



Alderney's West Coast and Burhou Islands Ramsar Site (and Other Sites) Annual Review 2023

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Executive Summary

1. The Alderney's West Coast and Burhou Islands Ramsar Site (and Other Sites) Annual Review 2023 document reviews the work carried out in 2023. This document is a summary of this information and is not a full documentation of all the works which were carried out by the activity organisations which are the Alderney Animal Welfare Society (AAWS), Alderney Bird Observatory (ABO), Alderney Wildlife Trust (AWT) and the Channel Islands Bird Ringing Scheme (CIBRS).
2. The majority of the Ramsar work programme in 2023, as defined in the 2023 Action Plan, was carried out successfully by the activity organisations. Fortunately, Highly Pathogenic Avian Influenza (HPAI) did not return in 2023, so surveys requiring access to colonies (e.g. seabird ringing) could go ahead.
3. The Ramsar seabird monitoring programme carried out by AWT revealed stable populations of most seabirds and upwards trends in the populations of European shag and herring gull. Monitoring of Atlantic puffin productivity could not take place due to equipment failure early in the season. The common tern colony was largely abandoned in 2023. Ringed plover cordons were again very effective, however, predation hampered overall success. All nests within beach cordons successfully hatched, compared to only 50% outside cordons. However, predation of chicks after hatching meant that only four chicks were fledged in total.
4. There was a 29% decline in the population of northern gannet since the last census in 2021, almost certainly as a result of avian influenza. This has set the populations back decades, and it is critical that careful monitoring take place to assess the colonies' ability to recover and identify any conservation actions which can take place. Gannet productivity recovered to pre avian flu levels in 2023 (mean = 0.51). An estimated 0.7% of pairs suffered lethal entanglement with plastics. Finally, photo-surveys found that ca. 30% of gannets had black eyes – a known symptom of avian influenza.
5. Seabird ringing was able to take place with no cases of HPAI in 2023. The ABO and CIBRS undertook a programme of seabird ringing on sites including Burhou, Little Burhou and Coque Lihou. Successful ringing trips included targeting pulli (chicks) of European shag, great cormorant, razorbill, and lesser black-backed gull. Adult European storm petrel were also caught by mist net on Burhou. Northern gannet ringing could not occur due to poor weather.
6. Wetland bird surveys (WeBs) core counts were conducted monthly by AWT, with a total of 1,563 birds recorded within the Ramsar Site on these surveys. Peak counts included 183 Eurasian oystercatcher, 81 herring gull and 36 curlew. Oystercatcher were only monitored through WeBs in 2023, but a specific census is planned for 2024.
7. Biosecurity monitoring took place on Burhou and Coque Lihou by AWT, and no rodent incursions were detected on either island. Rodent control took place on Houmet Herbe using toxic bait and kill traps, but these were removed when no common tern breeding occurred.

8. Bat surveys carried out by AWT detected two species of bat (common and either Kuhl's or Nathusius's pipistrelle), one small mammal (greater white-toothed shrew) and one invertebrate (grey bush cricket).
9. The AWT's marine programme was very successful. Highlights included phase II surveys on Hanaine bay, green ormer surveys with 46 individual ormer tagged, and 14 recaptures, intertidal crab surveys with eight different species recorded, BRUV surveys to establish fish assemblages, shoresearch and seasearch surveys, and the Planktoscope project which is creating a new dataset of plankton in Alderney's waters. The Fish-Intel project had a boost from a fundraiser which secured funding for the project until 2025-6, and a new design of self-release detector was deployed in Hanaine bay. Coastal erosion assessments were also conducted with citizen scientists.
10. Grey seal surveys were conducted by AWT with assistance from AAWS across the year, and for the first-time seal pups have been recorded breeding on Burhou. This highlights the high conservation value of Burhou and the rest of the Ramsar Site. In addition, a grey seal pup was stranded on Clonque Causeway, and was monitored and protected by volunteers from AAWS and AWT.
11. Two academic projects were hosted by AWT, one focused on grey seals, and the second on marine invasives. These were both MSc projects from Exeter university and were very successful. The results have helped to improve the site's grey seal survey methodologies and have given us the first thorough assessment of marine invasives on Alderney.
12. The education and outreach programme featured a number of community events such as walks and tours, coastal foraging and public beach cleans. Boat tours were provided by AWT and Avante Boat Tours, and free educational boat tours were provided to students at St Anne's School by AWT. The wildlife webcams suffered a setback in 2023, with the main PuffinCam failing. A number of news stories featured the Ramsar Site, including updates on the Puffins and the seal pup. In addition, a French film crew for 'France TV' spent a day filming marine life on Alderney's Ramsar Site with assistance from the AWT.
13. An Alderney Ramsar Stakeholder forum was hosted in 2023, convened by the Harbour Master and attended by a wide range of stakeholders including representatives from the Alderney Society, Alderney Wildlife Trust, Alderney Bird Observatory, and Alderney Animal Welfare Society among others. The GSC approved a development plan for the next Ramsar strategy which will be carried out in 2024. The Channel Islands Ramsar Website was updated to include publications and a list of surveys which are undertaken, furthermore, Ramsar documents are now available on the SoA's website. Monthly meetings were held between the Alderney Ramsar Administrator and the managers of the Jersey Ramsar Site. The island of Burhou was closed to all activities by GSC between May and August 2023, except for a single ringing trip undertaken in July 2023. Finally, the Alderney Ramsar Information Sheet has been updated by the Alderney Ramsar Administrator in collaboration with the JNCC and has been submitted to DEFRA.

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List of Acronyms and Abbreviations

AAWSS	Alderney Animal Welfare Society
ABO	Alderney Bird Observatory
AIA	Apparently Incubating Adults
AOB	Apparently Occupied Burrow
AON	Apparently Occupied Nest
AOS	Apparently Occupied Site
AOT	Apparently Occupied Territory
ARAG	Alderney Ramsar Advisory Group
ARS3	Alderney's Ramsar Strategy 2017-2021
ARS4	Alderney's Ramsar Strategy 2023-2027
AWT	Alderney Wildlife Trust
BDMLR	British Divers Marine Life Rescue
BRUV	Baited Remote Underwater Video
BTO	British Trust for Ornithology
CIBRS	Channel Islands Bird Ringing Scheme
GDPR	General Data Protection Regulation
GPS	Global Positioning System
GSC	General Services Committee
HPAI	Highly Pathogenic Avian Influenza
JNCC	Joint Nature Conservation Committee
NGO	Non-Governmental Organisation
PFZ	Puffin Friendly Zone
PTZ	Pan Tilt Zoom
RSPB	Royal Society for the Protection of Birds
SoA	States of Alderney
TAG	Track-a-Gannet
ToR	Terms of Reference

1. Introduction

The document reviews the work objectives carried out in 2023 as detailed in the 2023 Ramsar Action Plan. Information has been provided by the activity organisations, which carry out the work on the Alderney West Coast and Burhou Islands Ramsar Site. This includes Alderney Wildlife Trust (AWT), Alderney Bird Observatory (ABO), Alderney Animal Welfare Society (AAWSS), and the Channel Islands Bird Ringing Scheme (CIBRS). This document has been compiled by the Ramsar Administrator (formerly described as Alderney Ramsar Secretariat, renamed here for clarity and to align with AWTs role as site administrators), on behalf of the General Services Committee (GSC) and AWT (who are the appointed site administrators by the States of Alderney (SoA)). The Ramsar programme is overseen by the SoA's Manager of Estates, Infrastructure and Environment.

2. Background

2.1 Designation

On 25th August 2005, the Alderney West Coast and Burhou Islands Ramsar Site, henceforth referred to as the “Ramsar Site”, was designated and gained global recognition as a wetland of international importance under the Ramsar Convention being the first of its kind within the Bailiwick of Guernsey. The site covers over 1,500 hectares of land and sea (Figure 1). The SoA registered the AWT as the Alderney Ramsar administrators with the International Ramsar Secretariat in Geneva.

In 2006, on behalf of the SoA, the 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.

2.2 Description of the Alderney West Coast and Burhou Islands Ramsar Site

The Alderney West Coast and the Burhou Islands Ramsar Site comprises the western coast of Alderney and adjacent shallow waters and islets in the strongly tidal, high-energy system of the northern Channel Islands. It contains diverse and inter-related ecosystems, notably rocky shore, tide swept habitats, kelp forest and coastal grassland.

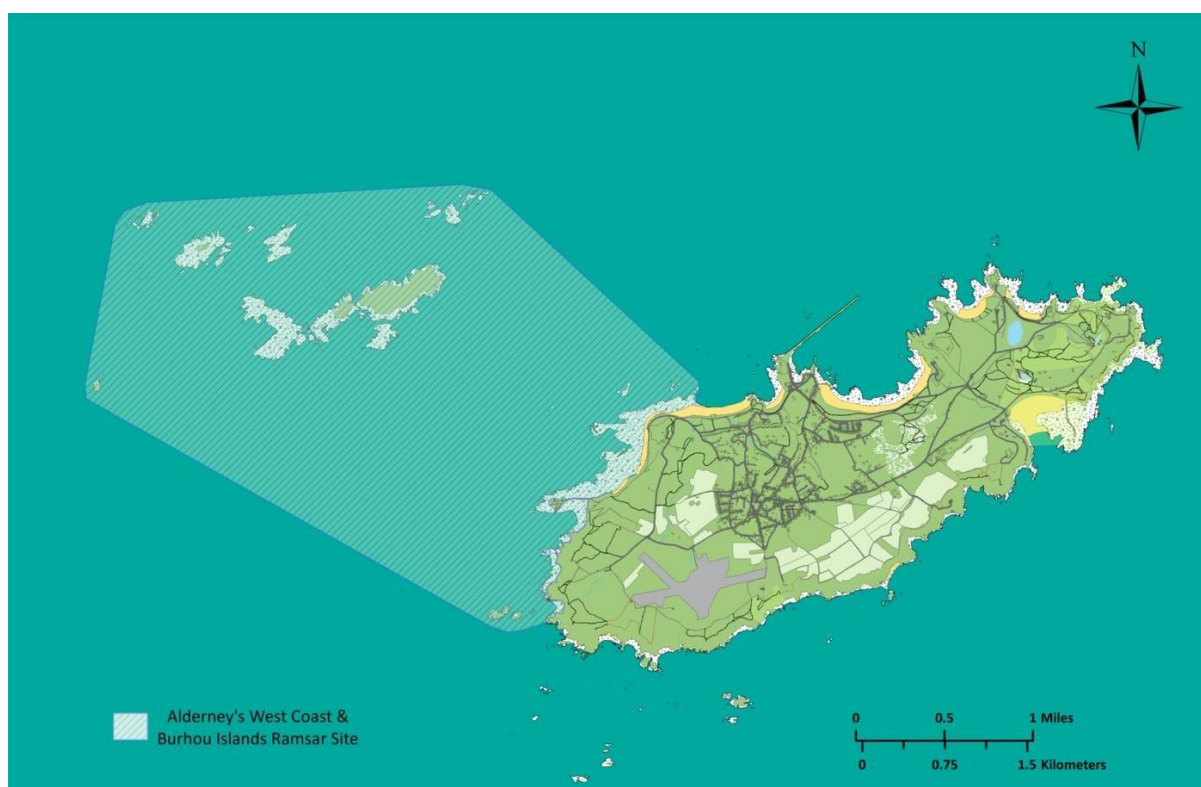


Figure 1. The Island of Alderney with the Alderney West Coast and Burhou Islands Ramsar Site highlighted. A scale bar is given in the bottom right, and a north arrow is given in the top right.

A high diversity of marine life is present. This includes numerous species of marine algae, globally threatened marine species such as the pink sea fan, *Eunicella verrucosa*, and green ormer *Haliotis tuberculata*. A wide range of fish, including species that are of both ecological importance (e.g. Lesser sand eel *Ammodytes tobianus*) and commercial/cultural importance (e.g. European sea bass *Dicentrarchus labrax*) occupy the site, and there are sizeable areas of habitat supporting various life

stages of fin and shellfish, notably: sandbars, kelp forests and intertidal rocky shores, with multiple numerous species using the site for spawning and as a nursery. The site forms a regionally important breeding area and year-round refuge for grey seal *Halichoerus grypus*, and bottlenose dolphins *Tursiops truncatus* also frequent the area.

The site is highly important for birds. A range of breeding seabirds is present, including 2% of the global breeding population of northern gannet *Morus bassanus* and a small (c.185 pairs) population of Atlantic puffin *Fratercula arctica* at the edge of their breeding range. Other breeding species include the one of only two confirmed European storm-petrel *Hydrobates pelagicus* colonies in the Channel Islands (breeding confirmed by ABO on Sark 2022 & 2023, this will be included in the 'working list of the birds of the Channel Islands publication for 2023), the majority of guillemot *Uria aalge* individuals that occur on Alderney, and the last consistent population of ringed plover *Charadrius hiaticula* within the Channel Islands.

2.3 Management Strategies and Annual Review Process

Since 2007, the Ramsar site has been managed using Five-Year Management Strategies, with annual Action Plan and Review documents, prepared by the AWT as site administrators on behalf of the SoA (all available online at <https://alderney.gov.gg/article/198131/Ramsar-Site>). The Alderney Ramsar site strategy outlines the need to monitor seabird and other marine life population trends, threats to these and to continue the management of the populations where necessary. The objectives of the strategy are assessed annually through various research projects and conservation management techniques.

Activity Organisations (AWT, ABO, AAWS), conduct the work described in the Ramsar Strategy, and may draw funding to cover the costs of this work from the SoA's Ramsar budget. They are asked by the GSC to submit reports and data from their annual work, and proposals for the next year's work, to the site administrators, who compile these. The compiled reports are reviewed by the activity organisations, and then they are reviewed and developed in consultation with the Alderney Ramsar Advisory Group (ARAG). The group is made from a pool of experts, including individuals who work for the RSPB, BTO, States of Guernsey and States of Jersey. The ARAG provide advice and supporting information to the GSC, the site administrators and activity organisations. Final reports and action plans are then presented to GSC by the administrators for their consideration.

The first scientific review body was established in 2006 as the Alderney Ramsar Steering Group. This was updated to ARAG in 2021 when GSC issued a Terms of Reference (ToR), to offer technical advice in regards the management of the site to the States of Alderney and the site administrators, and activity organisations. ARAG assess reports and proposals before their presentation to the SoA in the effort to create robust and vetted management strategies. The ARAG are involved in reviewing all five-year management strategies, annual action plans and annual review reports. The ARAG terms of reference were updated in 2022 following consultation with stakeholders and was again reviewed by GSC and Stakeholders in 2023.

While the Ramsar site has a clearly defined boundary (Figure 1), the site's five-year and annual management plans and review documents may include specific habitats and species which may occur outside of this defined area but have a degree of interdependence with the site, such as mobile species which travel into the Ramsar Site, e.g. ringed plover, *Charadrius hiaticula*. This has ensured that monitoring and conservation measures are properly documented and reviewed by the SoA and ensures a wider view is taken of species information and conservation measures which protect species and habitats within the Ramsar site. Locations are clearly detailed within the report to ensure it is clear if a work item has occurred inside or outside of the defined Ramsar site. In April 2019, the GSC

approved the updating of the current 2017-2021 Ramsar Management Strategy's title to include 'and other sites.' In 2023, the site administrators began the process of drafting the sixth Alderney West Coast and Burhou Islands Ramsar site Management Strategy (See section 4.5.1).

3. Objectives

The objectives are detailed in the 2023 Ramsar Action Plan (Purdie 2023). These are set to achieve the objectives made in the 2017-2021 Ramsar Site Management Strategy (Ferrar & Wieckowski, 2016) with consideration of recommendations made in the 2022 Ramsar Review (Purdie et al. 2023). All activities within Alderney's Ramsar site should be fully risk assessed and covered by the Activity Organisations' insurance and SoA issued licences where applicable.

An overview of the objectives is listed below.

1. Ecological Monitoring and Conservation

1.1 Seabird Monitoring

- 1.1.1 Atlantic puffin monitoring
- 1.1.2 Northern gannet monitoring
- 1.1.3 Northern fulmar monitoring
- 1.1.4 Common tern monitoring
- 1.1.5 Ringed plover monitoring
- 1.1.6 Other seabird monitoring (European shag, great cormorant, razorbill, guillemot, gull spp.)
- 1.1.7 Seabird Ringing (European storm petrel, European shag, great cormorant, common tern, northern gannet, razorbill, guillemot, gull spp.)
- 1.1.8 Wetland Bird Survey

1.2.2 Terrestrial

- 1.2.1 Rat control
- 1.2.2 Bat surveys on Burhou

1.3 Marine

- 1.3.1 Rocky intertidal surveying
- 1.3.2 Green ormer monitoring
- 1.3.3 Crab assemblage monitoring
- 1.3.4 Benthic ecology and topography
- 1.3.5 Plankton Surveying
- 1.3.6 Fish surveying
- 1.3.7 Marine Mammal surveying (including responding to strandings)
- 1.3.8 Academic projects

2. Outreach and Education

- 2.1 Wildlife Webcams
- 2.2 Boat tours
- 2.3 Free educational boat tours for students at St Anne's School
- 2.4 Community engagement and public awareness events
- 2.5 Measuring community engagement

3. Advisory and Legislative

- 3.1 Five-year management strategy
- 3.2 Scientific advisory
- 3.3 The Puffin Friendly Zone
- 3.4 Ramsar signage update
- 3.5 Sensitive wildlife signage
- 3.6 Networking with other Channel Island Ramsar Sites
- 3.7 Networking with other Channel Island Ramsar Sites
- 3.8 Update Ramsar Information Sheet
- 3.9 Responding to HPAI in 2023

4. Review

4.1 Seabirds & Waterbirds

There are eleven species of seabird and waterbirds breeding within Alderney's Ramsar Site, with populations of these seabirds crossing over sites other sites outside the Ramsar site (Purdie et al. 2023). This high diversity is one of the designating factors for the site. Furthermore, some of the populations are of international importance; of note, the northern gannet colonies of Ortac and Les Etacs made up 2% of the species' global breeding population before highly pathogenic avian influenza (HPAI). The island of Burhou supports the largest colony of storm petrel and the only remaining substantial Atlantic puffin colony within the Channel Islands (Veron and Veron 2016, Purdie et al. 2023). The Atlantic puffin colony is vulnerable being a remnant of a much larger colony on Burhou, with an estimated 50,000 pairs in the 1940s, at the southern edge of their range (Lockley 1953, JNCC 2023).

Other breeding seabirds include northern Fulmar which breed in colonies on the sea cliffs and some islets, guillemot which breed on islets, razorbill which breed on the sea cliffs and islets, great cormorants which breed on an outer island, and shag, great black-backed gull, herring gull, and lesser black-backed gull which breed throughout Alderney's islets, sea cliffs and outer islands. Until 2023 a population of common terns also bred on Alderney's Fort Houmet Herbe, whilst Terns were observed here in early in the season there was no evidence of breeding in 2023, following a disastrous breeding season in 2022 and potentially due to changes in the regional population due to HPAI. In addition to these seabirds, oystercatcher breed on coastal habitat around Alderney and ringed plover consistently breed on three bays; two within the Ramsar site and one outside.

To monitor the condition of seabird populations, and to identify trends the population size of all seabirds, and ringed plover, are monitored annually, and the productivity of several species is recorded (Table 1.). In addition to this, several projects including a programme of seabird ringing by the ABO, disturbance surveys, and anthropogenic material assessments are also undertaken (Table 1.).

Table 1. The methods used to gather data on seabird and water birds breeding on Alderney as part of the Ramsar Programme. Detailed methods are given in Appendix 1.

Species	Data	Method	Delivered by	Appendix 1 Reference
Atlantic puffin	Population size	Post season AOB survey	AWT	1.1
		Early season raft counts	AWT	1.2
	Productivity	Mapped burrows with remote camera observation	AWT	1.3
	Predation and kleptoparasitism	Remote camera observation	AWT	1.3
Northern fulmar	Population size	Nest site mapping	AWT	1.4
	Productivity	Nest site mapping	AWT	1.4
Northern gannet	Population size	Aerial photographic count of apparently occupied sites	AWT	1.5
	Productivity	Randomly selected mapped nests	AWT	1.6
	Year-on-year productivity	Annually repeated mapped nests	AWT	1.7
	Anthropogenic material	Repeated effort-based telescope observation	AWT	1.8
Guillemot	Population size	Population size	AWT	1.9
		Remote observation with camera traps	AWT	1.9
	Productivity	Remote observation with camera traps	AWT	2.0
		Nest observation with telescope	AWT	2.0
Razorbill	Population size	Whole colony census	AWT	1.9
		Remote observation with camera traps	AWT	1.9
	Productivity	Remote observation with camera traps	AWT	2.0
		Nest observation with telescope	AWT	2.0
Storm petrel	Population size	Mist netting	ABO	
	Population viability	Mist netting	ABO	
Shag	Census	Round Island Census (AON)	AWT	2.1
Great cormorant	Census	Round Island Census (AON)	AWT	2.1
		Direct nest observation	ABO	
Herring gull	Census	Round Island Census (AON)	AWT	2.1
Lesser black-backed gull	Census	Round Island Census (AON)	AWT	2.1
Great black-backed gull	Census	Round Island Census (AON)	AWT	2.1
Ringed plover	Population size	Telescope Observation	AWT	2.2
	Productivity	Telescope Observation, nest observation	AWT	2.2
	Improve nesting success	Cordon deployment	AWT	2.3

	Disturbance	Effort based telescope observation	AWT	2.4
Waterbirds	Count	WeBS survey	AWT	2.5

4.1.1 Atlantic Puffin

Contributor: Alderney Wildlife Trust, additionally the Alderney Bird Observatory submitted a raft count.

