible, “puffincams” will be migrated onto www.alderneywildlife.org and consideration will be given to how to better enable access through www.vistalderney.org. If this is not possible in 2019, the “puffincams” will remain available to the public on the LIVE: Teaching Through Nature website – www.teachingthroughnature.co.uk.

AWT aims to have two public screens streaming the “puffincams” this year, potentially in the Visit Alderney centre and the AWT shop, both on Victoria Street, St Anne.

Based on the results of an MSc study in 2018 (see AWT, 2018a), it is recommended that additional and updated information boards should be installed on the shoreline near the Ramsar site. This would help improve the public’s knowledge of the reasons for designation and the importance of the site. Links from the AWT website to the new Channel Islands Ramsar website should be put in place to make this information more accessible.

AWT will participate in regular radio interviews and publicise short articles in the Journal and Alderney Press (3 or more within the seabird breeding season) in order to increase public awareness of the Ramsar site, its management and key topics such as the puffin exclusion zone and breeding waders.

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6. Appendices

6.1 Puffin Exclusion Zone Details

6.1.1 Progression to Date

During 2017, AWT video footage (from cameras setup on Burhou) identified a number of visiting yachts disturbing puffins which were rafting (sitting on the sea surface) adjacent to their breeding grounds (see Figure 2). Such disturbance can potentially reduce the fitness and physical effort of seabirds and therefore was of great concern to the AWT.



Figure 4: A French yacht in the bay with rafting puffins.

In 2018, the AWT proposed the implementation of a small exclusion zone may significantly help these important breeding birds. The aim of an exclusion zone, via a notice to mariners, was to allow a 'breather/resting' zone for puffins to raft without being disturbed by visiting boats, only in place during the puffin's breeding season (April – August), linking with the annual prohibition of the public access to Burhou by the SoA. The proposed area covered either a 75 or 100 metre radii distance from the coordinates: 49° 43' 50.433N, 002° 14' 58.297W (Figure 5).



Figure 5: Puffin exclusion zone location, with 75 and 100 meter area distances.

A consultation process on the proposed puffin exclusion zone was undertaken, within the framework of the Alderney Marine Management Forum, with consultation through the Alderney Harbour Office and with local stakeholders. Following this process, agreement was issued by the GSC that the area was delineated as a voluntary exclusion zone, named the “Puffin Friendly Zone”, mainly due to concerns expressed by local fishermen.

Figure 6 shows a map of the area which was agreed by stakeholders to voluntarily abide by the attached code of conduct for the site (below).

The voluntary code of conduct agreed upon:

We kindly ask that all mariners please:

- DO NOT cross the white line
- KEEP your speed under 10 knots when coming close to the island.
- TRY drifting by in the tide, keeping noise to a minimum and the birds will come out to visit you.
- DO NOT force the birds to fly.



Figure 6: The agreed “Puffin Friendly Zone” at Burhou

The code of conduct and Figure 6 was attached to a poster which was created and displayed at key areas round Alderney and sent to yacht clubs in the Channel Islands, as well as advertised in local media. A puffin information leaflet was also created by the AWT and included within Visit Alderney’s ‘Visiting Yachtmans Guides’.

Despite the information released, there were still 2 observed instances of marine users acting contrary to the guidelines of the code of conduct. The first instance proved to be a non-local tourist vessel that was simply unaware of the zone and responsible practices near it, but was informed of them upon arrival at Braye by the Harbour Office. The second instance was a local tour operator who was aware of the zone and practices yet acted contrary to them anyway. This highlights the need to increase awareness of the zone in 2019 through media releases and published literature.

6.1.2 Creation of a Full Marine Exclusion Zone Via a Notice to Mariners

The creation of a full exclusion zone backed by legal implications, as initially proposed, was not achieved in 2018. However, the progress made and support gained within the Alderney Marine Forum and SoA will serve as a foundation to progress the voluntary zone into a protected one. This could be done through a Notice to Mariners with the support of Alderney's harbour office.

A Notice to Mariners advises mariners on important navigational information, such as: prior warning of exclusion zones, changes in buoyage and chart updates. Mariners are regularly updated on such by official nautical authorities, such as the local harbour authorities and UK Hydrographic Office.

The process of adding an exclusion zone to a 'notice to mariners' is under the control of the UK Hydrographic Office which publish nautical charts and other publications concerned with the safe navigation of mariners, such as pilotage. To get a chart updated, a 'notice to mariners' is sent out by the UK Hydrographic Office, this is done weekly and can take the form of a hard paper copy posted to recipients, an e-mail or a download from their website. A lot of charts are now electronic and can be updated automatically via e-mail or memory stick. For those still using paper charts they can be updated by hand, and then when the next chart is published the up to date information would then be included.