Alderney's Atlantic puffin population is the only colony with more than a handful of breeding pairs remaining in the Channel Islands. Historic disturbance, oil spills, disease outbreaks, habitat destruction, predations and potentially poor prey availability have led to dramatic declines, with a population of just 127 apparently occupied burrows (AOB) recorded in 2006.

Since 2006, this population has increased slightly to ca. 180 pairs (Purdie et al. 2023), despite a dramatic decline between 2014-2017, to just 93 AOB, as a result of seabird wrecks (Copping 2018). In addition to this, productivity has been in line with UK averages (Horswill and Robinson 2015). Demographic data, including population size and productivity, and predation and kleptoparasitism are monitored (Table 1). In 2023 the accuracy of the apparently occupied burrow (AOB) census was verified using footage from a remote webcam 'PuffinCam'. In 2023 equipment failure and restricted access meant that no detailed productivity, predation or kleptoparasitism data could be collected.

2023 Population

In 2023 20 early season (April-May) raft counts were conducted, with a maximum of 174 individuals recorded on 24/04/23 (Figure 3.). During the late season (June-July), six raft counts (Figure 2.) were conducted, five from Sula of Brays due to PuffinCam being inoperable, and one from land by the ABO. A maximum count of 206 individuals was recorded on 19/07/23, with an average of 122 ± 76 individuals. The ABO recorded a count of 206 Puffins on 14th July, it is being queried as to whether this was within the Puffin Friendly Zone (and therefore can be compared with other counts), or a wider colony count.



Figure 2. Atlantic puffin rafting off Burhou, photographed during an AWT boat trip during which a raft count was conducted (23/06/23).

In 2023 the post-season AOB survey recorded 198 confident AOBs, (two or more signs of occupation), (Figure 3). Their distribution has shifted slightly, with fewer AOBs recorded on the west side of the island than in 2021, but more on the east side (Figure 4. Purdie et al. 2023) The survey identified an

additional 431 potential AOBs, (one sign of occupation), (Figure 3.). To date, an insufficient amount of footage has been reviewed to accurately identify early season AOBs. This is because a portion of recordings (from April 28th to 9th May) was stored on a different account and had been missed. These videos are now being processed and if enough clear footage is available the AOB survey from 2023 will be validated and a short report produced and presented to activity organisations, ARAG and GSC. This will advise the need for an AOB survey in 2024

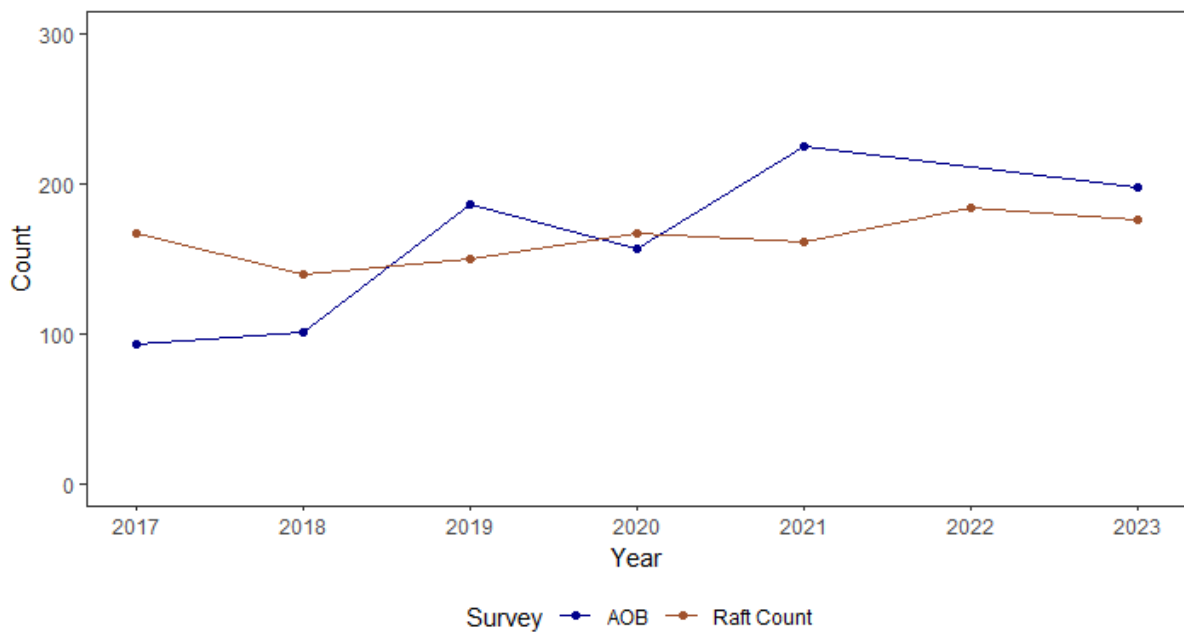


Figure 3. Atlantic puffin population data from AOB and raft count surveys during the last strategy period (2017-2023).

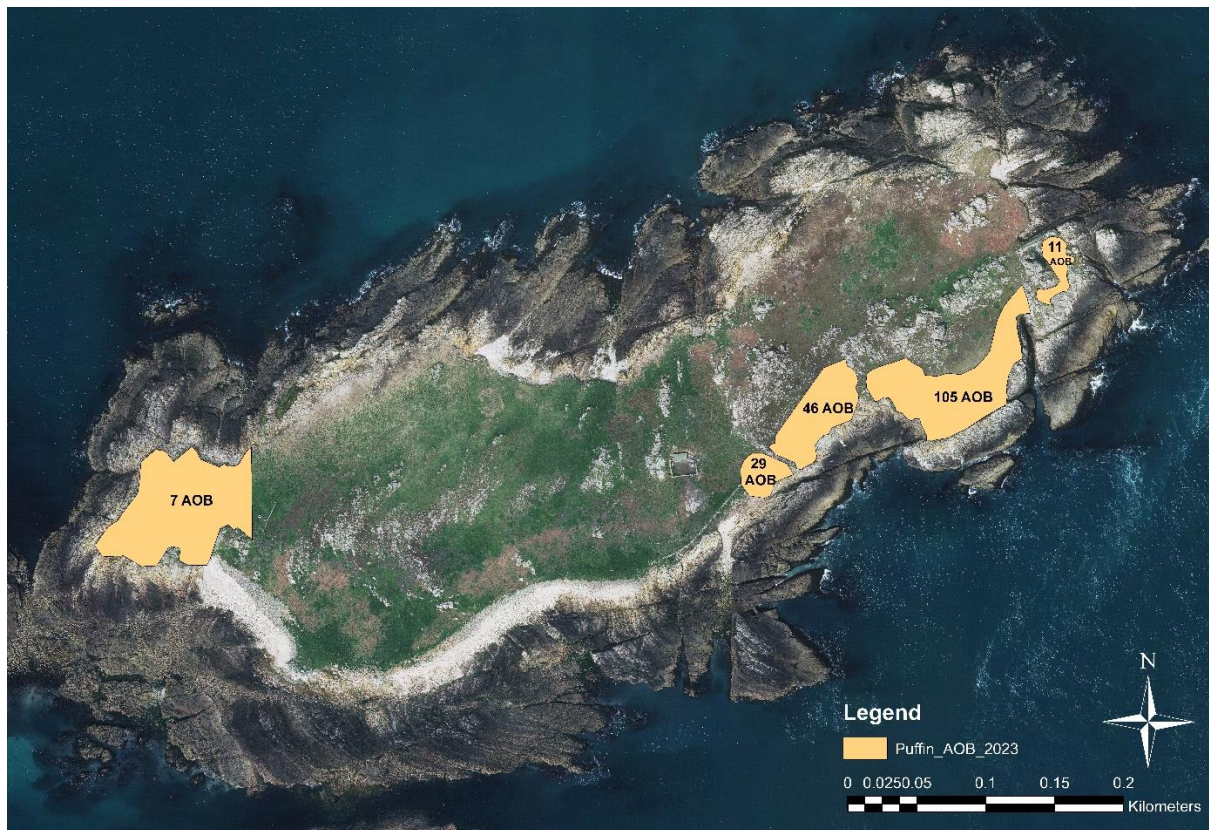


Figure 4. Map of the distribution of confident Atlantic puffin AOBs on Burhou recorded during the post-season AOB survey in 2023. Atlantic puffin burrow areas are shown in yellow, with a key, scale bar and north arrow in the bottom right.

These data indicate that there are at minimum 174 pairs of Atlantic puffin on Burhou (based on raft counts, Figure 3.), and the AOB survey supported a population around this with a confident count of 198 burrows (Figure 3., Figure 4.). This population size is in line with previous years and indicates Alderney's Atlantic puffin population is stable. There is an upper threshold of 629 burrows (with uncertain burrows included), however, this figure does not align with other data, and is likely a significant overestimate. This signifies the inaccuracy of relying on just one sign of occupation.

The late season raft count of 176 individuals is slightly lower than in 2020, 2021 and 2022 (e.g. 206, 207 and 184 respectively), although there was a late season count conducted by the ABO of 206, which will be comparable if it was only within the Puffin Friendly Zone, this is being verified with the ABO. This may indicate a reduction in recruitment to the colony. However, there were only five late-season raft counts in 2023 due to PuffinCam being inoperable, therefore higher numbers may have been missed. In 2024 it is important that more post season counts are conducted to accurately determine if there has been a decline, and potentially advise conservation actions (e.g. social attraction or further reducing disturbance).

2023 Productivity and Kleptoparasitism

Only two puffin carcasses were identified during post season AOB checks, and one predation event of a puffin by a great black-backed gull was observed during the season, coinciding with a group landing on Burhou.

Recommendations

The Puffin population on Alderney appears to be stable, however, more detailed conclusions regarding status of the colony cannot be drawn without more information. Productivity estimates from 2022 were slightly lower (0.5 ± 0.132) compared to previous years (2020, 2021: 0.63, 0.65 respectively, Figure 3.). Should this be the beginning of a downward trend in productivity, for example due to reduced prey availability, this could potentially be disastrous for Alderney's Puffin Colony. It is therefore imperative that remote observation can resume in 2024 to monitor the colonies breeding performance. In addition, a PVA to assess a bottom threshold for acceptable change in productivity should be conducted.

14. Continue to conduct remote observation to record;
 - a. Productivity.
 - b. Kleptoparasitism & predation.
 - c. Raft counts (early season and late season, at minimum 20 for each).
15. Improve ability to fix remote cameras through acquisition of strategic spares and seeking approval for fixing the camera prior to the survey season.
16. Review the validity of the post-season AOB survey, consider reducing frequency of this survey to limit disturbance.
17. Continue to conduct raft counts opportunistically by boat, providing additional data at no extra resource cost.
18. Conduct a population viability analysis.
2. (From ABO feedback) That any cameras used be situated outside of the colony, should further technical breakdown occur then it will not be necessary to request entering the 'small fragile colony' during the birds breeding season risking the collapse of burrows and potential injury or death to the birds. (NB. The main PuffinCam which failed in 2023 is situated outside of the burrow areas).

4.1.2 Northern Gannet

Contributor: Alderney Wildlife Trust

The northern gannet colonies of Les Etacs and Ortac were designating features for the Ramsar site, with ca. 2% of the world's population (Purdie et al. 2022). However, there is increasing pressure on this species from threats such as decreasing prey abundance (Bot et al. 2019, d'Entremont et al. 2021), offshore wind development (Peschko et al. 2021), plastic pollution (Purdie et al. 2022, 2023), bycatch (Calado et al. 2021), changes in fisheries practices (Votier et al. 2013) and acute threats such as oil pollution events (Haney et al. 2014, Champoux et al. 2020) and disease outbreaks (Lane et al. 2023). The last few years has seen consistently low productivity on Les Etacs compared to UK averages (Horswill and Robinson 2015, Purdie et al. 2023), and a corresponding plateau in population size (Figure 5., Purdie et al. 2022).

In 2022, northern gannet populations were devastated by HPAI worldwide (Lane et al. 2023), with an estimated 3500-5800 adults from Alderney's colonies dying due to the outbreak (Purdie et al. 2023). How well the species recover from this trauma is likely to depend on how we manage the other pressures they are exposed to.

2023 Population

Between 2021 and 2023, the population reduced from 8539.2 to 6035.8 AOSs; a reduction of 29%. There was a significant reduction overall compared to censuses since 2011 (the colony stopped growing between 2011 and 2021 so earlier counts were not included), (Poisson GLM, AOS ~ Year,

Estimate = -0.014, $P < 0.001$, Figure 5.), however, some sites were affected worse than others, with 46% in Ortac, and within Les Etacs a range from 15% in North Stack to 23% in West Rock (Table 2.).

Table 2. Mean number of northern gannet AOSs across sites in 2021 and 2023, and the percentage change between years. SD = Standard Deviation.

Location	2021 Mean (n=5)	AOS SD	2023 Mean (n=5)	AOS SD	Percentage Change in AOS
Les Etacs (Total)	5841.6	316.0	4585.2	323.4	-22%
Les Etacs -Pyramid/Turtle Rock	958.4	102.9	743.4	54.4	-22%
Les Etacs - North Stack	972.6	117.8	828.0	90.5	-15%
Les Etacs - West Rock	3910.6	119.4	3013.8	264.7	-23%
Ortac	2697.6	154.2	1450.6	173.2	-46%
Grand Total	8539.2	470.2	6035.8	481.7	-29%

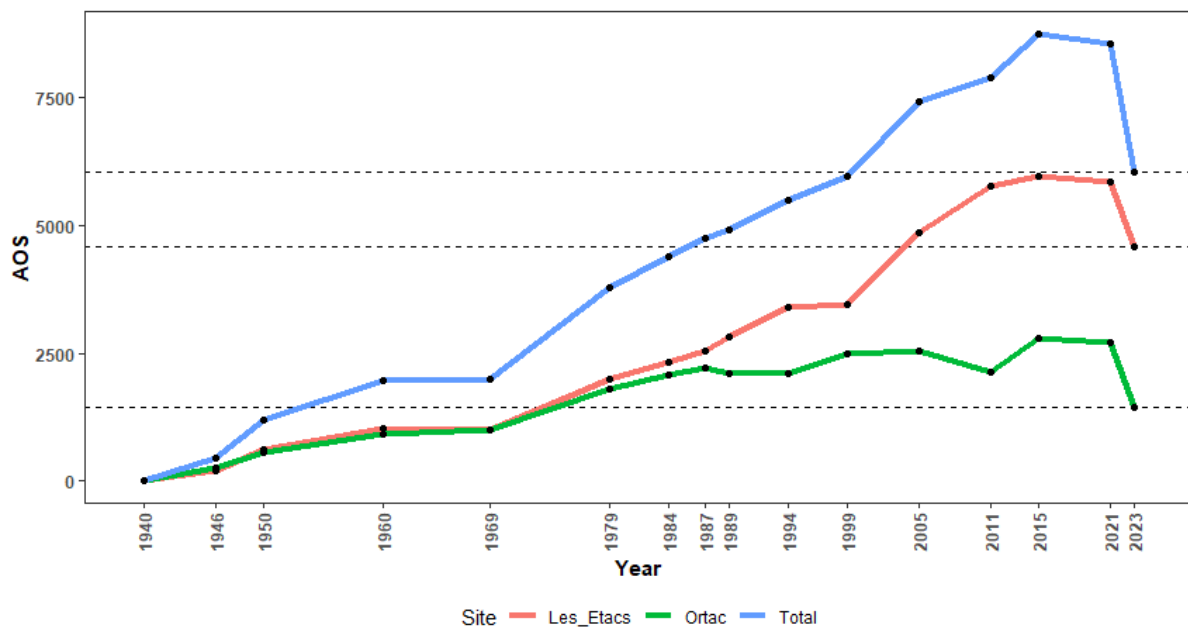


Figure 5. The number of AOS recorded on Les Etacs and Ortac between 1940 and 2023. The dotted line represents the number of AOS recorded in 2023.

The substantial decline of 29% (Table 2.) aligns with the predictions made based on ring returns in 2022 (Purdie et al. 2023). The population had ceased to expand prior to HPAI (Figure 5.), but in just two years there has been such a substantial decline that the population have been reset to the size they were in the 1980s. Where the colony goes from here will depend on the survival and productivity of the remaining birds, as well as changes in recruitment globally across colonies. Maximising the ability to record these features, and then responding with conservation actions where necessary and feasible, is advisable to give Alderney's northern gannet colony the best chance of recovery.

Offshore windfarms pose a potential risk to adult survival (Peschko et al. 2021). Over 1000 km² wind farms are in use, under development, or in planning and scoping within just 200 km of Alderney – well within the foraging range of Alderney's northern gannets (Warwick-Evans et al. 2018, 4C Offshore 2023). These may have a serious impact on the adult survival of northern gannets on Les Etacs and

Ortac (Purdie et al. 2023). This changeover in population, in addition normal to annual variation, may have resulted in a significant variation in the foraging range of Alderney's northern gannets since the last detailed surveys were conducted (Warwick-Evans et al. 2016, Purdie et al. 2022). These data are important for ensuring consideration is given during international marine offshore developments and both securing more surveys and working to ensure developers consider potential impacts should be a priority.

2023 Productivity and Demographics

Les Etacs Overall Productivity

In 2023 productivity was 0.51 ± 0.092 . When adjusted for non-layers (n=24) productivity was 0.55 ± 0.10 . This is in line with productivity prior to HPAI. There are two outliers, Pyramid Stack was slightly higher at 0.6, and West-Rock West-End had lower productivity than the other sites, at 0.33 (Figure 6.). The low productivity on this site is potentially due to high storm intensity during 2023.

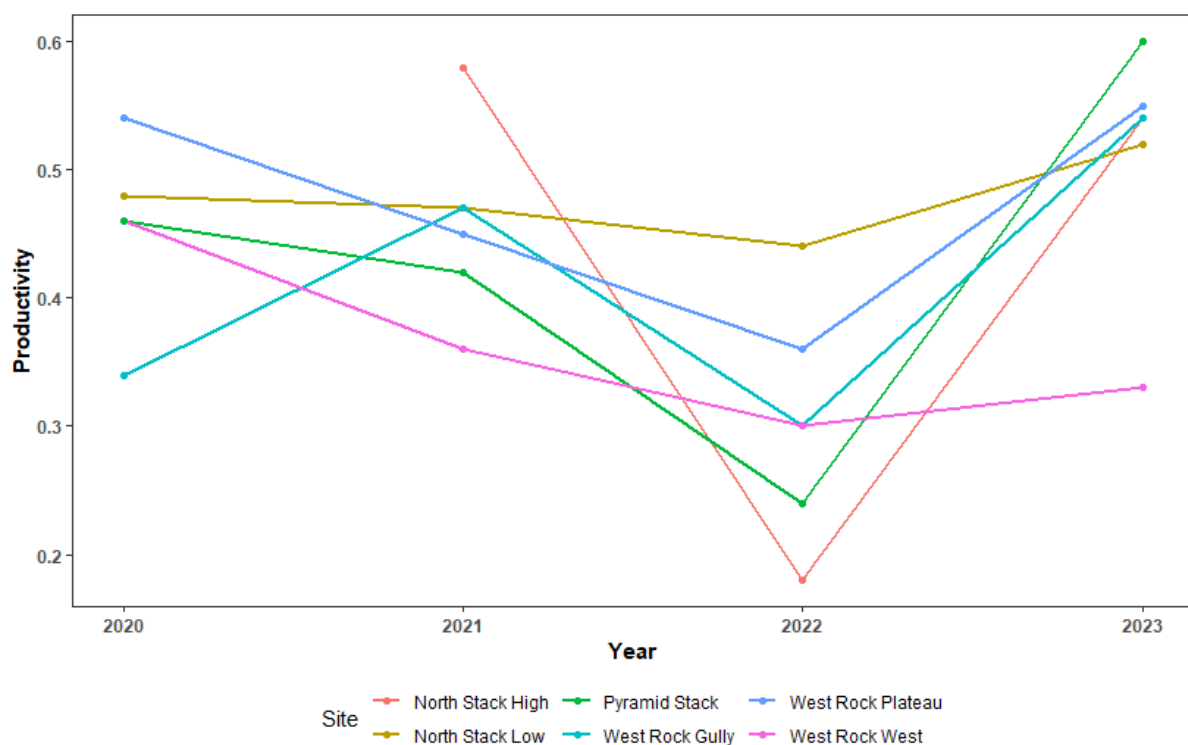


Figure 6. Productivity of northern gannet on Les Etacs across the different sub-colony areas between 2020 and 2023.

2023 Pyramid Stack Demographics

Since 2019 the same 100 AONs have been monitored year-on-year (Table 1). In 2023, 93 of these AONs were occupied – six fewer than 2022. There was an overall productivity of 0.65, the highest since 2019. Furthermore, significantly more chicks fledged in 2023 compared to before HPAI in 2021 (Binomial GLM, Productivity ~ Year, estimate = 0.811, $P < 0.01$). When non-layers, n=6, were removed from the sample, productivity was 0.69.

Table 3. The number of AONs monitored and their productivity on Pyramid stack and across the whole of Les Etacs (including Pyramid Stack)

Year	Pyramid n	productivity	Les Etacs n	productivity
------	--------------	--------------	----------------	--------------

2019	86	0.66	330	0.59
2020	100	0.52	300	0.51
2021	99	0.45	415	0.50
2022	99	0.25	350	0.33
2023	93	0.65	350	0.51

The average laying date was 19/04/23 overall. Successful nests tended to have later laying dates compared to unsuccessful nests where laying occurred (respective means of 19/04/23 & 05/04/23). This is generally in line with mean laying date for all nests pre-HPAI (24/04/2021).

Many of the nest sites which failed in 2022 successfully fledged chicks in 2023 (Table 4.), furthermore. Of those which were successful in 2022 one was absent and four failed, the remaining fledged (Table 4.). Between 2021 and 2023 there is no correlation between nest site and likelihood of successful fledging (binomial glm, Count of Successful AONs ~ Year, $P > 0.1$). There were fewer non-layers in 2023 (6), compared to both 2022 (19) and in 2021 (10).

Table 4. Comparison matrix of the outcomes of individual AONs in 2022 and 2023 from the Pyramid stack 100.

		2023			
		Successful	Failed	Non-Layer	Absent
2022	Successful	15	4	0	1
	Failed	35	18	4	3
	Non-Layer	10	5	2	2
	Absent	0	0	0	1

This increase in productivity on Pyramid stack is an outlier compared to the rest of the colony. It gives some hope that they can recover from HPAI. The increase in productivity is likely a result of reduced competition, both at nesting sites, and for food.

Ortac Productivity

Productivity on Ortac could not be recorded in 2023. Photo surveys were conducted, but there was insufficient data during the mid-season (e.g. July-August, due to poor weather) where the majority of chicks would be visible to even us a comparison of nest and chick counts to calculate productivity (Walsh et al. 1995). In 2024, clear photos of Ortac should be sought in April and July-August, to enable this survey, and more frequently if possible.

2023 Anthropogenic Material

Anthropogenic material returns

The frequency of use of plastics as nesting material and consequent entanglement of the Gannets of Les Etacs were monitored for the 5th year in a row. Observations of material used for nests were undertaken following the method outlined in Appendix 1, ref 1.8, with entanglements monitored following the method outlined in Appendix 1, ref 1.8.

Overall, the Les Etacs gannets were observed returning 1,289 pieces of nest material across ten hours of observation in 2023 (Table 5). Of these, the vast majority (99.4%) were natural, with eight returns of plastics, the second highest since this study began (Table 6; Figure 7). Despite the fall in the

population of gannets due to HPAI, the return of plastics was not significantly different to 2022 (Asymptotic Wilcoxon-Mann-Whitney Test, $Z = 0.25$, $p = 0.802$), although the return of natural material did fall below that in 2022 (Asymptotic Wilcoxon-Mann-Whitney Test, $Z = 2.65$, $p < 0.01$).

*Table 5. Field observations of nest material brought to the Gannetry on Les Etacs in 2023, ordered by date of observation. *indicates a stick was returned; † indicates a plastic balloon (blue, punctured) mixed in with seaweed.*

Observations			Nest Material				
Date	Start Time	End Time	Seaweed	Other Natural	Netting	Rope	Other Anthropogenic
2023-03-17	09:10	10:10	72	0	1	1	0
2023-03-21	09:08	10:08	147	0	0	0	0
2023-03-23	09:38	10:38	180	0	0	0	0
2023-03-28	09:20	10:20	332	0	0	1	0
2023-03-30	09:25	10:25	162	1*	0	0	0
2023-04-08	10:26	11:26	62	0	1	2	1 [†]
2023-04-15	10:49	11:49	33	0	0	0	0
2023-04-17	10:05	11:05	136	0	1	0	0
2023-04-20	09:14	10:14	84	1*	0	0	0
2023-05-05	09:13	10:29	71	0	0	0	0
Total			1279	2	3	4	1

Table 6. The proportion of anthropogenic material brought to Les Etacs as nest material by Gannets for each of the five years of observation. The table is ordered by year. s.d. = standard deviation.

Year	Number of Observations	Mean Return of Nesting Material per Hour (± s.d.)				Total Proportion of Anthropogenic Material (%)
		Natural		Anthropogenic		
2019	16	116.6	± 82.1	0.3	± 0.6	0.2
2020	10	101.9	± 53.4	0.3	± 0.5	0.3
2021	10	225.5	± 85.7	3.5	± 3.1	1.6
2022	10	274.3	± 131.2	0.7	± 0.8	0.3
2023	10	128.1	± 86.7	0.8	± 1.3	0.6

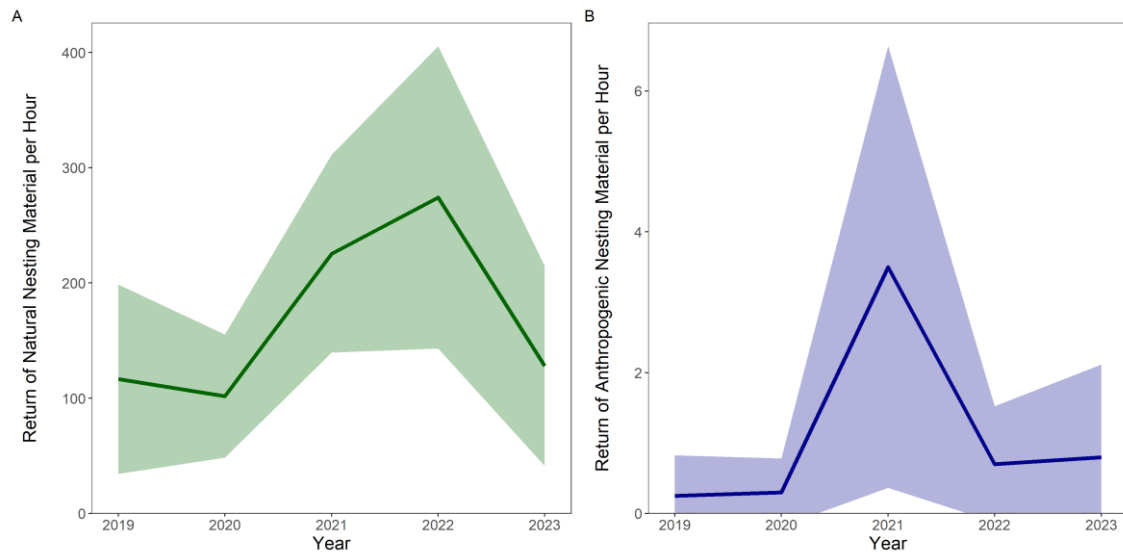


Figure 7: The return of natural (A) and anthropogenic (B) nesting material by Les Etacs gannets per year from 2019 to 2023. The lines indicate the mean value, with the ribbon around each line showing the standard deviation.

This combination of a reduction in returned natural material and an increase in anthropogenic material effectively doubles the proportion of anthropogenic material returned by the Les Etacs Gannets from 2022 to 2023, and, while not at the high of 2021 levels is nonetheless concerning. Given the smaller census population of Gannets following HPAI, this could indicate a preference for collecting anthropogenic material when it is available. However, the low returns of plastic mean any conclusions from these data are strongly affected by year-to-year variability. An appropriate next step would be to conduct a power analysis to determine the amount of sampling needed to detect a significant change in the return of plastics.

Entanglements

A total of 28 gannet entanglements were recorded in 2023, including 23 adults and 4 chicks, all of which resulted in death. This is higher than the number of entanglements recorded in 2022, where 16 deaths were observed (Table 7.), all of which also resulted in death. Instead, the number of entanglements recorded in 2023 similar to observations between 2019–2021, where 29, 23 and 33 entanglements were recorded, respectively.

As with previous years, the highest number of entanglements was recorded in April, which supports the anecdotal observations that prospecting birds rather than established breeders may be most at risk (Figure 8.) (Purdie et al. 2022). However, the number of chick entanglements later in the year were probably under-estimated too. This is because entangled chicks are difficult to see until near fledging age and some may have perished before then.

Table 7. The number of adults and chicks seen killed each year on Les Etacs due to entanglement in netting or rope used as nest lining material.

Year	Adults	Chicks
2019	20	2

2020	16	4
2021	23	7
2022	14	2
2023	24	4

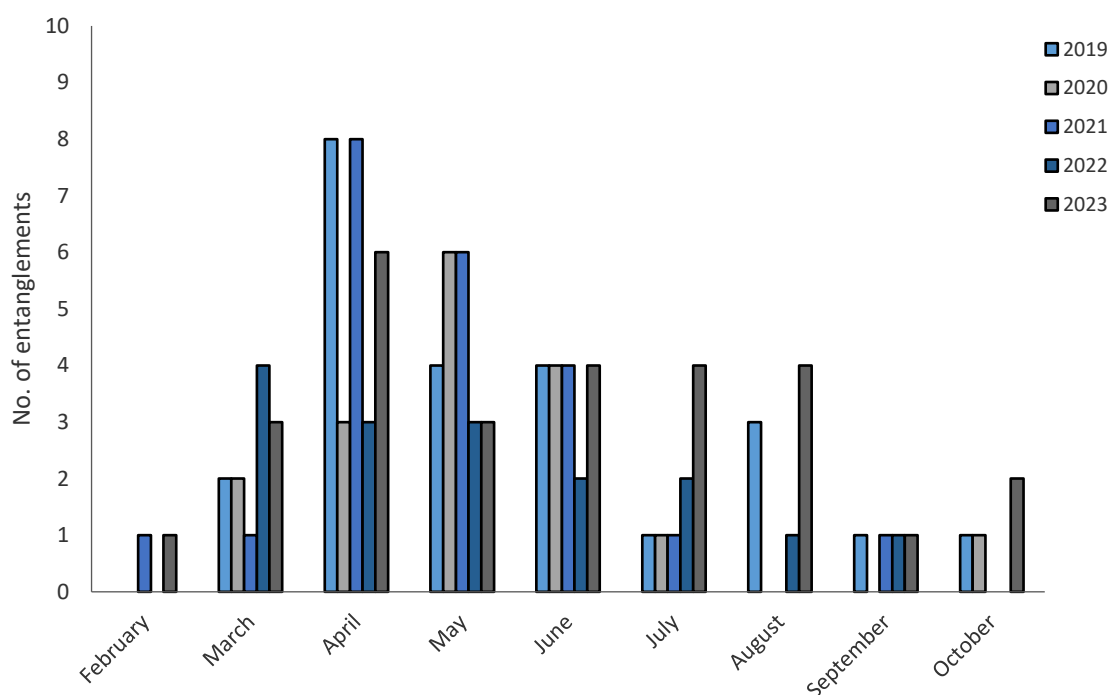


Figure 8. The number of Gannet entanglements recorded each month between 2019-2023.

The amount of plastic material in nests is a concern and the proportion of pairs in which one individual suffered lethal entanglement was 0.7%. This is based on the count of AOS recorded during the Gannet breeding census, and under the assumption that each entangled adult bird was one member of a breeding pair, using the following formula:

$$\frac{\text{Observed entanglements} * \frac{100}{\text{Proportion of colony visible ("70")}}}{\text{AOS identified on Les Etacs in 2023 ("4585.2")}}$$

This is a concerning high rate of entanglement, especially considering the recent declines, and conservation action may need to be considered.

Anthropogenic material is a clear and communicable threat, and collecting and communicating further data on the impact of plastics on the Gannets may be useful in building a sense of connection and empowering individual action against plastic pollution. This could have wider ecological benefit, but reducing plastic as a threat to Gannets would necessarily focus on reducing maritime plastic use rather than personal products, as fishing equipment is the main thing Gannets collect.

Black Irises – an indicator of HPAI

Black irises (Figure 9.) have been observed as a symptom of previous HPAI infection and during investigations on Bass rock found that birds with black irises had a significantly higher chance of testing positive for HPAIV H5 antibodies than those with normal irises (77.7% compared to 12.5%



respectively), (Lane et al. 2023). This may be caused by inflammation of the iris (called iritis).

Figure 9. Northern gannets with a black eye (right) and normal eye (left). Photo taken during AWT boat survey, credit: S Robertson.

Photographic boat surveys in 2023 found an estimated 28% n=60 of Northern gannet on Les Etacs and 36% of Northern gannets on Ortac, n=61, had black irises (Table 8.). There are several limitations to these estimates. Namely, the quality of photographs may have resulted in individuals with minor damage being missed, and the overall estimate relies on the assumptions that there is an equal likelihood of a gannet being infected in either eye, and of the gannet facing either its damaged or clear eye in either direction. Furthermore, it does not account for the proportion of gannets which have two black eyes, because a precise estimate for this could not be drawn from the sample (n=13).

Table 8. The number of Northern gannets identified clear or black eyes from photographic surveys of Les Etacs (top) and Ortac (bottom). NB. The adjusted overall proportion is based several assumptions (Table 1).

		Gannets observed during photo surveys			Adjusted overall proportion
	Les Etacs	Left Eye	Right Eye	Both Eyes	
Condition of iris	Black	3	4	3	
	Clear	15	27	8	

		<i>Proportion</i>	<i>0.17</i>	<i>0.13</i>	<i>0.27</i>	<i>0.28</i>
	Ortac	Left Eye	Right Eye	Both Eyes	Adjusted overall proportion	
Condition of iris	Black	6	4	2		
	Clear	27	22	0		
	<i>Proportion</i>	<i>0.18</i>	<i>0.15</i>	<i>1.00</i>	<i>0.36</i>	

These data indicate that a large proportion of the populations were infected by HPAI, and survived. This may have both positive (e.g. resistance to future HPAI infection), and negative (e.g. impaired vision resulting in reduced productivity and survival) effects on the colony. Some birds were seen with two black eyes, indicating that the black irises do not completely impair vision.

There was intent to pair these data with productivity observations, however, without marking (e.g. colour ringing) of individuals, it was not possible to identify the condition of both eyes of each pair. In future, in situ counts, potentially during seabird ringing trips of the proportion of individuals with black eyes, would give more accurate estimates. Furthermore, observing the performance and survival of individuals with black irises could help understand the impact this will have on the colony.

Recommendations

The northern gannet population on Alderney has declined significantly, and whilst productivity is higher than before, it is still below the UK average, indicating that Alderney's northern gannets are still underperforming. Furthermore, it is not clear how new offshore developments and latent effects of HPAI may impact the colony.

1. Continue to monitor productivity on Les Etacs and the 100 AONs on Pyramid stack
2. Census the colonies in either 2024 or 2025, resource dependent
3. Trial the use of drones for censusing in accordance with local regulation and seeking advice from national experts
4. Continue to monitor anthropogenic material returns and entanglements
5. Recover existing geolocator tags, and review requirements for further location data. Recovery of tags will need to be covered by relevant licencing.
6. Review methods to monitor black-eye
7. Conduct photo-surveys of Ortac in April and July, and potentially during monthly seal surveys, to enable productivity estimates
8. Conduct a power analysis to assess the monitoring frequency needed to pick up changes in return rate of anthropogenic materials
9. Continue monitoring plastic returns in 2024 to assess whether the upward trend in plastic returns continues, in line with the results of the power analysis

4.1.3 Northern Fulmar

Contributor: Alderney Wildlife Trust

Northern fulmar, *Fulmarus glacialis*, henceforth referred to as fulmar, are a pelagic scavenger which nest on cliffs and islands. Fulmar productivity is now generally low at 0.419 ± 0.127 across the UK and with some populations showing signs of decline such as in the North-West Atlantic there is concern for the species (Horswill and Robinson 2015, Mallory et al. 2020). Productivity varies dramatically across UK populations, with a range from 0.160 – 0.740. Fulmar's reliance on fisheries discards may have become a pitfall with fisheries reform reducing the quantity of discards available (Bicknell et al.

2013). They are also highly susceptible to bycatch, plastic ingestion (Franeker et al. 2011) (Puskic et al. 2020, Charlton-Howard et al. 2023) and offshore renewables developments (Brignon et al. 2022). They may also be exposed to predation pressure from rodents which occupy their most of their breeding sites on Alderney.

2023 Population

Fifty-four fulmar AONs were located around Alderney's coast. Of these, 31 were within the West Cliffs survey area, of an initial 48 perch points. The population has increased significantly since the last strategic plan period (2017-2023), (Poisson GLM, estimate = 0.0884, $P < 0.01$, figure 8.).

2023 Productivity

Fewer fulmar successfully fledged chicks in 2023 compared to 2022, only 9 out of 29 observable attempts in 2023, compared to 14 of 29 in 2022. This gives a productivity of 0.31. There has been no significant change in productivity during the last strategic plan period (2017-2023), (Binomial glm, $P > 0.1$, Figure 10.).

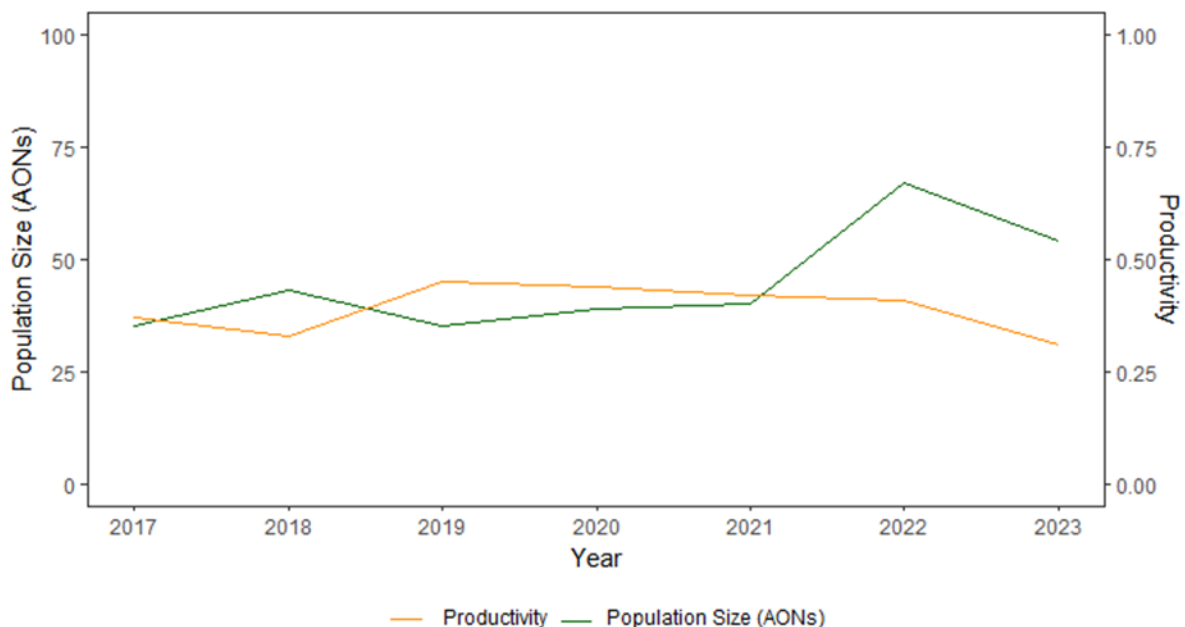


Figure 10. Population size (AONs) and productivity of Northern Fulmar on Alderney. Productivity is recorded from Fulmar within the West-Cliffs area.

Productivity in Alderney's Northern Fulmar population has been slightly low for several years, although this is only just below the UK average of 0.419 ± 0.127 , (Horswill and Robinson 2015). This may be indicative of low food availability, pressure from invasive predators (e.g. rodents), or other pressures such as offshore developments or plastic pollution. Fulmar are long lived so may be able to maintain a stable population with low productivity, a population viability analysis should be considered to inform this. Should the population begin to decline, additional surveys (e.g. geolocation, diet assessment, predator monitoring) should be considered to advise conservation actions.