6.2 Fish/Shellfish Survey Methodology

Methodology Summary:

This project involves conducting marine fauna surveys using Baited Remote Underwater Video (BRUV) techniques. A video camera is deployed attached to a baited frame and left to film for 1-2 hours (battery and tide permitting) at the sea floor to record marine fauna. The video footage is then analysed with sightings recorded, a value of species richness (number of different species found per hour/deployment), and abundance (number of individuals visible within the field of view at one time) for each species calculated.

In 2018, nine surveys were conducted in the Ramsar site and the following recommendation was made – “This project should continue with renovated BRUV frames and methodology in conjunction with PhD candidate Sam Blampied in Jersey. It should continue using 2 or 3 BRUV units and potentially expand beyond the Ramsar site utilising the opportunity to increase public involvement by inviting paying tourists on survey boats.”

Detailed Methodology from 2018 with Recommendations for 2019 in Red Italics:

Survey area: Ramsar site (*This could be expanded to around Alderney dependent on collaboration with fisherman and project scope*)

Drop site selection: Randomised point generated in Clonque, others selected based on boat tour logistics, tidal strength, ease of access, with advice from skipper. Drops are generally close to shore and protected from strong currents. Depth is a limiting factor with lines currently approximately 15m in length. (*Site areas should be chosen based on habitat type (consult marine GIS data) to survey a range of habitats, in a randomised format within each area if possible*).

Camera frame assembly:



BRUV 1: Cage with attached camera and bait box (photo credit S Robertson)



BRUV 2: Lobster pot with attached camera and bait box (photo credit S Robertson)

BRUV frames are lined with 15 m of rope with a subsurface buoy to raise lines out of camera view, and surface marker buoys for retrieval. Cameras were positioned with the bait box centred and towards the bottom in the field of view. Bait boxes (*wire mesh boxes should be trialled to increase bait plume*) were baited using the local fisherman's discards after producing fillets or varying fish (*this should be changed to a standardised baiting with scad to correlate with Sam Blampied of Jersey PhD project methodology*). The image below shows a schematic of a classic BRUV system design.

BRUV 1 should be replaced by a newly donated frame similar to BRUV 2. A third BRUV unit can be made if the project expands and there is a need for an additional system, otherwise the 3rd lobster pot can be kept as spare. Both BRUV systems should be adapted to resemble the schematic design more closely. Netting should be removed and a bait arm constructed to increase the distance between camera and bait. The camera should be positioned in a more secure location on the frame to prevent knocking out of position and potential damage. Dive lights should be acquired and attached if needed for deeper deployments or murkier water to increase visibility.

Deployment: Once the camera is set to recording video, the BRUV is deployed at the selected location and lowered until reaching the sea floor, then the marker buoy is released. The time, depth and GPS coordinates of the deployment are noted. Weather and tidal conditions for the survey are also recorded. Any disturbance at the surface near the BRUV should also be noted (i.e. Marine traffic). The BRUV systems were left for 1 hour at a time before retrieval (*this should be increased to 70 minutes to allow for "settle time" after landing on the sea floor*). If deploying more than 1 BRUV system at a time, they should be deployed at least 100 m from each other if possible to reduce bait interference.

An interactive element with the public, for example on boat tours, can be added to this project following trial runs. A BRUV unit can be deployed near the beginning of the tour and collected on the way back. A display (tablet) with the GoPro App installed and linked to the cameras to show passengers footage would be needed on board Sula of Braye. This would help promote the project and raise awareness for Alderney's marine life, as well as providing a unique experience for tourists.

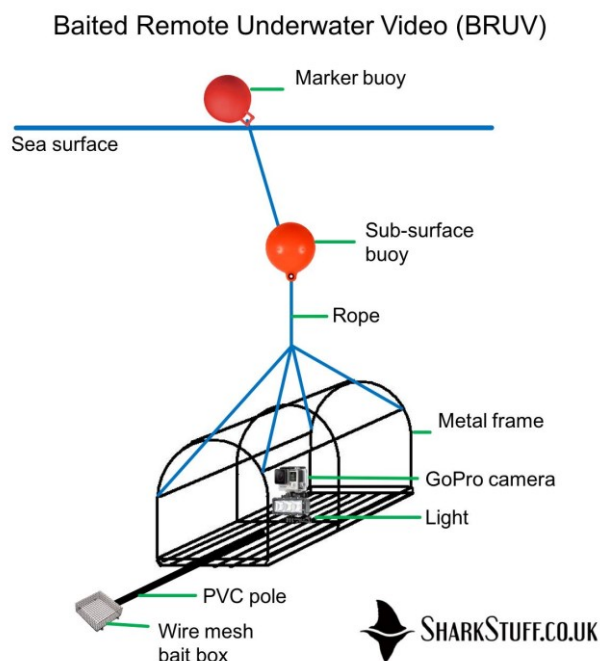
Another method of passenger interaction (not directly part of the BRUV project) would be to have a drop down camera on board wired to a display to show tourists immediately what is below the surface. It would provide another element to the boat tour. This would incur an approx. £500 cost for a new

display and pole to connect to an existing camera stored in the lab at Essex Farm that was formerly used as a boat drag-behind camera for pelagic and benthic surveys.