Recommendations

The northern fulmar population on Alderney appears to be stable, although there is low productivity. Monitoring should continue to enable early identification of any decrease in population.

1. Continue to monitor number of AONs and their productivity on the West-Cliffs survey area
2. Continue to census using round island boat surveys.
3. Investigate use of drones in future round island surveys.
4. Consider conducting a population viability analysis to inform thresholds for a stable population.

4.1.3 Great Cormorants and European Shags

Contributor: Alderney Wildlife Trust, Alderney Bird Observatory

The number of European shag (henceforth referred to as 'shag') breeding on Alderney (excluding Burhou) increased for the third year running, at 155 AON in 2023 compared to 141 AON in 2022. Shags breeding on Burhou could not be accurately censused by boat. There has been a significant increase in the number of shags breeding on Alderney in the last strategy period (2017-2023), (Poisson GLM, estimate = 0.0858, $P < 0.001$, Figure 11.).

Great cormorant breed on Little Burhou. Nine AONs were recorded during round island boat surveys. This is the same as was identified by the ABO during a ringing trip in 2023 (section 4.1.9). This is the same as was identified during 2022 and fewer than 2021 (11), and there has been no significant change in the great cormorant in the last strategy period (2017-2023), (Poisson GLM, $P > 0.01$, Figure 11.).

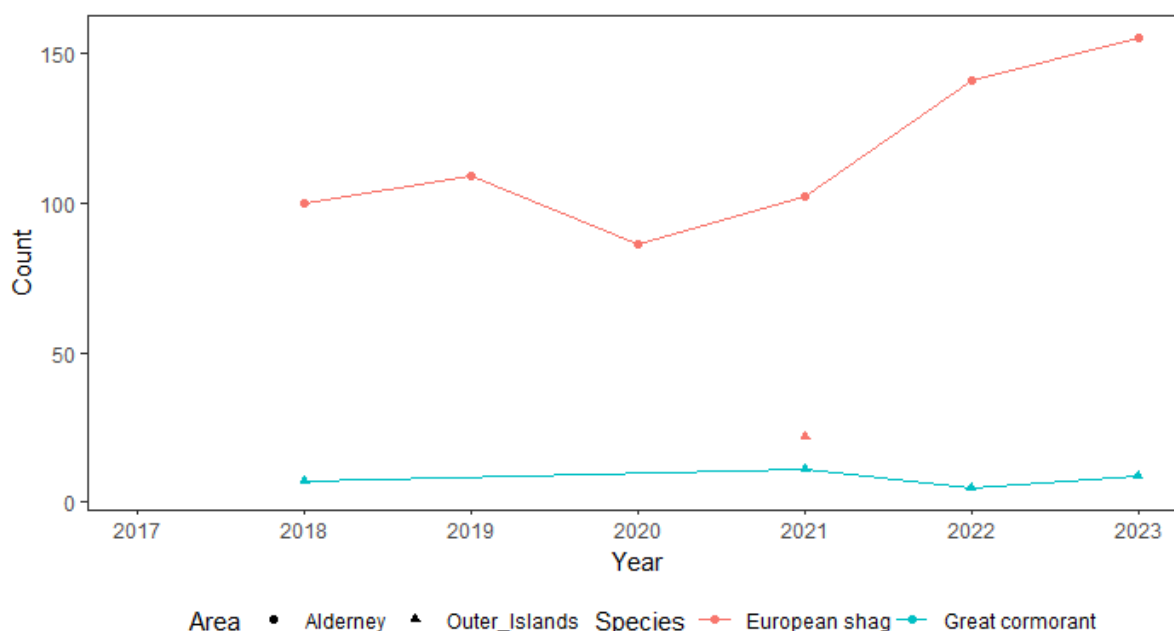


Figure 11. Population size of European shag and great cormorant on Alderney and the outer islands during the last strategy period (2017-2023).

Recommendations

1. Continue to census shag and great cormorant populations.
2. Continue to collect nest observation data during annual ringing trips (see section 4.1.9).

4.1.4 Breeding Gulls

Contributor: Alderney Wildlife Trust

There are three species of gulls breeding within the Ramsar site and around Alderney. These are great black-backed gull, herring gull and lesser black-backed gull. Several other gull species use the site outside of the breeding season and are recorded during monthly WeBS counts. Gull populations on

Burhou have not been censused since 2021 to limit disturbance following a decline in the lesser black-backed gull population (Purdie et al. 2022). Updating these data should be a priority for 2024.

On Alderney 120 herring gull AONs were recorded in 2023. This is lower than 2022 (142 AON), but overall, the population of herring gulls has increased during the last strategy period (2017-2023), (poisson GLM Number of AON ~ Year, estimate = 0.141, $P < 0.001$, Figure 12). Twenty seven lesser-black backed gull and six great black-backed gull AONs were recorded in 2023, compared to 37 and nine respectively. However, there has been no significant change in either population during the last strategy period (two separate Poisson GLM for each species, Number of AON ~ Year, $P > 0.01$, Figure 12.).

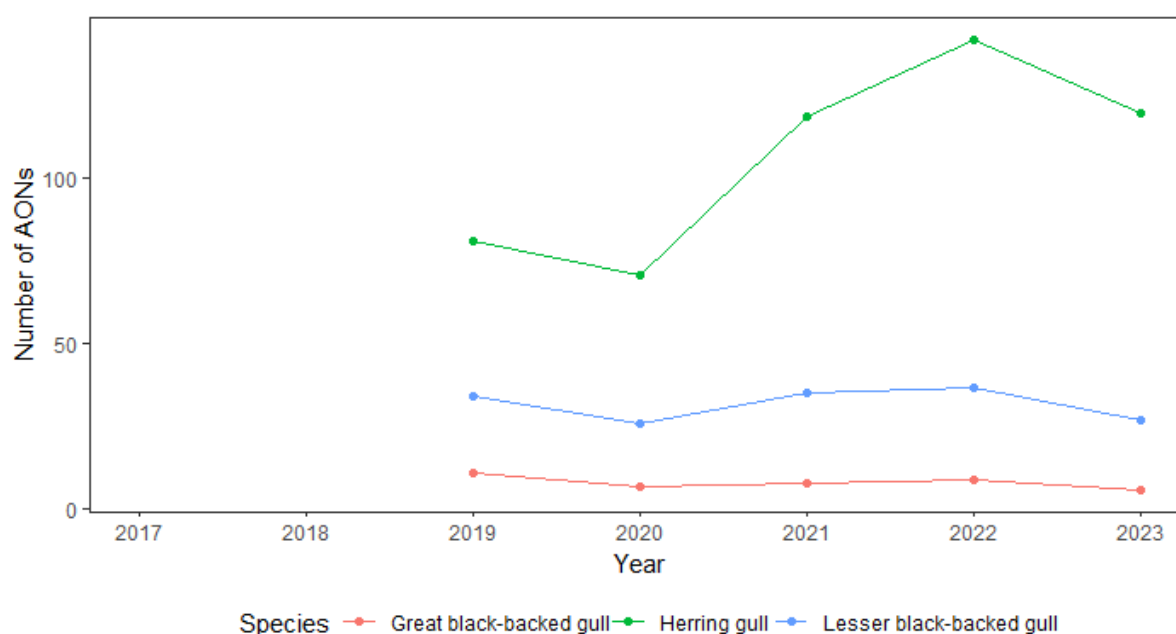


Figure 12. Population size of herring gull, lesser black-backed gull and great black-backed gull on Alderney and the outer islands during the last strategy period (2017-2023). These data do not include populations on Burhou (which were not recorded in 2023).

Recommendations

1. Continue to census gull populations on Alderney and islets excluding Burhou using round island surveys.
2. Census gull populations on Burhou during 2024, coordinating with ringing surveys to minimise disturbance.

4.1.5 Razorbill and Guillemot

Contributor: Alderney Wildlife Trust

A maximum of 35 razorbills and 103 guillemots nested around Alderney. Mean razorbill productivity was 25%. Mean guillemot productivity across all sites was 39% but highly skewed between sites, with all successful breeding attempts occurring on the gannetries.

Both razorbill and guillemot are preyed upon by avian predators, and rodents may also have a negative impact. Whilst guillemot are doing well on the gannetries, they may be vulnerable to future HPAI outbreaks on these densely populated shared colonies. Investigating measures (e.g. social attraction,

conditioned-food-aversion, supplementary feeding (Hario 1997, Michael W. Parker et al. 2007, Ferguson et al. 2021)) to improve nesting success at other sites may increase the stability of the populations.

Recommendations

1. Continue to census razorbill and guillemot populations.
2. Monitor guillemot productivity on Les Etacs.
3. Use remote cameras to monitor razorbill and guillemot breeding on other sites, particularly Coque Lihou.
4. Review methods to reduce avian predation, e.g. social attraction, conditioned-food-aversion, supplementary feeding or habitat modification.

4.1.6 Common Tern

Contributor: Alderney Wildlife Trust

In 2023, several common terns were sighted prospecting Fort Houmet Herbe during early June (where they had bred between 2019 and 2022), however, no AONs were identified, and the terns appeared to have abandoned the colony. This may be as a result of the poor breeding season in 2022 (Purdie et al. 2023) or regional shifts in population as a result of HPAI. They may potentially return to Alderney in future, and as such a careful watch should be maintained in late May-June on potential sites, and the ability to deploy signage and rodent control maintained.

Recommendations

1. Monitor potential sites for activity in May-June 2024
2. Maintain stock of signage and deploy if common terns colonise a new or existing site.
3. Maintain stock of rodent control equipment and supplies and consider deploying this on sites or land adjacent to sites if new ones are colonised.

4.1.7 Ringed Plover

Contributor: Alderney Wildlife Trust

Ringed plover (*Charadrius hiaticula*) are beach nesting shorebirds. They are a species of local conservation concern and are listed on the UK Red List due in part to their population more than halving between 1984 and 2007 (Conway et al., 2018). Alderney has the last regularly breeding population of ringed plover in the Channel Islands (Young et al., 2023), comprising only six pairs (Purdie et al., 2023). Due to the fragility of this population, an evidence-based conservation action of protecting nests from disturbance with physical barriers (nest cordons) has been in place since 2022 (see Williams et al., 2020 for evidence), and monitoring of nesting pairs and productivity was conducted following the methods outlined in Appendix 1, ref 2.2 & ref 2.3.

In 2023, seven pairs of ringed plovers bred on Alderney, an increase from six in 2022: two pairs on Clonque, four pairs on Platte Saline, and a further pair on Saye. Overall, we observed eleven nesting attempts, with two of these successfully fledging chicks (one on Clonque, fledging one chick, and one on Platte Saline, fledging three chicks). Neither successful nest was within a cordon, but all nests within cordons did successfully hatch ($N = 3$), compared to 50% successful hatching outside the cordon ($N = 8$; Table 9). In total, 4 chicks were fledged, giving an island-wide mean of 0.57 chicks fledged per pair, the worst year since 2020 (Table 10.).

Table 9. Causes of ringed plover nest loss in 2023. The table is sorted by nest outcome, then cause of nest loss in order of frequency, and lastly alphabetically by site. No predation events were directly observed, and predators listed are only given if there was substantial or repeated interaction with a breeding pair, suggesting they are likely to be responsible for nest failure.

Site	Nest ID	Cordon	Nest Outcome	Cause of Loss
Platte Saline	4_P4_PS	Outside	Failed	Unknown / Abandoned
Platte Saline	6_P3_PS	Outside	Failed	Unknown / Abandoned
Platte Saline	8_P1_PS	Outside	Failed	Unknown / Abandoned
Platte Saline	11_P1_PS	Outside	Failed	Predation – Unknown
Platte Saline	3_P3_PS	Inside	Hatched	Predation – Kestrel
Saye	2_P2_SY	Inside	Hatched	Predation – Herring gull
Clonque	7_P6_CLQ	Outside	Hatched	Predation – Unknown
Platte Saline	1_P1_PS	Inside	Hatched	Predation – Unknown
Saye	10_P2_SY	Outside	Hatched	Predation – Unknown, possibly Carrion crow
Clonque	5_P5_CLQ	Outside	Part Fledged	Partial Predation – Unknown
Platte Saline	9_P7_PS	Outside	Part Fledged	Partial Predation – Unknown

Table 10. The breeding population, productivity, and clutch and chick survival probabilities of ringed plover since detailed monitoring began. The table is ordered by year (ascending). *n.k.* = not known.

Year	No. of Pairs	No. of Nesting Attempts	No. of Chicks Fledged	Productivity (chicks per pair)	Survival (%)	
					Clutch	Chicks
2017	5	9	4	0.80	29	<i>n.k.</i>
2018	4	9	6	1.50	30	<i>n.k.</i>
2019	4	8	6	1.50	62	28
2020	6	9	1	0.17	35	10
2021	5	12	5	1.00	22	47
2022	6	15	9	1.50	31	54
2023	7	11	4	0.57	51	2
Mean (2017 – 2022)	5	10.3	5.2	1.08	34.8%	34.6%
Mean (all years)	5	10.4	5	1.00	37%	28.2%

The probability of a clutch surviving to hatching in 2023 (51.3%) was above the six-year average for 2017 to 2022 (34.8%), and the highest since 2019 (62%). However, the probability of a chick surviving to fledge (2.2%) was not only much below the six-year average (34.6%), but the worst on record since detailed recording began in 2017.

Interactions with predators and humans observed in hatched nests during set half-hour observation periods included defensive responses to oystercatcher (x1), sanderling (x1), grey plover (x1), kestrel (x1), crow (x1), herring gull (x3) and lesser black-backed gulls (x1), groups of people without dogs (x2 - triggered from a distance of ~ 30 m in one case and ~8 m in another), groups of people with dogs (triggered from a distance of ~ 50 m). There were few observed responses to vehicles, but on one

occasion a digger passing close to the Sandworks on Platte Saline caused an adult to flush from a nest it was incubating.

The 2023 Action Plan recommended that a request be made that the CIBRS consider the colour ringing of nesting adult ringed plover and their chicks to aid monitoring and improve understanding of their demography. This was not done in 2023 but would remain a useful avenue for future work to better understand inter-pair differences in reproductive success.

These results paint a mixed picture – on the one hand, there has been a small increase to the breeding population of ringed plover, but on the other, productivity has fallen after a consistent rise from 2020 to 2022. Notably, clutch survival was relatively high, and all nests within cordons successfully hatched, suggesting that the intervention of cordons around nesting areas is working as intended at protecting nests during this vulnerable stage. Taken together, this suggests that the deployment of cordons should be continued to protect nests at the egg stage, but that an alternative conservation action should be considered to improve the survival of chicks through to fledging.

The Ramsar Annual Action Plan 2023 (Purdie et al., 2023) suggested a potential method of improving chick survival, namely avian predator control by oiling of carrion crow eggs to limit predation of ringed plover chicks, particularly around Saye. This work was not carried out in 2023 due to staff workload, but in the course of the year, there was limited evidence that carrion crow control would have affected productivity of many nests, potentially only the later nesting attempt at Saye. In 2024, it may be more prudent to have a more in-depth assessment of the causes of nest failure at the chick stage before action.

Recommendations

1. Continue monitoring the number of breeding ringed plover pairs and productivity across the island.
19. Deploy the cordons as in previous years as they seem to offer some benefit to ringed plover nests at the egg stage.
2. Where appropriate deploy remote camera traps around nest sites to both better identify causes of nest failure at the egg stage and lower the time-burden of monitoring hatching success in person.
3. Increase monitoring of hatched nests, particularly in the early morning when avian predators are most active, using remote observation for a period of one hour per nest per week, when staff time allows.
4. Work with CIBRS and ABO to develop an adult colour ringing scheme.
5. Investigate similar programmes at other colonies to develop successful methods.
6. Investigate the use of volunteers to assist with monitoring, and potentially prevention of, predation.

4.1.8 Oystercatcher

Contributor: Alderney Wildlife Trust

An oystercatcher comprehensive census and productivity assessment was performed in 2022. In 2023, oystercatchers were only recorded through the Wetland Bird Survey (WeBS) due to limited resources, the intensive nature and low accuracy of oystercatcher surveys, and other survey priorities.

Recommendations

1. Trial censusing oystercatchers on mainland Alderney in 2024, potentially as the start of a three-year cycle

4.1.9 Seabird Ringing

Contributor: Alderney bird observatory

The 2023 Alderney Bird Observatory Seabird Ringing return - contributing to the States of Alderney RAMSAR programme - Compiled by John Horton, Warden ABO.

Without any confirmed cases of avian flu recorded in 2023 the seabird ringing programme, with particular attention to hygiene protocols, was able to return largely to the familiar schedule delivered through the Channel Islands Bird Ringing Scheme (CIBRS) since the 1940s. The weather and sea conditions play a part each year limiting parts of the programme and 2023 was no exception. Overall, it was a welcome return to the continuity of the standardised research led by Alderney Bird Observatory since 2016 and an opportunity for the seabirds to begin to recoup numbers during a virus free year. Appropriate risk assessments were delivered to the harbour office prior to each trip departure, as with previous years we used Avante Boat Trips with experienced boat skipper Dave Venn for our nautical transport and transfers that once again were completed incident free.

The new protocols successfully introduced by the ABO in 2022 (see 2022 ABO seabird ringing return for full details, available at section 4.1.2 Seabird Ringing (Purdie et al. 2023)), were adopted again in 2023. In particular the new landing location on Little Burhou in April greatly reduces overall time spent delivering the work, negating landing on Burhou entirely, reducing disturbance to the birds and reducing risk of injury to the researchers. In July, the change of operations to making just one visit to Burhou but staying for a longer period to incorporate the colour ringing of the lesser black backed gull colony with the mist-netting of the storm petrel colony. This reduced disturbance, cut the costs of making separate visits and allowed for greater opportunity to deliver the programme during acceptable weather condition windows. See section 4.5.8 for background on access to Burhou in 2023.

Somewhat inexplicably, the police were waiting for the Burhou ringing team when they landed back on mainland Alderney 16th July, apparently persons unknown had gone to some lengths to attempt to convince the police that our team were illegally handling birds on Burhou. Though understandably bewildered, each ringer was able to on request to immediately produce their respective ringing licence and permission obtained from the States of Alderney to visit Alderney to ring birds. The police found everything to be in order, they were very professional and extremely apologetic (apparently realising they had been misled). As the Island Bird recorder, warden of Alderney Bird Observatory and Chairman of The Channel Islands Bird Ringing Scheme I was frankly shocked and appalled by this misguided and entirely unnecessary interference and would like to apologise to all those who took part in this seabird ringing trip for any embarrassment caused in a matter that was moreover a case of wasting police time. We can only guess at the motives of those wishing to created an issue where none existed. I am delighted to report that the team for Burhou 2024 is already fully booked, mostly by returners from the 2023 visit, clearly and thankfully undeterred by this incident, we look forward to welcoming you back to Alderney.

Little Burhou - Target species great cormorant

There has been a more than 10% drop in breeding pairs of great cormorant at traditional marine colonies in the British Isles over the last 40 years (NB *UK great cormorant populations are similar to those in 1986* (<https://www.bto.org/understanding-birds/birdfacts/cormorant>), *the author of this section was asked for clarification and has declined to comment*), the ongoing colour ringing of our marine habitat cormorant chicks is helping us to understand the movements of local birds in terms of individuals remaining in Alderney waters, moving on to join other breeding colonies in the wider

Bailiwick and Channel Islands or choosing inland locations in the UK or on the nearby continent at which to raise the next generation as appears to be the trend. This years' cormorant research was completed on the same date as it was in 2021 & 2022, the 29th of April.



Figure 13. ABO ringing team visiting Little Burhou supervising trainee ringers processing cormorant chicks.

Target Species: Great cormorant - Phalacrocorax carbo

- *Date: 29/04/2023*
- *Location: Little Burhou Island*
- *Number of people involved in ringing: 4 (licensed ringers)*
- *Time on island 14:50hrs – 15:25hrs*
- *Time spent ringing (i.e., start time when each net was opened and end time when each net was closed) 20 mins*
- *Capture method: By hand*
- *Number of nets: N/A*
- *Length of nets: N/A*
- *Net locations: N/A*
- *Number of birds caught/ringed: 5*
- *Number of controls (if applicable) N/A*
- *Number of retraps (if applicable): N/A*
- *Number of casualties/injured bird: N/A*
- *Any additional information e.g., observations, any additional things recorded such as biometrics etc.*

Wind E 9-12mph, Temp 12C, Relative Humidity 91%, sunny/ sea mist

There were 10 chicks in total from 9 nest sites (*NB this does not correspond with data in table 11. (8 nest sites), author of this section was asked for clarification but declined to comment*); 3 chicks were too small to ring and 3 further chicks were near full grown and present with adults outside of the nesting area, the location of the latter dictated that they were not approached for the birds and for the ringers' safety. The colony nested again at the same location as last year having moved here in 2021 and 2022, this site being further to the west of the area utilised 2016-2020, records show that the cormorants have historically used this current location prior to 2016 (Hill 1993), and have in recent years returned to it. Each chick was fitted with a Channel Islands Bird Ringing Scheme metal ring size 'G' on its left leg and on the right leg a single black plastic darvic type ring with white digits sourced by Alderney bird observatory that may be read by observations in the field. This species is certainly gregarious in the timing of its nesting period, the presence of 3 birds that had left the nesting area suggests a particularly early breeding season but still there were 3 chicks on nests considered to be under three weeks of age and too small to ring. The majority of this year's chicks were however present at the colony and of optimal age for the research to be undertaken. The overall number of chicks was consistent with the total number of chicks recorded at this small colony in recent years.