Analysis: Video footage is uploaded and saved on the server. Video is analysed using VLC media player to allow for faster and slower playback speeds. Analysis starts from when the BRUV reaches the seafloor (*analysis should begin after a 5 or 10 minute “settling time” to allow for potential disturbed sediment to subside*). A description of the habitat type is made including dominant sediment size and vegetation cover (*the same habitat classifications should be used as in Sam Blampied’s PhD study in Jersey for comparable data*). Marine fauna are recorded to their finest taxonomic level possible with confidence (coarse levels are acceptable if unclear). A value of species richness will be found (number of different species found per hour/deployment), and abundance for each species is represented by MaxN (the maximum number of individuals of the same species visible at one time in the field of view during the deployment). The time occurrence in each video file is noted next to the fauna sighting so that the data set can be checked with ease by multiple observers. Any other interesting sightings should be noted (eg. eggcases, pollution, e.t.c).

Analysis can be carried out as a citizen science project with volunteer observers going through the deployment recordings and noting time of sightings. The volunteer is not made aware of the time and location of the recordings and records species to the best of their abilities. With the time of sighting noted, species ID can easily be checked. This will save the primary identifier time in carrying out the video analysis. The recording form given to volunteer observers is detailed below.

BRUV schematic design



2. Baited remote underwater video (volunteer survey form)

Video file number	Time	Sighting	Location on screen

Water Clarity (circle): Clear Murky

Method. Pause when any marine fauna enter the screen (or at most obvious view). Note the time of sighting and the type of animal. Also note the location on the screen (ie. Bottom left)

Date:

Name:

6.3 Strandline Survey Methodology

The following guidance documents have been provided to the AWT by Dorset Wildlife Trust.

The Welly Zone: Strandline survey



Guidance notes for recording information about the strandline

These notes accompany the survey form for recording your sightings from the strandline. Both the form and the notes can be found at www.dorsetwildlifetrust.org.uk/WellyZone.

What to take with you:

- Digital camera or mobile phone camera
- Stick for turning over seaweed
- Binoculars or spotting 'scope
- Survey form and pen
- Rubber gloves
- GPS (if you have one – not essential)
- Sanitizing hand-gel (suggestion)
- ID guides/leaflets (strandline, plants, birds etc.)

Your details

We need these so that we can follow up sightings, particularly if anything rare or unusual has been spotted, or if the strandline recorded is particularly rich. We do not pass this information on to anyone else, other than your name which will be included in the marine database next to your sighting. This information is carried over to the National Biodiversity Network which is publicly available information (www.nbn.org.uk). If you would rather remain anonymous, please let us know.

Date and time should be the date of your survey/sighting and the time at which you started recording.

Location

The record is incomplete and cannot be used if we do not have a location. You can get this information from an OS map, a chart, a GPS unit or a web based mapping site such as Google Earth. Many of the online resources will help you find the location reference. Please note which system you have used and, if you know it, which type of reference (*i.e.* WGS 84/OSGB).

Location name should describe where you did your survey (*e.g.* Chesil Cove, Portland or Avon Beach, Christchurch). Beach description should indicate what the beach was like, what was behind the

beach (hard coastal defence, promenade, sand dune, soft cliff etc), where you started from and if you can estimate it, how far along the shore your survey took you and in which direction. Strandline description should give an idea of the extent and condition of the seaweed/debris washed up on the beach.

A brief description of the weather helps provide further information about the species but also helps us to interpret how much you may have been able to see.

Invertebrates

As you walk along the strandline occasionally dig down into it with your boot or a walking stick and turn it over. Any invertebrates living there will be disturbed. Please record any of the types listed on the survey form that you see, along with their abundance. Any other types of invertebrates, or species names if you know them, can be recorded in the blank rows. This can be done whenever you are out and about on the shore. If there are multiple strandlines along the beach you could walk along the lowest/freshest one (nearer the sea) in one direction and return along the highest (nearest to the back of the beach). Follow the instructions on the survey form for how to determine abundance.

The Welly Zone - strandline survey guidance notes (2013 version) Dorset Wildlife Trust

Plants

As you walk along the strandline record any plants you see growing there. Also record plants growing elsewhere on the beach but not those growing on cliffs or cliff material that has slipped onto the beach. Use blank rows for other plants not listed.