Table 11. – No. of chicks per nest (NB eight nest sites are recorded here, but nine are recorded in the text, author of this section was asked for clarification but declined to comment).

<i>No. of nests</i>	<i>No. of chicks</i>
4	0
1	1
3	2
	<i>Fledged chicks 3</i>

Coque Lihou – target species European shag -*Gulosus aristotelis*, common guillemot - *Uria aalge* and razorbill - *Alca torda*

Target Species: European shag -Gulosus aristotelis & razorbill - Alca torda

· *Date: 24/06/2023*

· *Location: Coque Lihou*

· *Number of people involved in ringing: 3 (licensed ringers)*

· *Time on island 0740hrs – 0910hrs*

· *Time spent ringing (i.e., start time when each net was opened and end time when each net was closed)*
No nets deployed.

· *Capture method: By hand*

· *Number of nets: N/A*

· *Length of nets: N/A*

· *Net locations: N/A*

- Number of birds caught/ringed: 21 Shag (chicks) and 1 Razorbill (adult)
- Number of controls (if applicable) N/A
- Number of retraps (if applicable): N/A
- Number of casualties/injured bird: N/A
- Any additional information e.g., observations, any additional things recorded such as biometrics etc.

Bright sunshine/light cloud, Temp 16C, Humidity 82% Wind SSE 6mph.

21 shag chicks were ringed from 12 nests, a further 9 nests containing a total of 15 chicks were noted but not accessible to the ringers. The auk colony was almost entirely absent with zero adult birds located sitting on eggs and only two chicks sighted. The trail cameras on the islet (not present in 2021) should offer some insight into the productivity for 2023 but judging by this years ringing team visit productivity was worryingly low (this visit only located 2 razorbill chicks). Notably there were also no lesser black backed gull nesting on the east side of the islet this year.



Figure 14. ABO assistant warden Matt Scragg with CIBRS Jersey based ringer Paul Pestana processing Shag chicks on Coque lihou.

Burhou Island – target species European storm petrel - *Hydrobates pelagicus*, lesser black-backed gull- *Larus fuscus*.



Figure 15. The 2023 Burhou seabird research team. Comprising of professional ecologists and volunteer researchers all fully licenced.

Target species: European storm petrel - *Hydrobates pelagicus*, lesser black-backed gull- *Larus fuscus*

· Date: 13/07/2023- 16/07/2023

· Location: Burhou Island

· Number of people involved in ringing: 9 (licenced ringers)

· Time on island 1530hrs 13th July to 11:30hrs 16th July

· Time spent ringing (i.e., start time when each net was opened and end time when each net was closed) See additional information chart Table 12.

· Capture method: By hand (Gulls) By mist net (Petrels)

· Number of nets: 5

· Length of nets: 18m & 12m

· Net locations: see NE Burhou headland net locations used by the ABO since 2016, utilised by CIBRS since 1973 and ratified by the current ARAG chairman as the recommended location for mist-netting petrels. Extracted from 2021 ABO Ramsar Return: "Grid ref 49.731241, -2.252612), Session 2 (Grid ref 49.73155, -2.24818) Session 3 (Grid ref 49.73061, -2.25572)" (Horton 2021).

· Number of birds caught/ringed: storm petrel (511). Lesser black-backed gull (139).

· Number of controls (7) storm petrels

· Number of retraps (if applicable): European storm petrel (138), European shag (1), lesser black backed gull (2).

· Number of casualties/injured bird: 0

· Any additional information e.g., observations, any additional things recorded such as biometrics etc.

As the table below shows us, inclement weather curtailed activities somewhat, particularly so for the storm petrels for which only one session was possible for mist netting. Despite the poor conditions the team produced an excellent return making full use of the periods of weather suitable for completing the various ringing activities. The trip was capably led by ABO assistant warden Matt Scragg and was completed without incident. Special thanks to the harbour office for transporting and landing the team on Burhou on the 13th.

Table 12. Date, start and end time, number of birds processed, temperature, humidity, max wind speed, moon stage, weather conditions of ringing activities on Burhou conducted by the ABO in 2024.

Date	Activity	Start time	End Time	Birds processed	Temp	Humidity	Maz wind	Moon	Weather
13th July	Colour ringing Gull Chicks	5.35pm	8pm	39	17C	80%	WSW 14.9mph	N/A	Sunny, Scattered Cloud
13th into 14th July	Mist netting Storm Petrel	9.45pm	3.15am	656	16-17C	88%	WSW 12.4mph	No moon to 10%	Cloud cover
14th July	Colour ringing Gull Chicks	0850am	1220pm	69	16-18C	89%	SSE 16.7mph	N/A	Sunny, Scattered Cloud
14th July	Colour ringing Gull Chicks	7pm	8pm	34	17C	90%	WSW 19.8mph	N/A	Sunny, Scattered Cloud
14th July	Mist netting Storm Petrel	N/A	N/A	0	16C	96%	SW 26.7	N/A	Scattered showers overnight
15th July	Colour ringing Gull Chicks	7am	1030am	39	17-18C	79%	SSW 21.7mph	N/A	Sunny, Scattered Cloud
15th July	Colour ringing Gull Chicks	4pm	5.30pm	12	18C	70%	SW 26.9	N/A	Sunny, Scattered Cloud
15th July	Mist netting Storm Petrel	N/A	N/A	0	17C	74%	SW 28.0	N/A	Partly Cloudy

Incidental catch ringings accounted for 28 European shag- *Gulosus aristotelis*, 18 herring gull- *Larus argentatus*, 8 great black backed gull- *Larus marinus* and 10 European rock pipits- *Anthus petrosus*.

Northern gannet - Morus bassanus

Colour rings were obtained in preparation of colour ringing gannet chicks on Ortac, unfortunately poor weather and an exceptional swell prevented the team landing on Ortac to begin this project this year.

Note from Alderney Animal Welfare Society

Contributor: Alderney Animal Welfare Society

There were weather and personnel challenges with the planned ringing in 2023 which unfortunately led to the programme not being carried out. Short notice in requesting assistance from AAWS with no trained or experienced personnel available may have also limited the success had the weather been less challenging.

Recommendations

1. Continue the seabird ringing programme in 2022 following targeting the same species, locations and using the same methods as approved in 2023.
2. From AAWS - Appropriate notice and planning for the proposed program schedule to enable training and availability of a member of AAWS team to assist should this be required.
3. From section 4.1.7, AWT - Work with CIBRS and ABO to develop an adult ringed plover colour ringing scheme.

4.1.10 Wetland Bird Survey (WeBS)

Contributor: Alderney Wildlife Trust

The Wetland Bird Survey (WeBS) is the principal British Trust for Ornithology (BTO) scheme for monitoring the UK's waterbird populations, providing an important indicator of their status and the health of wetlands. "Waterbirds" includes wildfowl (ducks, geese and swans), waders, rails, divers, grebes, cormorants, herons, gulls and terns. Data collected during WeBS provides information on population sizes, distribution and trends.

WeBS core counts are conducted monthly, ideally at high tide when most wetland birds are least dispersed and easiest to count. As non-breeding waterbird numbers peak in different numbers for different species, the AWT conducts WeBS counts year-round. As WeBS data contributes to national counts, and non-breeding waterbirds can be very mobile, count dates are nationally synchronised, with counters visiting during the day on priority core count dates (Sundays).

In the Ramsar site, WeBS core counts were carried out monthly at Clonque Bay and Platte Saline throughout 2023 and submitted to the BTO's WeBS online portal (data accessible via: <https://www.bto.org/our-science/projects/wetland-bird-survey/data/submit-data-request>).

A total of 1,563 individual birds belonging to 20 species were recorded across both Clonque Bay and Platte Saline. The four most frequently recorded species included: Eurasian oystercatcher, ringed plover, herring gull and curlew (*Numenius arquata*), respectively.

Peak counts for each species were 183 Eurasian oystercatcher in October, 84 ringed plover in September, 81 herring gull in September and 36 curlew in January (see Figure 16. For monthly counts). As a proportion of the total island count for these species, the Ramsar site held 82% of oystercatcher, 91% of ringed plover, 35% of herring gull and 82% of curlew.

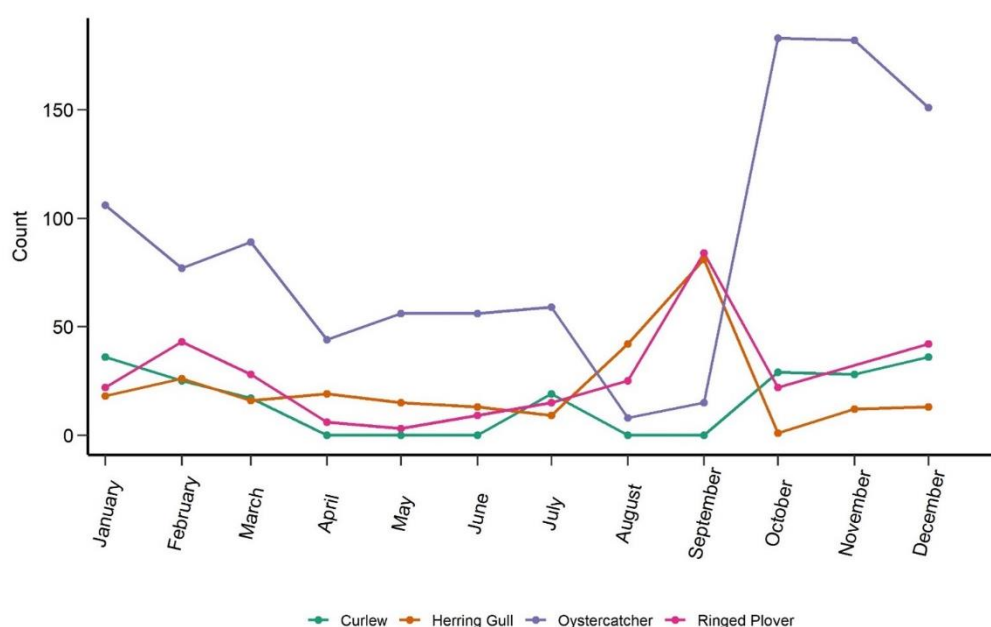


Figure 16. Monthly counts for the four most frequently recorded species (Oystercatcher, Ringed Plover, Herring Gull and Curlew) during the Wetland Bird Survey (WeBS) in 2023.

Recommendations

1. Continue WeBS surveys within the Ramsar Site in 2024.

4.1.11 Seabirds Strandings

Contributor: Alderney Animal Welfare Society

There were no instances of recorded live strandings or injuries in seabirds sustained within the Ramsar site in 2023. Several avian species were found injured across Alderney which may have originated in the Ramsar site but no bird rings specific to the Ramsar site were located on these birds.

Recommendations

1. Continue to report stranded seabirds to AAWS in 2024.

4.2 Terrestrial

4.2.1 Biosecurity

Contributor: Alderney Wildlife Trust

In 2023 rodent presence was monitored, in partnership with Orsted, on offshore islands of Burhou and Coque Lihou using non-toxic wax chew blocks in tamper proof bait stations and camera traps following the 2022 Ramsar report recommendation. Should a rodent incursion have occurred, rodent control could rapidly be deployed protecting nesting seabirds and other native wildlife. These bait stations were deployed at 25 m intervals across the whole of Coque Lihou and across a 75 x 100 m grid around the hut on Burhou in addition to two stations at the east and west ends of the island. Bait stations are checked monthly when sites are accessible. No rodents were detected on these sites in 2023. Work to understand further control measures continues.

Rodent presence was also monitored on near shore stacks (Hanaine Stack, the Twin Sister Stacks, L'Etac de la Quoire). Black rats were detected on all sites.

In addition to this, toxic bait (wax bait blocks with 0.005% bromadiolone deployed in tamper proof bait boxes) was deployed on the common tern nest site of Fort Houmet Herbe. These were switched for Good Nature™ A24 traps prior to the breeding season and removed when no common tern breeding occurred (see section 4.1.7).

Recommendations

1. Continue to deploy biosecurity monitoring on Burhou and Coque Lihou.
2. Develop the biosecurity plans for Burhou and Coque Lihou to help ensure any incursions by rodents are treated effectively and in a timely manner. This may include remote monitoring e.g. through audio recording or camera trapping with remote access and should include an eradication plan and public education.

4.2.2 Bat Surveys

Contributor: Alderney Wildlife Trust

Ultrasonic bat detectors (either SongMeter SM4 or SongMeter Mini Bat) were placed at the top of 2-m long poles pushed approximately 20 cm into the ground, as close to the centre of 500-m grid cells adjacent to the Ramsar site. The detectors were configured as per the Bailiwick Bat Survey methods, namely, to record from 30 minutes before sunset to 30 minutes after sunrise with a sample rate of 256 kHz and a high pass filter of 12 kHz (Newson et al., 2023). Recording was set to continue until no trigger was detected for two seconds up to a maximum of five seconds of recording. Detectors were placed at least 1.5 m from any obstacles to minimize any ultrasonic echoes. Detectors were deployed for four nights in two separate periods in April to mid-July and mid-July to October. Recordings from the detectors were passed through the BTO's Acoustic Pipeline, a machine learning classifier that functions for the UK, Channel Islands, and Europe, and which achieves a true positive rate of 93-100%. This classifier identifies ultrasonic and social bat calls, small terrestrial mammals, and bush crickets, with results undergoing manual verification by experts as part of the Bailiwick Bat Survey every year.

Due to weather conditions limiting the scope for retrieving bat detectors in a timely manner, no passive acoustic monitoring detectors were placed on Burhou in 2023. A detector was, however, deployed at Fort Clonque, immediately adjacent to the boundary of the Ramsar site in May and in late August 2023 as part of the Bailiwick Bat Survey (Table 1.). Recordings from these detectors were

passed through the BTO's Acoustic Pipeline, recording four species after manual verification (Table 13.).

Table 13. The species detected by ultrasonic recordings at Fort Clonque and the total number of recordings of that species after manual verification. The table is ordered by species group, and then by number of recordings. Note that Kuhl's pipistrelle and Nathusius's pipistrelle are hard to distinguish by ultrasonic calls only so are given as a species pair.

Scientific Name	Common Name	Number of Recordings
Bats		
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	718
<i>Pipistrellus kuhlii</i> or <i>P. nathusii</i>	Kuhl's pipistrelle or Nathusius's pipistrelle	14
Small Mammals		
<i>Crocidura russula</i>	Greater white-toothed shrew	1
Insects		
<i>Platycleis albopunctata</i>	Grey bush cricket	3

Reports can be accessed at <https://bats.org.gg>. The Bailiwick bat survey will continue for another year.

Recommendations

1. Continue monitoring bats adjacent to and within the Ramsar site, where possible, as part of the Bailiwick Bat Survey.

4.3. Marine

4.3.1 Phase I intertidal habitat biotope survey: Les Etacs and Ortac

Contributor: Alderney Wildlife Trust

A phase I intertidal habitat biotope mapping survey of Les Etacs and Ortac was planned for 2023 using visual mapping survey techniques, from Sula This follows a previous survey completed in 2018, which recommended to repeat every five years (AWT, 2018a). Unfortunately, due to strong swells, high wave action and poor weather conditions only Ortac was surveyed in 2023.

The phase I marine habitat biotope mapping survey of Ortac identified the presence, location and extent of four marine habitat biotopes (see Figure 17.). Identified marine habitat biotopes comprised of those associated with high exposure and wave action, upon bedrock. In addition, the presence of the marine habitat biotope: *Prasiola stipitata* on nitrate-enriched supralittoral or littoral fringe rock was recorded occurring in several patches on Ortac. This marine habitat biotope is an indicator of roosting seabirds, whereby it receives nitrate enrichment (from guano etc.) which supports the growth of the marine algae, *P. stipitata*.

In general, the marine habitat biotope survey results of Ortac were comparable to the survey completed in 2018. The 2023 survey did, however, identify the presence of the marine habitat biotope: *Corallina officinalis* on exposed to moderately exposed lower eulittoral rock. Overall, all marine habitat biotopes identified at Ortac are considered priority habitats both within Europe (four listed as Annex I habitat types) and the UK (one listed as a UKBAP habitat types).

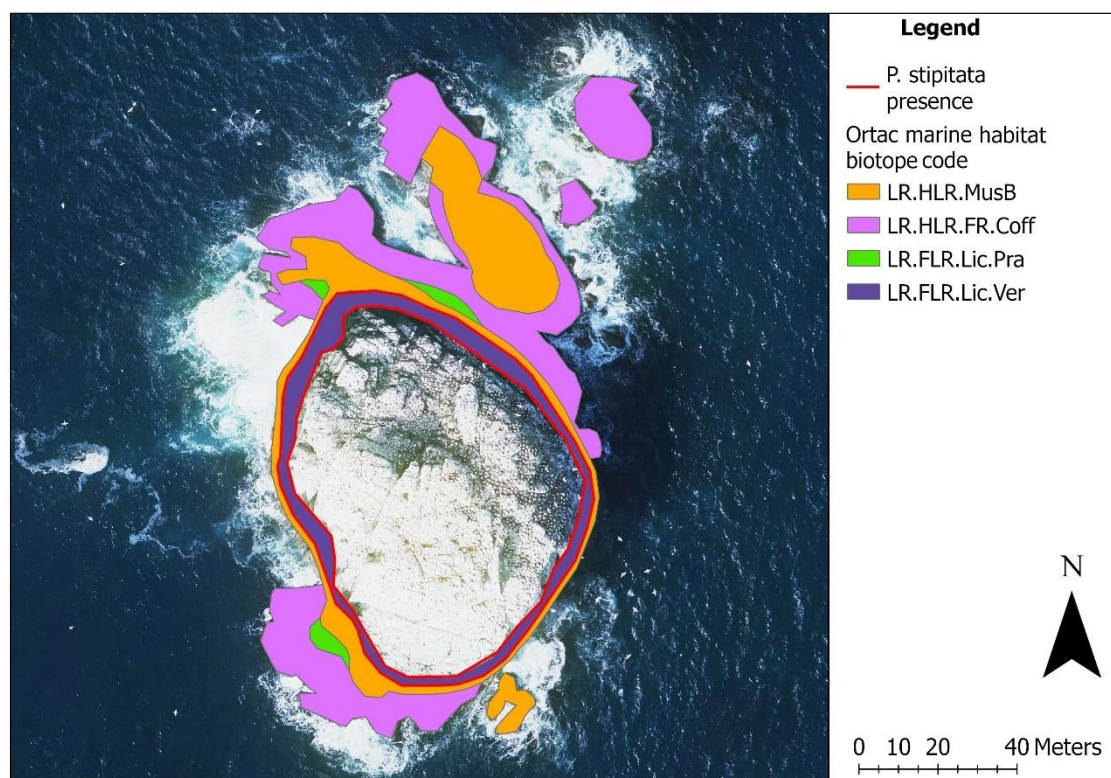


Figure 17. Intertidal habitat biotope mapping survey of Ortac, 2023. Colours represent the different intertidal habitat biotopes observed. Full names of habitats are not included here due to length. For detail on marine habitat biotope codes search the relevant code here: <https://mhc.jncc.gov.uk/>.

Recommendations

1. To re-schedule the phase I marine habitat biotope survey of Les Etacs for 2024.
2. To repeat the survey at these two offshore islets in 2028.

4.3.2 Phase II intertidal species composition surveys

Contributor: Alderney Wildlife Trust

Following previous phase I intertidal habitat biotope surveys completed in Hanaine Bay during 2022 and Burhou in 2021 (AWT, 2021), phase II intertidal species composition surveys were undertaken at both sites in 2023. This comprised of quantitatively recording intertidal algae and fauna (presence, density and abundance) within identified priority intertidal habitat biotopes (from the previous phase I intertidal habitat biotope surveys), using a 1-m² frame quadrat.

At Hanaine Bay, 15 quadrat stations were placed at specific points throughout the bay within different intertidal habitat types (see Figure 18.), which were previously selected in 2017 and 2012 respectively (AWT, 2017; AWT, 2013a). Approximately 29 different intertidal algae (24 species) and fauna (five species) species were recorded in 2023 across the quadrat stations. Intertidal species composition for both intertidal algae and fauna significantly altered between the 15 quadrat stations, due to the variable range of substrates, exposure and shoreline heights present. The composition of intertidal algae and fauna within each station did not significantly change between the three years; 2023, 2018 and 2012 (AWT 2023; AWT, 2018b; AWT, 2013b). This potentially shows the bay is stable in terms of intertidal species community and habitat structure, within the selected stations.

At Burhou, one priority intertidal habitat biotope (European Annex I habitat of importance) was selected for study: *Pelvetia canaliculata* on sheltered littoral fringe rock. Five 1 m² quadrats were placed randomly within this selected marine habitat biotope (see Figure 19.). This survey identified the presence, density and abundances of five marine algae, two lichen and three faunal species within this habitat type.

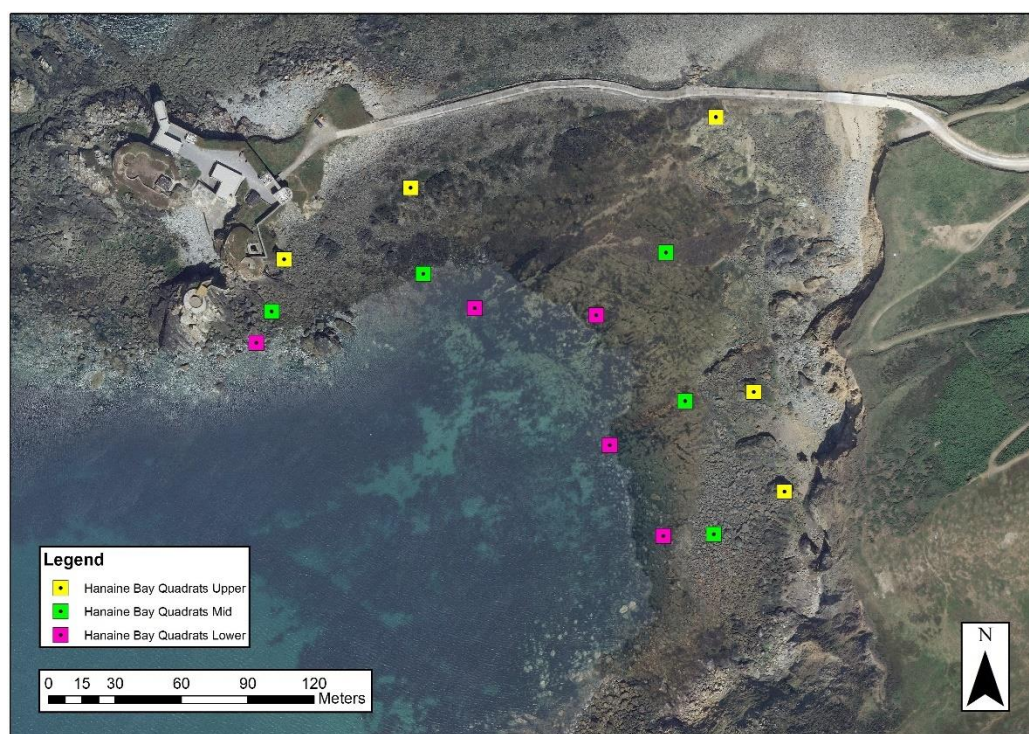


Figure 18. Location of phase II intertidal species composition survey completed at Hanaine Bay, 2023.



Figure 19. Example of a phase II intertidal species composition 1m² quadrat monitoring station at Burhou, 2023.

Recommendations

1. To not conduct phase II species composition surveys in 2024, due to the increased workload of conducting phase I surveys of Clonque Bay.

4.3.3 Green ormer (*Haliotis tuberculata*) survey

Contributor: Alderney Wildlife Trust

For 2023, three green ormer (*H. tuberculata*) surveys were completed within Clonque Bay; February, April, September/October. These were run as citizen science surveys, to enable members of the public to participate in recording this iconic Channel Islands species. It must be noted that after the April survey, the survey method was updated to enhance the probability of re-finding tagged green ormer individuals (survey method available upon request).

A total number of 91 green ormer individuals were recorded within Clonque Bay, across all survey months in 2023. This abundance is comparatively greater than previous years, which may be due to the modified survey effort, rather than an increase in population abundance (2022 n = 55; 2021 n = 15; 2020 n = 41). By next year we should have a better view due to re-finds/finds during the same time periods and under the same survey effort. The survey completed in September/October recorded the largest number of individuals over the two survey days, compared to the other surveys (n = 45).

Across the survey months, the smallest green ormer individual was measured as 11 x 9 mm, with the largest measured at 115 x 78 mm. A total number of 46 individuals were tagged to assess their movements, with 14 of these subsequently re-found within the survey sites. In particular, the tagged individual, A335 was originally tagged in February 2022 and was re-found, twice in September/October (see Figure 20.).



Figure 20. Photographs of tagged green ormers re-found in 2023.

Recommendations

1. To implement green ormer surveys for 2024.

4.3.4 Intertidal crab population survey

Contributor: Alderney Wildlife Trust

During 2023, four intertidal crab population surveys were completed within Clonque Bay in March (x 2 surveys), July and November. These were all developed as citizen science surveys, again enabling the public to assist with the survey.

A total number of 381 intertidal crabs were recorded across the year, which comprised of eight different species: chancre crab (*Cancer pagurus*), Montagu's/furrowed crab (*Xantho* species), risso's crab (*Xantho pilipes*) green shore crab (*Carcinus maenas*), velvet swimming crab (*Necora puber*), broad-clawed Porcelain crab (*Porcellana platycheles*), long-clawed porcelain crab (*Pisidia longicornis*) species and an unidentified hermit crab.

The high abundance of crabs recorded this year was due to the large numbers of long clawed porcelain crab species spotted (n = 204). Two priority crab species selected for further study included the 'local/native' species, the chancre (*C. pagurus*) and the 'new/ climate change indicator' species, the furrowed/Montagu's (*Xantho* species). For 2023, 12 chancre crab individuals were recorded, with comparable sex ratios and carapace widths, measuring from 10 – 112 mm (see Figure 21. for an example of crab measuring). A total number of 98 furrowed/Montagu's crab individuals were recorded in the 2023 surveys. Sex ratios of this species were also similar, with carapace widths from 13 – 57 mm. During this year's surveys, surveyors also recorded the presence of berried (crab with eggs) female furrowed/Montagu's crabs from March onwards.



Figure 21. Example of a furrowed/montagus crab being measured during intertidal crab surveys at Clonque Bay, Alderney.

Recommendations

1. To implement intertidal crab surveys for 2024.
2. To consider similar intertidal crab surveys within sublittoral environments, where feasible, to record baseline abundance of crab species in these habitats, especially chancre which move into subtidal habitats as they reach adulthood.

4.3.5 Shoresearch surveys

Contributor: Alderney Wildlife Trust

A total number of five Shoresearch walkover surveys were completed throughout 2023 within Clonque Bay (x2 surveys), Hanaine Bay and Platte Saline Bay (x2 surveys). These surveys are completed with members of the public as a citizen science project, originally initiated by the UK Wildlife Trusts. Combined, these surveys recorded 68 different intertidal rocky shore species, ranging from marine algae, invertebrates such as starfish and cowries to rockpool fish species. Overall, Clonque Bay comprised of the highest number of species, compared to the other bays within the Ramsar Site. Of notable interest, a potential new marine invasive non-native species, the marine algae, devil's tongue (*Grateloupia turuturu*) was recorded for the first time within Clonque Bay this year.

Recommendations

1. To implement new Shoresearch quadrat surveys for 2024, with the aim to collate additional species density/abundance information.
2. To use Shoresearch walkover survey techniques for public events, such as rock-pooling.

4.3.6 Planktoscope project

Contributor: Alderney Wildlife Trust

In 2023, two planktoscope surveys (in collaboration with National Oceanography Centre, University of Southampton), were completed within Clonque Bay in May and June, respectively. Plankton information was successfully uploaded to the global online database, EcoTaxa (see here: <https://ecotaxa.obs-vlfr.fr/gui/index>). These surveys identified a range of plankton groups, such as Ditylum, Rhizosolenia, Nauplii, Thalassiosira and Thalassionema (see Figure 22). Initial qualitative

information from this database shows a variety of plankton, which is to be further verified by Ecotaxa taxonomists.



Figure 22. Photographs of plankton groups taken at Clonque Bay (2023) using the Planktoscope and uploading to the EcoTaxa database.

Recommendations

1. To repeat Planktoscope surveys within Clonque Bay twice a year during peak plankton timeframes: spring and summer.

Seasearch surveys

Contributor: Alderney Wildlife Trust

For 2023, two Seasearch surveys were completed within Hanaine Bay. This comprised of one snorkel survey and one shore-based scuba dive, completed by trained volunteer Seasearch citizen scientists. Initial survey results from these surveys identified the presence of kelp and mixed seaweed marine habitat types and a range of species, such as jellyfish, molluscs, sea-anemones and fish. The survey results are currently being independently verified by Seasearch and will be added to the national biodiversity network (see here: <https://nbn.org.uk/>) in due course.

Recommendations

1. To encourage and support Seasearch surveys to be completed within the Ramsar Site by trained volunteers in 2024.
2. To invite Seasearch representatives onto the Ramsar Stakeholder Forum.

4.3.7 BRUV surveys

Contributor: Alderney Wildlife Trust

In 2023, a desk-based review was undertaken by a MSc student to update AWT's current methods to assess fish populations, using a baited underwater video camera system (BRUV). Following this review, BRUV surveys were undertaken within Hanaine Bay and Longis Bay, in October 2023. Only one BRUV survey was undertaken within Hanaine Bay due to poor weather and strong tidal conditions. This particular survey unfortunately provided limited results due to poor visibility (e.g. turbid seawater reducing camera view). BRUV surveys within Longis Bay were, however, more successful, with the video camera recording the presence of nine fish species, such as Garfish (*Belone belone*) and two spotted gobies (*Pomatoschistus flavescens*; see Figure 23).

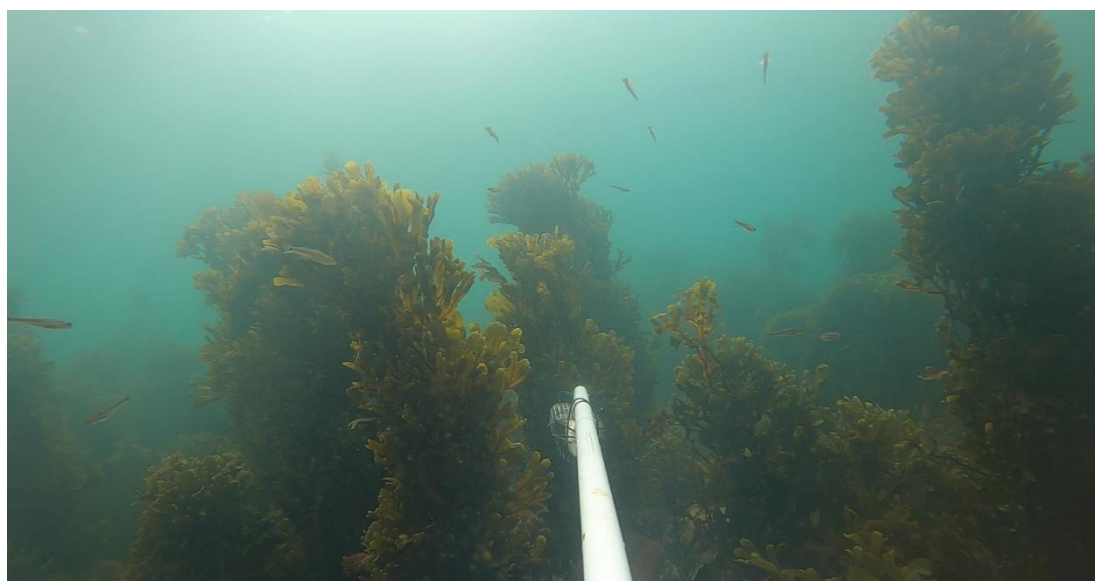


Figure 23. Photograph of the BRUV deployment at Longis Bay, 2023. Fish present identified as two spotted gobies (*Pomatoschistus flavescens*).

Recommendation:

1. To implement further BRUV fish population surveys within Hanaine Bay and Longis Bay during autumn 2024, for annual comparisons.

4.3.8 FishIntel Project

Contributor: Alderney Wildlife Trust, States of Jersey Marine Resources Team

The FishIntel Project (funded by States of Alderney and AWT) continued to record the potential presence of previously tagged fish, cetacean sounds and sea surface temperature (SST) information. This information is recorded via receivers attached to two deployed moorings, one within the Ramsar Site (Hanaine Bay) and one at Longis Bay. This information is currently being reviewed by the States of Jersey Marine Resources Team. During 2023, a public marine gala fundraising event hosted by the AWT helped secure additional funds to extend the current lifetime of the project for a further year (2025-2026). In addition, the States of Jersey Marine Resources Team have recently deployed a new trial self-release mooring within Hanaine Bay, which enables the team to collect the receivers more efficiently.

Recommendations

1. To continue to support the FishIntel Project within Alderney's territorial waters for 2024.

4.3.9 Seawater quality testing

Contributor: Alderney Wildlife Trust

In December 2023, the AWT was awarded funds from the UK marine funding charity, Sea-Changers, to purchase a seawater monitoring unit to help initiate a new AWT citizen science project on Alderney. The unit will record seawater temperature, salinity, pH, total dissolved solids (TDS) and dissolved oxygen (DO²).

The AWT will be developing the citizen science project during 2024, with the aim to encourage members of the public help record seawater parameters on a regular basis across several inshore bays. This will include bays within the Ramsar Site, such as Clonque Bay.

Recommendations

1. To encourage and support the new citizen science project, where possible.

4.3.10 Grey seal surveys

Contributor: Alderney Wildlife Trust

The grey seal (*Haliochoerus grypus*) is considered a priority marine mammal species across the Channel Islands, UK and Europe. As a result, several survey methods were adopted by the AWT in 2023 to help quantify their presence, abundance and population structure within the Ramsar Site.

1. *Effort boat-based observation surveys.* A total number of six boat-based surveys were completed in 2023 to record grey seal abundance and population structure (e.g. sex and age) within the Ramsar Site. These surveys recorded a total number of 143 grey seal observations, with sightings ranging from 3 - 37 individuals per visit. The majority of these individuals were recorded as adult females, with small numbers of adult males and juveniles (sex unknown) also observed (see Figure 24).
2. *Photographic identification catalogue.* Photographs derived from the effort boat-based observation surveys and other opportunistic photographs of seals (e.g. donated by the public) are used annually to update the AWT grey seal photographic identification catalogue. This catalogue is used to identify specific grey seal individuals, to help assess the overall population structure of seals habituating within Alderney's Ramsar Site and territorial waters. Presently, 61 seal individuals are included within the catalogue (initiated in 2014), with further photographs to be added from the 2023 surveys in due course.
3. *Burhou survey.* During November (2023) a land-based visit of Burhou enabled a new land-based survey of grey seals. A total number of four grey seal pups were recorded on Burhou, with adult mothers observed nearby. This is the first record of pups being present on Burhou by the AWT. The site can now be considered an important breeding site for this priority species, because it is the only site identified with several extremely young seal pups present within Alderney's territorial waters.
4. *General sighting records.* A total number of two opportunistic sightings of grey seals within the Ramsar Site were recorded by the public in 2023.



Figure 24. Grey seal individual recorded within the Ramsar Site, during effort boat-based observation surveys in 2023.

Recommendations

1. To consider replicating the survey methods described above for 2024, including an annual land-based survey in November to monitor grey seal pups.
2. To consider enhancing the grey seal effort boat-based observation surveys following recommendations from a MSc research project (see section 4.3.15).

4.3.12 Marine mammal species sightings

Contributor: Alderney Wildlife Trust

Across 2023, several marine mammal species sightings within the Ramsar Site were observed by AWT staff, volunteers and members of the public. Of particular importance was the first verified sighting of a humpback whale (*Megaptera novaeangliae*) within Alderney's territorial waters. This individual was observed behind Burhou by a member of public in late August, 2023. In addition to this sighting, small pods of bottlenose dolphins (*Tursiops truncatus*) were sighted near Clonque Bay in February and July, respectively.

Recommendations

1. To continue to record marine mammal species sightings and encourage the public to share their observations.

4.3.13 Marine Mammal Strandings

Contributor: Alderney Animal Welfare Society

Live and dead strandings of marine mammals (Pinnipeds and Cetaceans) upon Alderney are recorded by the AWT, British Divers Marine Life Rescue (BDMLR) and Cetacean Stranding Investigation Program (CSIP). Dead strandings of marine mammals are removed from beaches/bays by SWD if considered a risk to the public, and reported to the CSIP. Trained British Divers Marine Life Rescue (BDMLR) Medics on Alderney coordinate activities with AWT, AAWS and SWD when a live marine mammal strands upon a beach/bay, such as cordoning off areas to the public to allow the animal to rest. During 2023, one live grey seal stranding was recorded, with one deceased cetacean stranding within the Ramsar site, both detailed below.

Grey Seal Stranding

A single stranding of a grey seal Lanugo pup occurred on Fort Clonque causeway 20/10/23 and lasted until 30/10/23 (Figure 25.). The pup was first seen on the beach, with an adult in the water of the bay to the West of Clonque. The sighting was reported by an angler who may have caused a level of disturbance but facilitated an alert to be spread from the AWT to the AAWS and BDMLR. On discussion with the regional coordinator for the BDMLR and assessment of the challenges in the specific locale; including access requirement for residents and contractors at Fort Clonque, the presence of dog walkers, and the presence of anglers due to the angling competition in an accessible location, an action plan was formulated to incorporate monitoring and reduction of disturbance with regular assessment of body condition score and the potential need to bring the animal ashore for medical attention.

The action plan was successful in its ability to roster a watch of AAWS and AWT volunteers during the stranding and including periods of successful fishing as well as no sustained injury during periods of very challenging weather. The action plan also was successful in requesting assistance and current best practice recommendations from BDMLR coordinators within the Bailiwick and the UK. The challenges of the action plan included a low number of volunteer availability, as well as poor visibility and access to the area due to severe weather.



Figure 25. (A) The grey seal pup hauled out on Clonque Causeway. (B) The grey seal pup in good health with no need to intervene.

Recommendations

1. To annually review the action plan in place between the Harbour office, AWT and AAWS in dealing with both live and deceased stranding of marine mammals
2. To follow best practice protocols in both monitoring and healthcare interventions required in the management of live marine mammal strandings as well as associated safety protocols for individuals involved.
3. To collaboratively communicate within the community on all updates which affect residents and contractors through in person, social media and telephone contact as appropriate
4. To encourage a wider pool of volunteer contacts with basic training in monitoring and reducing disturbances in cases of marine mammal strandings

Deceased cetacean stranding

On 26/2/23 a common dolphin was identified on the western side of Platt Saline at the border of the Ramsar site (Figure 26.). This was a mildly decomposed female specimen of poor body condition (Figure 27.), which was removed from the site by the SWD for safety of the public.



Figure 26. Common dolphin at beached site at the east end of Platte Saline.



Figure 27. Close up of the common dolphins' mammary slits also showing some of the damage present.

Recommendations

1. Support will continue to be given to local British Divers Marine Life Rescue (BDMLR) if a marine mammal stranding occurs in 2024. The management of marine mammals on our shores (those subject to human disturbance) will be coordinated through AAWS and BDMLR trained staff.
2. To annually review the action plan in place between the Harbour office, AWT and AAWS in dealing with both live and deceased stranding of marine mammals
3. To encourage a wider pool of volunteer contacts with basic training in monitoring and reducing disturbances in cases of marine mammal strandings

4.3.13 Coastal erosion assessments

For 2023, a new set of citizen science surveys were developed by the AWT to measure coastal erosion around Alderney's coastlines, with interested members of the public. This first comprised of running coastal walk events with the public, with the aim to identifying signs of coastal erosion, freshwater run-off and terrestrial invasive species, qualitatively. Following these exploratory beach walkovers, a sub-set of monitoring areas were then selected for further quantitative study. This comprised of setting up a series of monitoring stations at graduated distances from cliff edges, with the aim to measure potential erosion, over time (see Figure 28.). Within the Ramsar Site, Clonque Bay was identified as a key area for coastal erosion and as such three monitoring stations (along the track road) were setup for future annual assessment.



Figure 28. Locations of long-term coastal erosion monitoring stations across Clonque Bay, 2023.

Recommendations

1. To continue to undertake coastal erosion monitoring assessment annually at selected monitoring stations within Clonque Bay for 2024.
2. To inform SWD of any significant coastal erosion, which may need associated works.

4.3.14 MCS beach clean surveys

Contributor: Alderney Wildlife Trust

During 2023, one Marine Conservation Society (MCS) beach clean survey was implemented at Clonque Bay. This survey comprised of recording all rubbish items collected by members of the public along a 100 m section of the bay. At Clonque Bay, a total number of 191 items were collected, weighing approximately 14 kg. The collected items of rubbish were primarily plastic/polystyrene, such as plastic bottle lids, fishing line and foam pieces.