Birds and mammals

You can either record these as you walk along the beach, or you can sit for a while. Look for birds and mammals feeding on or searching in the strandline or bats at dusk flying over it. Do not record those feeding at the water's edge or behind the beach in a different type of habitat. Also record any signs of mammals such as droppings or nibbled plants. This is best done either early or late in the day as few birds or mammals will be present if people and dogs are around.

Other species, observations, human activities, litter

Please put any addition notes in this box, for example if there appears to be a lot of litter on the strandline, or a lot of one type of litter, if the strandline is being removed/cleaned *etc.*

And you're finished!

Thank you for taking the time to fill in a "Strandline Survey" form; please don't forget to post or email it to us. Dorset Wildlife Trust hopes that marine volunteers take a lot away from learning more about their local shoreline and get passionate about the beauty of the different Welly Zones in Dorset. Our aim is to use this data responsibly for marine protection so that this section of coast, the Welly Zone, is well represented in terrestrial and marine plans. If you have any questions about anything you have seen or about the form or the project, please get in touch with us via any of the contacts below. Photographs are welcome, particularly if you have an ID query but please send low resolution images. Thank you.

Dorset Wildlife Trust

Brooklands Farm

Forston

Dorchester

Dorset

DT2 7AA 01305 264620

www.dorsetwildlifetrust.org.uk

Charlotte Bolton, Marine Survey and Data Officer: cbolton@dorsetwildlifetrust.org.uk Julie Hatcher, Marine Awareness Officer: jhatcher@dorsetwildlifetrust.org.uk

When out on the shore, please always follow the Seashore code - take home your litter, do not remove animals, carefully lift and then replace any boulders or seaweed exactly how you found them, try not to disturb nesting or feeding birds. For your own safety, check the tides before you go out and don't walk or climb under unstable cliffs. For more details, go to the marine pages on our website.

The Welly Zone - strandline survey guidance notes (2013 version)

Dorset Wildlife Trust

Office use only:

Event ref:	Database:
Verified:	MR ref:

Welly Zone

Strandline survey recording form



This form is for recording marine wildlife from your local beach strandline. Please send your records to Charlotte

Bolton, Marine Survey and Data Officer, Dorset Wildlife Trust, Brooklands Farm, Forston, Dorchester, Dorset, DT2

7AA. Or email them to cbolton@dorsetwildlifetrust.org.uk

Your details

We will use your contact details if we need to verify a record. Your details will not be used for any other purpose and will not be passed onto a third party. Only your name will be included on marine records made publicly available.

Name:			
Address:			
Email:			
Telephone:			
Date:		Start time:	

Location

Please fill in at least one type of location reference:

Latitude ° . ' N Longitude ° .
 ' W

OS Grid reference:

Location name:
Beach description (<i>i.e.</i> rock, sand, shingle <i>etc.</i> and presence of coastal protection or natural habitat behind):
Strandline description (<i>i.e.</i> main component of strandline – seaweed, seagrass <i>etc.</i> , sparse, dense, thick, well-rotted <i>etc.</i>):

Weather:

Thank you for taking the time to send us your records. If you have queries about the marine wildlife you have seen please get in touch. Photographs are a brilliant way to verify records so if you would like to send us your marine wildlife photos, please email low resolution images to Charlotte or post them to us at the address shown at the top of the form. Thank you.

For more information on the Welly Zone project please visit our website www.dorsetwildlifetrust.org.uk . For species information visit the Marine Life Information Network at www.marlin.ac.uk/learningzone

All of the information sent to DWT is passed onto MarLIN after verification, for inclusion on the National Biodiversity Network (the NBN). This data is freely available to the public at www.nbn.org.uk. For any other local marine data enquiries please get in touch with the Dorset Environmental Record Centre (DERC).

Invertebrates

As you walk along the strandline occasionally dig down into it with your boot and turn it over. Any invertebrates living there will be disturbed. Please record any of the following types you see, along with their abundance. Any other types of invertebrates, or species names if you know them, can be recorded in the blank rows.

Abundance scale: Abundant (A) = easily found throughout the survey; Frequent (F) = found a few times after a little searching; Rare (R) = intensive search to find 1 or 2 during the survey; Not found (N) = not found after searching.					
Species group	A	F	R	N	Comment
Sandhopper					
Seaweed fly					
Beetle					
Spider					
Centipede etc.					

Plants

Record plants growing along, or on the seaward side of the strandline. Also record plants growing on the beach but not those growing on cliffs or cliff material that has slipped onto the beach. Use blank rows for other plants not listed.