Recommendations

1. To implement MCS beach clean surveys annually at Clonque Bay, Hannaine Bay and Platte Saline Bay.

4.3.15 Academic projects

Contributor: Alderney Wildlife Trust

In 2023, the AWT supported two visiting MSc students from the University of Exeter complete their academic research projects on Alderney. One of the research projects aimed to assess grey seal population estimates across the Channel Islands, with the other research project investigating the presence of established marine invasive non-native species (marine INNS) across Alderney. Both students successfully completed their research theses and passed their MSc courses at the end of 2023. The results will be used to update several future survey methods implemented by the AWT on Alderney. In addition, the students gave public talks related to their research projects online to interested members of the public during the autumn. The completed theses will be added to the AWT website in due course.

Recommendations

1. To support future visiting academic students with ecological research within the Ramsar Site.
2. To consider updating current grey seal survey methods, following guidance from the MSc project.
3. To consider implementing new marine invasive non-native species surveys within the Ramsar Site, following the MSc project.

4.4 Education and Outreach

Education and outreach are a pillar of work within the Ramsar site.

The AWT aims to enable the public of Alderney and the wider world to both experience the internationally important area and learn about the habitats and species of Alderney's Ramsar Site. This is achieved through a large programme of events, public engagement by staff and volunteers, and a suite of online information and webcams.

4.4.1 Wildlife Webcams

Contributor: Alderney Wildlife Trust

In 2023, all webcams were hosted through the AWT website following the loss of access to the Live: Teaching Through Nature website. This website contained banners linking to Visit Alderney, helping to promote tourism on Alderney.

Unfortunately, we lost connection to the main Puffincam early in the breeding season with our application to fix the camera denied. This caused significant disruption to both the ecological monitoring and public outreach detailed in the 2023 Action Plan and was against the advice of the ARAG. The two other cameras on Burhou were active for most of the season and still provided a positive engagement tool for visitors and tourists, both on island, and remotely via our website, with educational and ecological benefit. GannetCam was fully operational throughout 2023, with a new joystick control tested at the AWT Wildlife Information Centre, allowing anyone visiting the centre to pan and zoom around Les Etacs and the wider Ramsar site.

During our peak season, we had up to 2,600 visitors a month in the information centre with many of these people engaging with the cameras or asking for more information about the Puffin and Gannets.

Due to the technical challenges, we have experienced this year, it has made it difficult to measure the impact of our wildlife cameras.

In 2024, the AWT intends to repair and reinstate the Puffincams early in the season and will continue to work toward finding accessible ways to host the interactive cameras for the general public and educational facilities to once again utilise and enjoy.

Due to the exposed location of the cameras, it is possible they could fail again in 2024. It is recommended that a plan to repair the camera in the event of failure will be presented to GSC as early as possible, so an appropriate method can be agreed before any failure may occur. It is important that access for all activity organisations within the Ramsar site is granted appropriately and fairly. Very important

Recommendations

1. Reinstall 'PuffinCam' in 2024. Find a long-term solution for webhosting of the wildlife cameras.
2. Explore parameters of obtaining permissions to access Burhou when required within breeding season particularly if the outcome directly causes long term impacts to the Ramsar ecological monitoring and community engagement objectives.
3. Review the best way of promoting this footage online, ensuring it meets the objectives of Outreach & Education.

4.4.2 Boat Tours

Contributors: Alderney Wildlife Trust, Avante Boat Trips

In 2023, AWT delivered boat tours between March and October enabling over 400 residents and visitors to access the Ramsar site via the water, with professional ecologists as tour guides.

AWT tours are conducted on Sula of Braye. For one trip, the Lady Marais II was chartered when Sula was unavailable, with the skipper providing a high-quality trip alongside an AWT ecologist as guide. The boat trips provide an immersive experience for people to get closer to the marine birds breeding and foraging within the Ramsar site whilst keeping disturbance to a minimum. The AWT will begin to measure the benefits of the user experience in 2024.

In 2023 Avante Boat Trips operated sight-seeing trips into the Ramsar site and beyond, carrying on average 250-350 passengers per year to view the Puffin colony on Burhou and the Gannets on Les Etacs on board MV Avante with local experts from the Alderney Bird Observatory.

Avante is also used by the ABO and Channel Island Bird Ringers to access nesting sites within the Ramsar site for their annual ringing programme.

Recommendations

1. Continue providing boat tours in 2024.
2. Deploy drop-down camera equipment during AWT boat tours to give the community an educational insight into the marine science on the site, whilst gathering valuable marine data.
3. Implement a tool that invites boat tour visitors to provide insight into their knowledge and understanding of the Ramsar site.

4.4.3 Free Educational Boat Tours for Students at St Anne's School

Contributor: Alderney Wildlife Trust

Free educational boat tours by AWT were continued as planned in 2023, with one tour requested by St Anne's School as part of their key stage 2 curriculum.

All AWT staff were put through a DBS check and safeguarding training in 2023 to ensure all Ramsar educational activities delivered by AWT are in line with Wildlife Trust safeguarding policies. A free ticket for those under the age of 16 was not promoted in 2023 whilst these policies and training were put in place, therefore the promotion of this will be re-launched in collaboration with the school and youth commission in 2024. Note: all children must be still supervised by an adult.

Recommendations

1. Continue to provide free educational boat tours to students at St Anne's School and aim to complete more tours to give more students the opportunity to view the Ramsar site.
2. Create a promotion for 2024 that invites young people under 16 to attend a free boat trip experience
3. Gather feedback regarding outcomes and impact from these tours to highlight the benefits of running free tours.

4.4.4 Community Engagement and Public Awareness Events

Contributor: Alderney Wildlife Trust

In 2023 the AWT ran a variety of public events within the Ramsar site. Community events have been summarised below.

- Beach Clean x 2

- Terrestrial Foraging Walk (18 participants, Figure 29.)
- Coastal Forage & Cook (25 participants)
- Hosted a total of 9 cruise ship walks within the Ramsar site (approx. 180 walkers)

AWT also ran a number of citizen science activities including coastal erosion surveys, crab surveys, ormer surveys and shoresearch surveys (Figure 30.). These have helped to educate members of the public about the Ramsar Sites marine life, and have been successful in engaging young people as well.



Figure 29. A community outreach and educational event (coastal foraging) on the Ramsar site hosted by AWT in 2023.



Figure 30. AWT Citizen Science green ormer survey, with members of the public helping improve our understanding of this species whilst gaining skills in marine science.

Recommendations

1. Continue to provide public engagement and community awareness events and activities for the Ramsar site year-round.
1. Review AWT event plan for 2024 with the AWT Outreach & Education Officer.
2. Continue to provide public citizen science surveys in 2024.

4.4.5 Media Engagement for the Alderney Ramsar Site

There have been a number of news stories relating to the Alderney Ramsar site in 2023, as well as multiple radio and TV interviews.

Furthermore, a film crew producing a film for the French national broadcaster (France TV) spent a day filming marine life on Alderney's Ramsar Site, in particular Les Etacs. This will be part of a national film about wildlife in the region and will highlight the beauty of Alderney to the French public.

Some of the news stories from 2024 include.

[Islanders urged to keep their distance from seals as colony grows | ITV News Channel](#)

[Seal Pup at Clonque! | Alderney Wildlife Trust](#)

[Moulting seal pup washes ashore in Alderney as public asked to stay away | ITV News Channel](#)

[Puffins have returned to Burhou in good numbers | Guernsey Press](#)

[Gannets Les Etacs return 'offers a glimmer of hope' | Guernsey Press](#)

[Gannets return to Alderney after colonies wiped out by Avian flu last year | ITV News Channel](#)
[30% Of Alderney's Gannets Die Of Bird Flu - Island FM](#)

Recommendations

1. Continue work promote the Ramsar site through press releases and other media

4.4.6 Community Engagement Plan 2024

Contributor: Alderney Wildlife Trust

A five-step plan to measure community engagement across the Ramsar site has been developed:

- 1- Develop a survey to be completed face to face with users of and within the Ramsar site.
- 2- Create an evaluation form that will capture feedback and evaluation of those that have completed a boat tour. Digital access and hard copy. QR code.
- 3- Where possible, utilise Team Wilder projects to gain further in-depth insight. 2024 will utilise Memory Lane: Tales from Burhou.
- 4- Explore a possible collaboration with the Landmark Trust to capture the experiences of Fort Clonque visitors.
- 5- Incorporate a community engagement aspect within signage by embedding a QR code to enable us to develop other engagement tools. For example; local literature, history, sound and imagery.

Recommendations

1. Explore interactive community engagement and education tools that could help raise awareness of the Ramsar objectives both digitally and in person
2. In 2024, the AWT will invite residents and visitors to build a legacy of memories. These anonymous insights will be reviewed in relation to Ramsar, providing valuable information and community-based needs to future Ramsar development.

4.5 Advisory and Legislative

4.5.1 Alderney Ramsar Stakeholder Forum

One Alderney Ramsar Stakeholder forum was held in 2023, and this as in addition to two HPAI meetings in 2023 involving Ramsar Stakeholders (see section 4.5.9). The stakeholder forum was held as part of the fourth Alderney Ramsar Strategy 2024-2029 (ARS4) development, (see section 4.5.2). It was convened by the Harbour Master with assistance from the Ramsar Administrator, and was attended by a range of stakeholders including recreational sea swimmers, States Veterinary Officers, and representatives from Alderney Animal Welfare Society, Alderney Wildlife Trust, Alderney Bird Observatory, the Alderney Society, the Channel Islands Bird Ringing Scheme, the Harbour Authority and States Public Works department, and several members of the GSC.

Recommendations

1. Hold regular Ramsar stakeholder forums (two per year) at the start and end of each season.

4.5.1 ARS4

In 2024 the GSC agreed a development plan for the fourth five-year Alderney Ramsar Strategy 2024-2029 (ARS4). This included a stakeholder and public consultation plan. In late 2023 an outline plan was given to stakeholders for their consideration, and feedback was received via a form and in the Alderney Ramsar Stakeholder forum (See section 4.5.1). This feedback will be presented alongside the first draft of ARS4 when it is presented to GSC. Until ARS4 is agreed by GSC, GSC have resolved to extend the ARS3 so that Ramsar works may continue uninhibited.

Recommendations

2. Continue to develop ARS4 in line with the development plan.

4.5.2 Scientific Advisory

In 2023 ARAG assisted with scientific review of the annual documents, additional proposals from activity organisations (e.g. colour-ringing proposal from the ABO), and by providing advice to the SoA regarding HPAI (see section 4.5.9). In the Alderney Ramsar Stakeholder forum, it was suggested that the ARAG membership be expanded to include a lay person, potentially with experience in community engagement.

Recommendation

1. Work with the ARAG to deliver an effective programme of scientific work on the Ramsar site in 2024 and develop ARS4
2. GSC to consider selecting a lay person with experience in community engagement and no affiliations with any Alderney Ramsar Stakeholders.
3. To develop a standard method reporting form to help ARAG review new methods.

4.5.3 Puffin Friendly Zone

Following decline in Alderney's Puffin population the AWT, in collaboration with the SoA, the Alderney Marine Management Forum, Alderney Harbour Office and local fishermen, designated a 'Puffin Friendly Zone' (PFZ) in 2018. The zone is in place during the Puffin breeding season during which Puffins are at greatest risk of disturbance from passing visiting or passing vessels. In 2023, the Harbour

Office worked with the Alderney Ramsar Administrators to begin the process of mapping the PFZ onto admiralty charts.

One vessel, a French RIB, was observed within the Puffin Friendly Zone in 2023, and this incident was reported to the harbour office.

Recommendations

1. Continue to publicise the PFZ in 2024.
2. Continue to support the addition of the PFZ to admiralty charts and other charts used by marine users.

4.5.4 Ramsar Signage

A draft update for the Ramsar sign was produced in 2023, this has been appended here (Figure 31.). Three final drafts will be put forward to stakeholders and GSC in 2024.

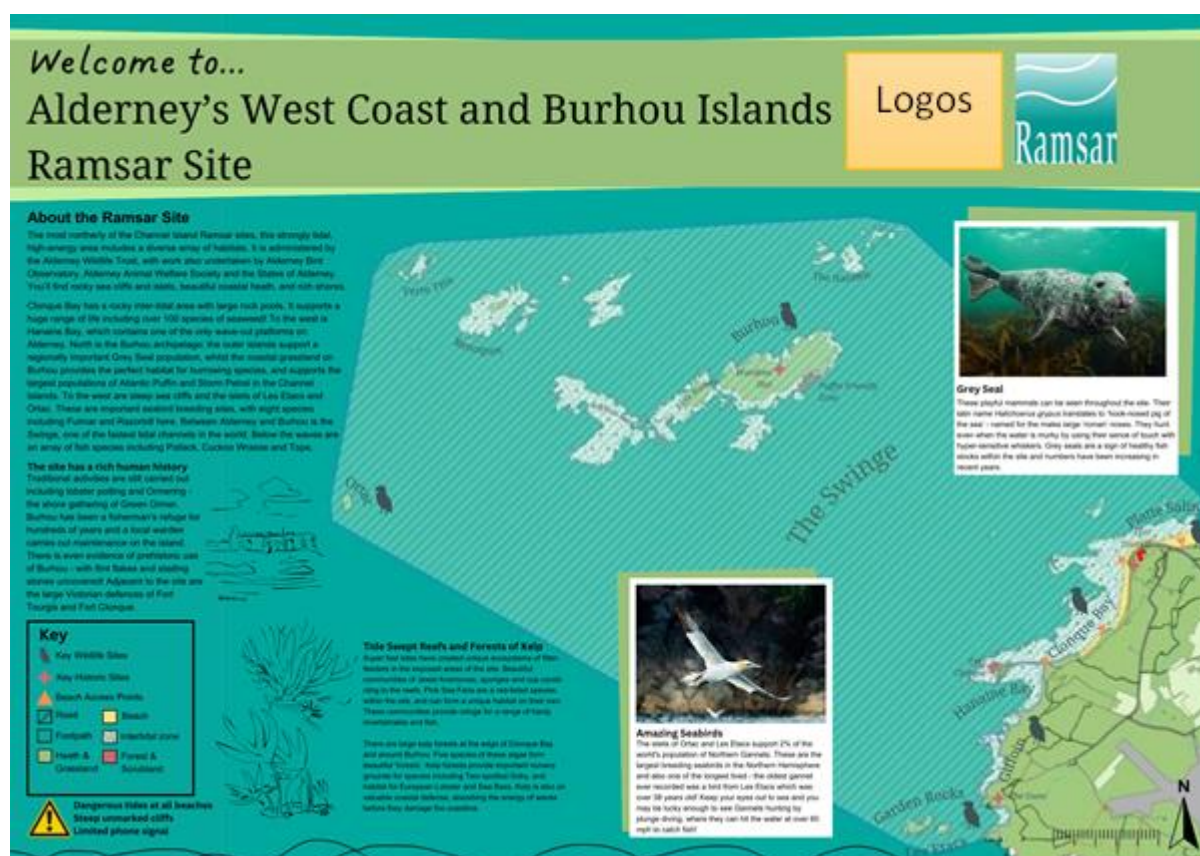


Figure 31. Draft information board to replace aging Ramsar Site signage.

Recommendations

1. Put forward signage proposals at stakeholder forum in 2024, working with activity organisations in particular.
2. Expand signage to include an additional sign that could be positioned nearer Fort Clonque, close to the Zig Zag walking route. This would better connect the other three signs along the coastal path looking out onto the Ramsar site.

4.5.5 Sensitive Wildlife Signage

Signage alerting the public to the presence of breeding Ringed Plover were erected. These will be redeployed in 2024.

The SoA has given notice that it is appropriate that permission to deploy interim signs where there is an urgent need to prevent harm to breeding wildlife may be actioned through Richard Phelan, the SoA's Manager of Estates, Infrastructure and Environment, who has standing permission from the SoA to erect signage necessary for the operations of the States.

Recommendations

1. Work with the States Public Works department to redeploy signage around Common Tern (if they return to a site on Alderney) and Ringed Plover nests, as well as Ringed Plover cordons.

4.4.6 Websites

The Ramsar Administrator hosts the Channel Islands Ramsar website, which was launched in 2021 (<http://www.ci-ramsar.com/>). Review documents and other publications were uploaded to this site in 2023. A list of surveys being carried out across all Ramsar sites in the Channel Islands is being developed, with surveys carried out by AWT input. Other activity organisations on Alderney and in other Channel Islands have been invited to share their survey lists, and have indicated they are developing lists. In addition to this, Alderney Ramsar documents are now available through the SoA website (<https://alderney.gov.gg/article/198131/Ramsar-Site>)

Recommendations

1. Continue to manage the CI-Ramsar Website.
2. Continue to work with the SoA to upload Ramsar documentation to their website.

4.5.7 Networking Internationally and with Other Channel Islands

The Inter-Islands Environment Meeting (IIEM) was hosted by Sark in 2023 at which the Channel Island Ramsar site administrators met. This was attended by the SoA's Member for the Environment Steve Roberts. Unfortunately, the Alderney Ramsar Administrator was required to present at a GSC meeting which clashed with the IIEM so was unable to be present.

Monthly meetings are held between the managers of the Jersey Ramsar sites and the Alderney Ramsar Administrator which enable information sharing.

Several international meetings were attended by the Ramsar Administrator in 2023, with the majority of these relating to monitoring of the impact of HPAI on seabirds, and developing new survey techniques.

Recommendations

1. Attend future pan-island Ramsar meetings to ensure Alderney's Ramsar site is represented.
2. Continue to meet virtually with representatives of other Channel Island's Ramsar Sites.
3. Maintain links with the international community regarding HPAI and other issues which may arise.

4.5.8 Ramsar Information Sheet (RIS) Update

The Alderney Ramsar Administrator has worked with the Joint Nature Conservation Commission (JNCC) in 2023, to draft and develop an updated RIS sheet. A final draft has now been submitted to the UK Government's Department for Environment, Food and Rural Affairs (DEFRA).

Recommendations

1. Continue to work with the JNCC to complete the RIS update.

4.5.8 Highly Pathogenic Avian Influenza Response

No cases or signs of Highly Pathogenic Avian Influenza (HPAI) were reported in Alderney in 2023. Several dead seabirds did strand in 2023, activity organisations assisted in the recovery and testing of these and fortunately none which were able to be tested were positive for HPAI.

A pan-island HPAI planning meeting was hosted by the Alderney Ramsar Administrator between Channel Island government departments, NGOs, charities, members of the ARAG, and other conservation and health organisations. In addition, two Alderney HPAI meetings were held, to develop a survey response to HPAI. The Alderney Ramsar Administrator worked with the Jersey Biodiversity Records Centre to develop a carcass reporting form, however, with the ongoing development of a Channel Islands Record Centre, this was put on hold.

Recommendations

1. Continue to report and test carcasses in 2024
2. Continue to monitor colonies for signs of HPAI
3. Maintain vigilance on grey seal colonies following outbreaks of HPAI in seals in the southern hemisphere in 2024.

4.5.8 Closure of Burhou

In May 2023, the GSC resolved to restrict all access to Burhou during the closed season. Generally specific activities under the Ramsar plan would be authorised, and this decision was subsequent to the approval of the 2023 Action Plan by the GSC, including all relevant site works within the Burhou area during the closed season. This removal of authorisation was done following a request by AWT to land and fix the PuffinCam which was forwarded to the GSC chair and civil servants (Harbour Master, Acting Chief Officer), with ARAG feedback appended, which was rejected by a majority of GSC members. Because not all GSC members were included in discussions this decision was ratified by GSC in the 16/06/23 committee meeting (General Services Committee 2023a). Activity organisations were notified of this closure on 22/06/23 by the Ramsar Administrator at the request of the SoA.

One landing for a seabird ringing trip did occur during this period on 13/07/23 which was authorised by email and subsequently ratified by the GSC on the 28/07/23 committee meeting (General Services Committee 2023b). The GSC resolved to put in place an application process for any future bird ringing requests on Burhou outside of the usual visiting season (General Services Committee 2023b).

Recommendations

The closure of Burhou significantly impacted the survey season, in particular with the PuffinCam remaining offline, but also with bat surveys cancelled. Due to the exposed location of the cameras, it is possible they could fail again in 2024. It is important that access for all activity organisations within the Ramsar site is granted in advance, as part of the Ramsar process that this document has described (e.g. see section 2.), and permissions are granted appropriately and fairly, considering the advice of the GSC's ARAG.

1. Develop a plan to repair the camera in the event of failure and presented to GSC as early as possible, so an appropriate method can be agreed before any failure may occur.
2. Clearly state within the Ramsar Action Plan when access to Burhou is required.