Species group	A	F	R	N	Comment
Sea rocket					
Sea mayweed					
Orache					

Sea cabbage					
Yellow-horned poppy					
Sea sandwort					
Curled dock					

Birds and mammals

As you walk along the beach, or as you sit, look for birds and mammals feeding on or searching in the strandline or bats at dusk flying over it. Do not record those feeding at the water's edge or behind the beach in a different type of habitat. Also record any signs of mammals such as droppings or nibbled plants.

Species	A	F	R	N	Behaviour/comment

Any other species, observations, marine litter or human activities:

6.4 Methodology for camera-based Puffin monitoring

Controlling a Pan, Tilt, Zoom (PTZ) camera to view puffin colony for AOB monitoring.

Time: April to mid-May, and June through July.

Duration: Watches of the colony should last 1 or 2 hours and each session should be recorded for future reference and checking (the program used linked to the Samsung PTZ allows up to 2 hours of uninterrupted recording).

Method: Print out maps/imagery of pegs/burrow entrances for reference and label (this allows fast referencing and assistance if peg numbers are not visible)

Due to the zoom required to identify which burrows are entered, the field of view may not cover the entire colony. While recording and observing the colony for the survey, it may need to be sectioned into multiple sections of focus/field of view of the camera. Each field of view should be observed for an equal time during a survey. For example, if separated into 4 sections, each should be observed for 30 minutes during a 2-hour survey.

At the start of the survey, time and weather conditions are noted. Throughout the survey, type of burrow activity is noted (in/out) by time, if fish were carried, whether harassment by gulls was observed, and any other notes. The same survey recording forms and basic methodology is used as for on-land Apparently Occupied Burrow surveys.

Raft counts can also be performed using the PTZ by panning the extent of the puffin raft while recording. The recording can then be played back and paused for accurate counting.

Further monitoring may be possible if resources are available, as explained in the following extract from the 2017 Ramsar Review (AWT, 2017):

‘Another use could be to review what fish species the puffins are returning from foraging trips with to work out the calorific value and estimate whether they are feeding chicks. This data could also be used as a basic assessment of fish availability within Alderney’s waters. The problem with both of these methods is that they are extremely time intensive. One way around this is to make it a citizen science project such as those found on the Zooniverse website. One such project was Seabird Watch which has received a lot of national publicity; this could be a good way of exposing the public to Alderney’s puffins and act as good publicity to the AWT along with the primary objective of using non-human monitoring and citizen science to gather good data.’

6.5 Proposed Ringing Methodology

The below proposed methodology has been produced with input from the 5-Year Management Strategy (SoA/AWT, 2016) and a draft offshore seabird ringing policy for Alderney (unpublished).

6.5.1 Permission for Ringing

No ringing activities are to be carried out without permission from the SoA and ringing licences for each individual ringer involved. The AWT will work with the SoA to ensure that all handling of birds within the scope of the 'Alderney West Coast and Burhou Islands Ramsar Site and Other Sites Strategy' will have proper ethical and practice review and that all ringing licences will be applied for individually before any activities are carried out, in recognition of licencing needs as required by the SoA.

6.5.2 General Safety and Organisation

Only boatmen experienced with landing ringers onto the rocks should be used. The skipper is in control of accessing the rock, assessing the conditions for landing and making the call for ringers to leave the rock if they decide that conditions require that. They will be in radio contact with the landing party and spares should be carried onto the rocks. The ringing party must accept the boatmen's decision on all aspects of accessing and departure from the rock.

The rocks/ringing locations should only be accessed during dry weather. They become slippery and dangerous if wet – this is especially the case of Les Etacs as the lower slopes are used as a roosting area by immature non-breeding birds and when wet the rocks can get very slimy from regurgitated fish and guano. If rain has occurred recently or the rocks could be wet from dew, the situation should be very carefully assessed before going out. On arrival at the ringing location, the ringer in charge will assess the situation. If the rocks are wet, they can be dangerous and the ringing trip can be called off at the discretion of the ringer in charge. The ringer in charge must decide how long a trip should last based on current conditions. They may decide to end it early due to, for example, weather (too hot, too cold, an unexpected rain shower etc) or team-related (teams getting tired or not progressing as quickly as expected). If conditions are good, and the team is working well, then as long as disturbance is kept to a minimum this period may be extended.

A Health and Safety briefing will be given prior to landing on the rocks/ringing locations and the risk assessments available to consult. Appropriate safety gear must be worn – hard hat and goggles/safety glasses on the rock and life jacket whilst being ferried by boat. Each ringer must obey any commands given by the boatmen and ringer in charge to ensure safety of themselves, other ringers and the birds.

The organisation of the team on the rock/ringing location is at absolutely at the discretion of the ringer in charge but has to be within the parameters defined by the health and safety assessment. No individual ringer should be working in isolation and any sub-group should have a radio. The ringer in charge should also have a spare.

When on the rock/ringing location, if it is decided to split into for example two teams, each team will be led by a ringer who knows the locality well and has a long-term previous experience. If the landing party splits into more than one group, then they should decide beforehand which parts of the rocks/ringing location they are ringing and move straight to those areas and not pause to ring a few birds on the way. One person will be in charge of the rings and will log what sequences go onto the rock.

Small parties working closely together have very little impact on the birds. By keeping close together, any disturbance is kept to within a 1-2m distance of the ringing party. Movements should be steady and deliberate. Sudden movements will cause disturbance. While ringing be very aware of what is around – Gannets can inflict wounds and can be above you or to the sides. On windless days, adult

birds from further up the colony may have trouble getting lift and can knock into you – if you hear a commotion, keep your head down and don't look up. No attempts to catch or ring chicks and adults within 5m of the edge of the rock should be made. This is for both the birds and ringer's safety.

As hundreds of birds can be ringed, it is important that everyone keeps hold of their empty ring packets and on the boat on the way back the unused rings will be returned, along with any damaged rings or rings taken off dead birds found in the colony. Any re-rings (replacing worn or illegible rings) need to be carefully documented.

In order to standardise methodology and improve consistency between years, all ringing effort should be fully documented following best practice, with a clear definition of what the effort is (including equipment used, number of people involved, weather conditions, start and end times, and GPS coordinates referring to ringing locations). It is recognised that this has historically not always been done. All data (including effort) will be added to the AWT seabird data sheet at the end of the season and published.

6.5.3 Northern Gannets

Both Les Etacs and Ortac have been regularly visited by ringers since the 1950s and several tens of thousands of chicks have been ringed. Using ringing data, summaries of the movements of the gannet population and their survival have been published and more intensive GPS tracking of adults has been used to determine the likely impacts of the increasing number of offshore wind farms in the English Channel on Alderney's gannets. The recent paper looking at survival (Warwick-Evans *et al.*, 2016) concluded that only limited estimates of survival can be made using only data from ringed chicks, and adults needed to be colour-ringed and resighted in the colony to gain the precision to make the survival estimates useful. This is an artefact of chick-ringed only studies where adults are not ringed and/or resighted and is common in seabird studies. Having a mixed chick ringing/adult colour ringing and resighting strategy will produce the data required on survival and reduces the requirement for very large numbers of chicks to be ringed. A balance between the numbers of chicks ringed and adults colour-ringed needs to be made.

6.5.3.1 Timing of Visits

The gannet colonies should be visited when the majority of birds have chicks that are one-third to two-thirds grown to minimise displacement of eggs caused by birds moving through the colony. Larger chicks will be mobile and visiting when the majority of chicks are mobile will not be permitted as, in the denser areas, chicks will crèche up and move around the colony away from their nests. They will do this naturally as they get larger, but we do not visit at this time as we do not want to cause unnecessary movement of chicks. Ideally visits should ideally be made in the first 2-3 weeks of July but annual variation in chick hatching times and growth rates means that the lead ringer will need to use their discretion as to the exact timing of this window. In the latter part of the 20th century, ringers would have been visiting in the last three weeks of June but, in common with other UK Gannet colonies, the breeding season has been getting later.

6.5.3.2 Number & Length of Visits

For chick ringing, one visit should be made per season with a maximum team size of 6 people. When on the rock, the team may split into two. One person who knows the colour-ringing study, would be tasked with spending part of their time sitting in the part of the colony where colour rings have been fitted previously to specifically look for colour rings.

An experienced team working together in tight groups can cause very little disturbance moving through the colony and the length of time spent in the colony is usually down to the weather and sea

conditions. A usual trip is 3 hours long on Les Etacs to complete ringing the chicks in the colony but the ringer in charge must take the decision based on current conditions.

6.5.3.3 GPS tagging, colour-ringing and geolocators

Since 2011, GPS tagging of both the Les Etacs and latterly the Ortac gannet Colonies has been undertaken to provide data on the foraging behaviour and potential impacts of marine proposed marine developments within the English Channel.

Tagging will take into account the same factors as described for ringing and also considering the timings of other scheduled ringing trips.

The team should be limited to a maximum of 4 individuals, ideally 2 ringers (one catching/holding and one fitting devices) and a scribe, with an optional fourth experienced person to help with catching and to look out for colour rings. The current tags use the mobile phone network to transmit the data, so there is no need to undertake repeat visits. Geolocators need to be retrieved from rings at a later date.

The separation of ringing and tagging reduces the number of people on the colonies at one time, the area of disturbance during a single visit. During the visit the team will move around as a small close knit group. Breeding gannets are very tolerant and by moving quietly and methodically around the colony the group will only be affecting birds within 1-2m of them. Birds beyond that distance will behave as normal.

6.5.3.4 Ringing Chicks

Chicks will be in the nest. Chicks should not be picked up. Ringing is always done on the left leg to minimise double ringing. Pull the leg out from underneath the bird, fit the ring and then tuck it back under the bird. Take care when bending down and be aware of who and what is around (and above) you.

6.5.2.5 Ringing Adults

Adults can be safely caught using a noose pole. Ideally a team of three is needed when catching adults. One for catching and holding the bird, one for ringing/fitting GPS devices and a scribe, who does not need to be a ringer. Adults are caught using a noose pole, held by the catcher and the noose pole taken off. A sock can then be placed over the bird's head to keep it calm. Care must be taken by the person holding the bird to ensure that the birds beak is free to open. This is for two reasons – first birds may disgorge fish and, more importantly, gannets breathe through their mouth – they do not have external nares (nostrils). The birds can be ringed and colour ringed/GPS tagged if in the designated part of the colony.

6.5.3.6 Colour ringing and resighting

Colour ringing of adult birds is important for estimating adult survival. Colour-ringing should only be done in designated parts of the colony and ideally 30-60 minutes should be spent quietly scanning this area by a designated individual. The 'gully' area on Les Etacs and the 'bowl' and summit areas on Ortac are designated areas to fit colour rings. The resighted birds need to be logged and sent to the Channel Island Bird Ringing Scheme (CIBRS) and also to Dr. Phil Atkinson (phil.atkinson@bto.org).

6.5.4 Gulls

Burhou holds significant numbers of breeding Lesser Black-backed Gulls and a smaller number of Herring Gulls which have been part of a long-term colour-ringing study.

6.5.4.1 Lesser Black-Backed Gulls

AWT will organise a trip to Burhou to color ring a sample of the adult Lesser Black-Backed Gulls (LBBG) using the large cage net method. This trap is left unset on Burhou all season, and is only ever readied

for capture while on Burhou. To reduce disturbance adults are removed as soon as caught. The gulls' age and sex are recoded before being ringed (colour and metal) and then released.

In July, one or two trips will take place to ring the LBBG chicks specifically. These trips are usually planned around the 9th/10th of July and then two weeks later, minimising disturbance by coinciding the later trip to run parallel with the Storm-Petrel ringing (see 6.5.7).

On each visit, a team of up to 6 people will walk in a methodical manner through all the gull colonies. This should be done in a single line, 1 or 2 meters apart, walking the island only once. Every chick found of a minimum suitable age will be fitted with a metal and colour ring. They will be ringed in situ.

There may be an opportunity to catch and ring adults on Burhou in July when gull chick and storm-petrel ringing is to take place. Other seabirds which are not being methodically studied at present may be ringed, but not as a priority and not at all if this will interfere with the gull studies.

6.5.4.2 Great Black-Backed Gull

This species will be ringed as in 6.5.4.1, during June visits to Burhou.

6.5.5 Cormorants

This species is ringed on Little Burhou at the end of April, exact dates dependent on weather and tides.

The small colony on Little Burhou is visited once during low water. This is when most chicks are likely to be the right size for ringing (i.e. not too small but not too big so that they try and flee the nest site and get into danger). A team of ringers (5-8 people) approaches the colony slowly on a broad front. The approach is such that any large chicks do not attempt to jump the nest and plunge into the sea. Once at the colony the active nests and no. of chicks are counted (to obtain productivity – the number of chicks fledged per breeding pair of birds). Chicks of the right size are then ringed and bagged until all chicks are ringed in the vicinity. Chicks are then released back to their nests and the colony abandoned making sure no chicks try to escape by heading to the water.

6.5.6 Shags

Shag ringing is to be done opportunistically when resources allow. Ringing must follow general safety and bird welfare guidelines as detailed in 6.5.1 and 6.5.2.

6.5.7 European Storm-Petrel

One visit should be made ideally each year for two nights in mid-July. Ideally arrival to Burhou will be late afternoon and departure will be first light to minimise time on the islet. This requires written permission from the States of Alderney (SoA) allowing a team of up to nine on Burhou during the closed season.

Standardised net lines should be run – the total length is dependent on team size as large numbers of birds may be caught but the location should always be the same. In excess of 500 birds may be caught each night using 2-4 nets and so having a minimum team size of 6 is important, maximum 9. There should be a split, such that there is a permanent ringing station at a short distance from the nets (ideally behind rocks to minimise light pollution) and a continually patrolling extracting team during busy periods. Lights should not be used near the nets unless absolutely necessary. Audio lures to attract birds to the nets should not be used.

Nets should be deployed with the intention of insuring constant effort, following a review of previous years ringing effort on the islet. The standardisation of net lines is important and two nights of catching at the east end should be attempted with net locations clearly recorded using GPS trackers. If there is a wish to deviate from these, then it should be seen as an 'extra' and the team may split to catch in

other areas of the island, as long as the east end has two nights of catching. The sites at which birds are caught must be clearly marked in the ringing data. Care also needs to be made concerning controls – in many years we have some that are misread.

During the day the team will be sleeping for part of it and should not leave the hut area or cause disturbance in other areas of the island. No ringing should be undertaken within puffin nesting areas and all members of the ringing team must be fully briefed on the nesting sites on island. Every effort must also be used to avoid disturbance on the upper sections of the boulder beach and other potential storm-petrel nesting areas.

6.5.8 Ringed Plover

All ringed plover nests are to be observed regularly during the breeding season to establish nest locations and breeding success (see 4.1.2.11.1). Chicks are ringed soon after hatching when they are still likely to be on the nest or close to it (and therefore easier to find).

6.5.9 Common Terns

On single visit, the timing of which will be advised by AWT to occur when there is likely to be most chicks of the correct size.

6.5.10 Coque Lihou

Coque Lihou is a steep rock that has a mixed colony of gulls, Shags and auks. It is relatively easy to move around on the rock and, as with other seabird colonies it is important that any ringing group move around as one, thus minimising disturbance across the colony. Team size and timing is less critical on this rock. A normal team would be of up to 6 ringers and the timing would coincide with when the target species had suitable sized chicks, normally in June/July.

6.6 T.A.G Methodology

Methodology for Track A Gannet is detailed below, as outlined in the original project proposal (AWT, 2018b);

Short term attachments are generally preferred, especially in studies of foraging as in the case of the gannets. We do not harness gannets due to the nature of their feeding method and body shape. Instead tags are taped on using Tesa Extra Power tape to the 2 central tail feathers. These feathers are strong and stiff and when the gannet dives, it sweeps back its wings over the tail and so the tag does not increase drag. The weight of the tags themselves are c.18g and the weight of an adult gannet is 3,000g so well under 1% of body weight (SMTP considers application where the weight is >3%). This is a standard tagging method for seabirds as the birds are long lived and the attachment lasts at most 4-6 weeks, so birds are only temporarily carrying tags. The Tesa tape is used because it is waterproof but does come unstuck over time without leaving any residue. Many different species (e.g. guillemot, razorbills, cormorant, shag, kittiwake, larger gulls have all been tagged using this method. RSPB's FAME project tagged 500-600 birds in the UK alone (it was part of a wider EU project) with this method it provides excellent information on foraging areas.

Geolocators are to be attached to colour rings following ringing methodology as detailed in appendix 6.5.

6.7 Wetland Bird Surveys (WeBS) Core Count Priority Dates for 2019

- 20th January
- 17th February
- 24th March
- 21st April
- 19th May
- 16th June
- 7th July
- 4th August
- 15th September
- 13th October
- 17th November
- 15th December

6.8 Rat Methodology from 2018

The following rat control strategy was developed in 2018 on Houmet de Pies with the SoA Public Services department, the ABO Assistant Warden and with consultation from Karen Varnham of the RSPB. The goal was to target rats using poisoned bait blocks just before the common terns returned to Houmet des Pies for the breeding season to improve fledging success from 0 in the past 3 years.

Placement of a camera trap on the island took place on the 21st of April. The island was then revisited on the 26th of April, to identify any rat dens and establish if local presence can be confirmed by the images captured from the camera trap. Bait boxes were placed strategically at the nesting site, at well-used rat-runs and at the entrance to the den. Each box contained one 225g block of rodent-specific poison, handled by a SoA Public Services Department worker. The site was visited again 4 days later on the 30th April to check the boxes for signs of bait taken by rats and replacement of blocks with new bait as necessary. Bait boxes were checked again on the 2nd of May and 11th of May (4 days before the arrival of the terns). During the first nesting count of terns on the 22nd of June, the boxes were checked again.

In 2018, the final check saw all boxes remaining unchanged since the previous check, suggesting that there was no rat activity on Houmet des Pies in over a month from the arrival of the terns to their eggs hatching. The success of the project was evident with an improved rate of productivity (chicks fledged per breeding pair) for the common terns in fledging success from 0 during the previous 3 years to between 0.14 and 0.29 this year (note this figure may have been higher if it weren't for a severe storm event at the end of July 2018, which caused the tern colony to abandon the site).

Work should be carried out in collaboration between the AWT/ABO team with the SoA Public Services Department who can provide the bait and equipment, knowledge and expertise, as well as carry appropriate licences to deploy poison.