4. Acknowledgements

I would like to give thanks to the of all the activity organisations who contributed reporting and review for this document, who worked on the Ramsar Site in 2023, and all stakeholders which engaged with forums. I would like to pass special thanks to all the contributors, the ABO, AAWS and AWT. I would also like to thank the members of the ARAG who have continued to provide invaluable expert advice in 2023. I would like to thank the SoA civil servants, in particular the Adam Rose and Laura Baines for their work on the Alderney Ramsar Stakeholder Forum, Liz Maurice for her guidance regarding the development of ARS4, and Richard Phelan for his oversight of the Ramsar Programme in 2024. Finally, I would like to thank the States Members, particularly those on GSC, who have reviewed and consider the Ramsar reporting in 2023 as well as attended and input into the HPAI and Stakeholder meetings.

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Appendices

Appendix 1. Seabird Monitoring Methodologies

<i>Reference</i>	<i>Heading</i>	<i>Details</i>
1.1	Method Title	Post season Apparently Occupied Burrow Survey
	Target(s)	Atlantic puffin
	Aim(s)	Census
	Brief description	A post-season count of the number of Atlantic puffin apparently occupied burrows (AOB) on Burhou. This is conducted after the puffin breeding season to limit disturbance by looking for indicators of occupation around the entrance to the burrow.

Reference	Heading	Details
	Methodology	1. Known puffin burrow areas are mapped to identify survey area. Any areas which are deemed inaccessible, or too sensitive to survey (decision by survey team, or at advice of ARAG), e.g. due to very fragile ground, are marked off limits. 2. Before landing monitor for signs of Atlantic puffin activity using remove cameras and boat obs. At minimum 8 hours observation. Surveyors walk around breeding areas, taking care not to damage burrows, looking at every potential burrow for signs of occupation, including: Puffin eggshell, discarded fish, down or feathers, guano streaked by the entrance, the presence of a strong smell of ammonia, and the lack of rabbit droppings. 6. Burrows showing more than two signs are tallied as “confident” AOBs, burrows with just one sign are tallied as “potential” AOBs. 7. Any burrow which has been reviewed has a pasta shell placed at the entrance, to avoid double counting. 8. Burrows which are identified as certain within the productivity plots are marked with a flag, and the areas are photographed from the viewpoint of the PuffinCam. Repeat this for uncertain burrows if time allows. 9. Submit “confident” AOB count to Seabird Monitoring Programme (SMP) database. 10. Report in Ramsar Report, giving upper (“potential”) and lower (“confident”) AOB estimates.
	Additional detail	In 2023 additional steps conducted: 1. Active burrows within productivity plots (ca. four 10 m2 plots) (see Atlantic puffin productivity methodology) are recorded via PuffinCam during the early season. 2. Compare the number of AOBs recorded during the early season (monitored within the small productivity plots) to assess accuracy of the count across the island.
1.2	Method Title	Raft Counts
	Target(s)	Atlantic puffin

Reference	Heading	Details
	Aim(s)	Census & late season potential recruitment count
	Brief description	Early season raft counts within the Puffin Friendly Zone through April and May when puffins are likely to be incubating eggs to give an estimate of the number of pairs.
	Methodology	1. Counts of Atlantic puffin rafting within the bay are conducted ca. every two days through the early season, using either PuffinCam or by boat. 2. Sea state, visibility, weather conditions, count method (e.g. camera live, camera recorded, boat) and other species present are recorded. 3. Counts are continued where possible in the late season, to estimate the number of non-breeding birds which visit the colony in comparison to other years.
	Additional detail	In 2023, late season raft counts were only conducted via boat due to a fault in PuffinCam.
1.3	Method Title	Mapped burrows with remote camera observation
	Target(s)	Atlantic puffin
	Aim(s)	Productivity
	Brief description	PuffinCam (Pan-Tilt-Zoom) remote camera moves between several plots through the day, AOBs are identified in the early season, and monitored through the season to track signs chicks are present (fish returns).
	Methodology	1. Select plots and set PuffinCam to track between these ca. hourly. 2. Make several watches during the early season (April-May), ca. 5 hours per plot minimum. Label AOBs which are used on two separate days as active. 3. Monitor through the late season, a burrow which has two fish returns on separate days during the late season is marked as successful. 4. Also record any predation or kleptoparasitism events and link to a burrow if possible.
	Additional detail	Be vigilant that some burrows have multiple entrances.
1.4	Method Title	Nest site mapping
	Target(s)	Northern fulmar
	Aim(s)	Productivity and partial census

Reference	Heading	Details
	Brief description	Fulmar perch points are mapped from vantage points (see Purdie <i>et al.</i> 2023), and consistently occupied nests are identified and observed through the breeding season to estimate productivity.
	Methodology	1. From vantage points (Purdie <i>et al.</i> 2023) map northern fulmar occupying sites. Visit every two days for ca. 10 days, map those consistently occupied as AONs. 2. Monitor AONs weekly, recording if adults or chicks are present and their behaviour e.g. brooding posture or standing. 3. Mark chicks as fledged if they are observed with full, or near full, plumage, and are absent the following week.
	Additional detail	Additional northern fulmar AONs are recorded during round island seabird censuses.
1.5	Method Title	Aerial census
	Target(s)	Northern gannet
	Aim(s)	Full colony census of Les Etacs and Ortac
	Brief description	Count of AOTs from aerial photographs.
	Methodology	1. Aerial photographs are taken in June or July, in 2023 this was done on 04/07/23. 2. Plots are marked out on these photographs, and they are distributed to counters. Five counters took part in 2023. 2. The unit to count was an apparently occupied site (AOS), i.e. a site occupied by one or two adults irrespective of whether or not nest material was visible/present – as long as a site looked suitable for breeding it was counted. 3. Birds occupying 'club' sites were not counted. Where non-breeders and immatures mixed with breeders, particularly on the lower slopes, the presence of nest material or the 'suitability of the site for nesting' was used to determine an AOS from a site occupied by a non-breeder. Non-suitable sites included sites located on sheer faces, inadequate ledges or positions too close to the high-water mark and splash zone. 4. To avoid bias each counter worked individually and did not see any other counter's count. 5. The final assessments were based on the mean of the counts (with standard deviation)

Reference	Heading	Details
	Additional detail	There was some sun glare on the images, so AOT were used. In future, it is advised that AONs are identified where possible as well as mapping all AOTs
1.6	Method Title	Randomly selected mapped AONs
	Target(s)	Northern gannet
	Aim(s)	Productivity
	Brief description	Nest sites are mapped at random and observed weekly from mid-March through to October to determine the proportion which fledged a chick.
	Methodology	1. 350 nests in total are selected. 50 nests are selected at random from within five plots (Pyramid, West-Rock Gully, West-Rock West-End, North-Stack High and North-Stack Low) and 100 nests from West-Rock Plateau (Purdie et al. 2023). 2. Nest sites are observed weekly noting behaviour, number of adults present, the presence and age of any chicks or eggs, any dead birds, or other species occupying the site. 3. Nest sites are marked as successful if a chick reaches 11 weeks and is absent the following week. 4. Non-layers and the stage of failure (e.g. egg, chick) are identified.
	Additional detail	
1.7	Method Title	Annually repeated mapped AONs
	Target(s)	Northern gannet
	Aim(s)	Productivity
	Brief description	Nest sites are mapped at random and observed weekly from mid-March through to October to determine the proportion which fledged a chick.
	Methodology	1. 100 pre-selected AONs are monitored on Pyramid stack through the season. 2. Nest sites are observed weekly noting behaviour, number of adults present, the presence and age of any chicks or eggs, any dead birds, or other species occupying the site. 3. Nest sites are marked as successful if a chick reaches 11 weeks and is absent the following week. 4. Laying date, non-layers and the stage of failure (e.g. egg, chick) are identified.
	Additional detail	For AON map see Purdie <i>et al.</i> (2023)

Reference	Heading	Details
1.8	Method Title	Anthropogenic Material Survey
	Target(s)	Northern Gannet
	Aim(s)	Measure anthropogenic material within nest returns, and record entanglements
	Brief description	Record nest material brought back to Les Etacs by northern gannets during the early nesting season, and record entanglement through the season.
	Methodology	Material returns During peak nesting season for the gannets (ideally early March to mid-April), we recorded all nest material brought back to the colony, categorising this as either anthropogenic if it was clearly man-made (e.g. plastic rope, netting, or other material), or natural (e.g. seaweeds). Specifically, we observed from the viewpoint at The Guns Low (refer to map of viewpoints used for all observations?), from which about 70% of the occupied part of the colony is visible, and Gannets can be seen arriving from both northerly and southerly directions (Purdie et al., 2023). Observations were made for one hour at ten points during mornings within the peak nesting season, and were conducted by one observer using sufficient optical magnification to discern the identity of nesting material (generally 8x magnification binoculars were sufficient, but occasionally a 25x telescope was used to discern small pieces of material). Observations were not conducted in conditions that limited visibility (i.e. rain, wind above Beaufort Force 6, low fog), with weather conditions recorded for the period of observation (temperature, wind speed, wind direction, cloud cover, percent of rain in observation window, estimated visibility (km)). Entanglements Throughout the gannet nesting season (early March – early October), we used a telescope (x25) to search Les Etacs was every seven days for entangled birds. Specifically, we observed from The Guns North vantage point, from which about 70% of the occupied part of the colony is visible. Observations were made for approximately 15 minutes, which was enough time to slowly scan the whole colony. The date the entanglement was observed, the region of Les Etacs the individual was entangled, age of the individual entangled (adult/chick) and whether the individual was alive, or dead were recorded. Observations were not conducted in conditions that limited visibility (i.e. rain, wind above Beaufort Force 6, low fog), with weather conditions recorded for the period of observation (temperature, wind speed, wind direction, cloud cover, percent of rain in observation window, estimated visibility (km)).
	Additional detail	
1.9	Method Title	Population size
	Target(s)	Guillemot
	Aim(s)	Productivity of guillemot

Reference	Heading	Details
	Brief description	Success of guillemot AOSs on North-Stack-High is recorded through regular observations.
	Methodology	Conduct onshore observations to estimate 'pre-season' (April) and 'peak' counts of guillemots and razorbills at all potential sites. All counts undertaken between 10th May and 3rd June (the earliest date of chick departure) were designated 'in-season' for guillemots, whereas
	Additional detail	
2	Method Title	Productivity
	Target(s)	Guillemot, razorbill
	Aim(s)	Productivity of guillemot, razorbill
	Brief description	Success of observable guillemot and razorbill AOSs is recorded through vantage point observations and camera trap observations.
	Methodology	Count the number of nests or nesting attempts following intensive monitoring at each potential nesting site. Monitor breeding activity every few days (e.g. fish returns, attendance) via onshore observations with a scope alongside population counts. Where trail cameras were deployed overlooking nesting areas, images were also used to count nesting attempts and record their outcome. Any signs of previous nesting activity, such as broken eggshells found at new loci during the post-season site visits, were also added to the counts posthumously. On North-Stack High, observe guillemot AOS every 1-2 days from the day the first chick is observed, and monitor all active sites through to jumping.
	Additional detail	North-Stack High is observed differently because a large sample of guillemot AOS are clearly visible from the shore.
2.1	Method Title	Round Island Census
	Target(s)	European shag, great cormorant, herring gull, lesser black-backed gull, great black-backed gull, common tern, northern fulmar
	Aim(s)	Census of breeding birds.

Reference	Heading	Details
	Brief description	Boat based survey counting AONs and AOTs of birds around the Ramsar site and Alderney.
	Methodology	1. Ca. three counts conducted in the year between late May and early June. 2. AONs recorded based on species specific observations (Walsh et al. 1995). AOTs or other lower designations may also be stipulated. 3. Maximum count of nest sites recorded as primary count.
	Additional detail	
2.2	Method Title	Nest observation
	Target(s)	Ringed plover
	Aim(s)	Population size and productivity
	Brief description	Monitor number and success of ringed plover nests.
	Methodology	Nests on Platte Saline, Clonque and Saye were located as soon as possible once laying had begun through a combination of beach walkovers followed by retreat and observation of alarm calling ringed plover adults, and vantage point observations of potential sites. Each beach was checked twice a week in the breeding season for new nests. Located nests were then checked regularly by vantage-point observation (using a telescope) at least three times a week. BTO behaviour status codes were used to classify adult (and where relevant) pulli behaviour, with observations lasting a minimum of the amount of time to determine the nest status and the number of chicks. When nests failed, we attempted to identify cause of failure based on observed predator interactions, and any remaining physical evidence at a nest inspection (e.g. punctures in egg shells caused by avian predation). Egg and chick survival were then calculated using the Mayfield method.

Reference	Heading	Details
	Additional detail	Suggested amendments for 2024: - Better identify causes of nest failure at the egg stage by putting located nests under 24-hour observation using trail cameras. Specifically, placing Ltl Acorn™ trail cameras with wide angle and close focus capabilities (or equivalent) two to three metres from each nest and camouflaging them using nearby flotsam (e.g. seaweeds) to minimise disturbance to the birds. Cameras would only be placed in areas with sufficient cover that the camera would not itself draw the attention of people or intelligent predators (e.g. crows) to the nest. While placing cameras does necessitate approaching the nest, and so potentially causing disturbance to a breeding bird, cameras would be pre-set and total time at the nest would be minimal. Furthermore, Wanders et al., (2023) have found that incubation tends to resume within ten minutes of a disturbance event, meaning that disruption would be minimal but would give potentially valuable data for planning evidence-based conservation actions to help the ringed plover population.
2.3	Method Title	Nest cordons
	Target(s)	Ringed plover
	Aim(s)	Improve ringed plover clutch survival
	Brief description	Installation of rope cordons to protect ringed plover nests

Reference	Heading	Details
	Methodology	We identified probable nest sites ahead of the breeding season from locations that had been previously occupied, and which were located above the high water mark and in suitable habitat. We placed rope cordons around these probable areas on Platte Saline (Figure 1), creating relatively large cordoned areas, unless an existing barrier (such as the wall to the East of the sand works) already limited potential disturbance. We constructed and installed these cordons in mid-March by siting metal rebar poles at four-metre intervals to create a rectangle with a shortest side of approximately 20 m down the shoreline. We then attached two lines of manila rope to the top and middle of the poles. We chose these heights to allow birds underneath the rope while still acting as a deterrent to people and dogs entering. Public information signs were displayed alongside the cordons. Once a nest at Saye had been identified, we placed another rope cordon around this nest as well. Due to a lack of use in 2022, the cordon to the East of Platte Saline was not used in 2023, however, two nesting attempts did occur in 2023 meaning that this site is nonetheless a good candidate for a cordon.
	Additional detail	Suggested amendments for 2024: - The site at Saye has now been occupied for two years, in similar locations. Rather than wait for breeding to begin to be sure of a nest, we suggest deploying the cordon as in 2023 at the same time as the Platte Saline cordons. - Anecdotal evidence over the last two years shows that some dogs do not pay attention to the lower rope line, and similar conservation projects in the UK only use the top line of rope, while achieving success (D. Whitelegg, pers. comm.). We therefore suggest only using the upper line in 2024 to lower deployment and maintenance time.
2.4	Method Title	Disturbance monitoring and causes of nest failure.
	Target(s)	Ringed plover
	Aim(s)	Improve ringed plover clutch survival
	Brief description	Monitoring of disturbance and potential causes of nest failure to ringed plover nests using vantage point observations.

Reference	Heading	Details
	Methodology	We further used vantage-point observations to record disturbance in half-hour intervals throughout the nesting season, with each nest observed for two high-tide and two low-tide periods where possible. These observations included ringed plover responses to humans, dogs, or natural predators (e.g. crows, kestrels), the estimated distance at which this response was triggered, and the duration of any defensive response (e.g. flushing from a nest, chicks ‘freezing’).
	Additional detail	Suggested amendments for 2024: - Where it is possible to deploy trail cameras on incubating nests, do so and review footage rather than conducting additional observations. In cases where this is not possible (e.g. camera would attract attention to nest), conduct observations for one hour per nest per week in the early morning (within three hours of dawn) when avian predators are most active. For hatched nests, follow this procedure to better understand potential causes of nest loss at the chick stage. The increase in observation period is to allow for increased potential to record causes of nest failure.
2.5	Method Title	WeBS
	Target(s)	Waterbirds
	Aim(s)	Standardised count of waterbirds using bays.
	Brief description	Monthly count of birds using bays within the Ramsar site
	Methodology	WeBS core counts are conducted monthly, ideally at high tide when most wetland birds are least dispersed and easiest to count, and ideally two hours before or after high tide. Hanaine, Clonque and Platte Saline are monitored within the Ramsar Site. All birds using (e.g. not simply transiting through) the bays are recorded.
	Additional detail	Data is submitted to the BTO and is available through (https://www.bto.org/our-science/projects/wetland-bird-survey/data/submit-data-request)

Appendix 2. Historical counts of the breeding seabirds from around Alderney's coast and outer islands.

Historical seabird counts			SCR	Seabird 2000				-	Burhou Project		Ramsar ARS1					Ramsar ARS2					Ramsar ARS3					
Location	Species	Method	1987	1999	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Alderney	Fulmar	AOS	53	50	-	-	-	-	-	26	20 ⁽²⁾	38	34	16 ⁽²⁾	34	29	29	32	13	35	43	35	39	40	67	54
Burhou	Storm Petrel	Ind. ⁽⁷⁾ Rung ⁽⁸⁾	35	-	-	-	-	-	-	-	2,800	-	-	-	-	-	-	3000	-	-	-	-	-	-	-	-
				204	-	-	300	465	317	-	171	-	-	-	-	-	433	483	-	-	-	324	513	-	-	511
Les Etacs	Gannet	AOS	2391	3450 ⁽⁹⁾	-	-	-	4862 ⁽⁹⁾	-	-	-	-	-	5765 ⁽⁹⁾	-	-	-	5960 ⁽⁹⁾	-	-	-	-	-	5842 ⁽⁹⁾	-	4585 ⁽⁹⁾
Ortac			1985	2500 ⁽⁹⁾	-	-	-	2547 ⁽⁹⁾	-	-	-	-	-	2120 ⁽⁹⁾	-	-	-	2777 ⁽⁹⁾	-	-	-	-	-	2698 ⁽⁹⁾	-	1451 ⁽⁹⁾
Coque Lihou			80	-	-	-	-	-	-	-	-	-	-	-	-	77	66	-	-	-	26	19	31	32	45	43
Little Burhou	Shag	AON	8	-	-	-	-	-	-	-	-	-	-	-	-	35	36	43	-	-	-	-	-	13 ⁽¹⁾	-	-
Burhou			6	47	-	-	-	-	-	19	21	19	24	23	20	21	14	16	-	-	-	-	-	9 ⁽²⁾	-	-
Alderney			31	160	-	-	-	-	-	-	-	-	-	-	-	18 ⁽²⁾	51	13	-	-	74	90	55	70	96	88
Little Burhou	Cormorant	AON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	11 ⁽⁹⁾	5	9
Alderney	Ringed Plover	Pairs	-	-	-	-	-	-	-	-	1	3	5	3	2	2	6	7	1	5	4	4	4-6	5	6	7
Burhou		AON	70	125 ⁽⁴⁾	-	-	-	202	110	148	164	52 ⁽²⁾	85	73	5	18	32	182 ⁽⁹⁾	55 ⁽⁹⁾	-	-	-	-	8	-	-
	Herring Gull	Chicks		-	-	16	-	3	-	-	1	8	17	6	4	12	(18) ⁽⁵⁾	-	-	-	-	1	2	-	-	-
Alderney		AON	96	285 ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	315 ⁽⁶⁾	-	-	-	-	81	71	119	142	120
Burhou	Lesser Black-backed Gull	AON	105	313 ⁽⁴⁾	-	-	-	1103	936	994	1001	640 ⁽²⁾	1074	1236	991 ⁽⁴⁾	-	1392 ⁽⁹⁾	1176 ⁽⁹⁾	1051 ⁽⁹⁾	-	-	-	-	716 ⁽⁹⁾	-	-
		Chicks	-	232	-	308	386	140	-	-	3	281	335	11	202	28	276	-	-	-	-	164	-	-	-	-
Alderney		AON	13	70 ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	315 ⁽⁶⁾	-	-	-	-	34	26	35	37	27

Historical seabird counts			SCR	Seabird 2000				-	Burhou Project		Ramsar ARS1					Ramsar ARS2					Ramsar ARS3							
Location	Species	Method	1987	1999	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Burhou	Great Black-backed Gull	AON	22	27 ⁽⁴⁾	-	-	-	18	18	16	17	-	23	23	4	1	6	13 ⁽⁹⁾	-	-	-	-	4	-	-	-		
		Chicks	-	-	-	-	-	-	-	-	0	5	0	1	4	1	2 ⁽⁵⁾	-	-	-	2	-	-	-	-	-		
Alderney		AON	5	21 ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	7	8	9	6	
Houmet des Pies	Common Tern	AON	18	20 ⁽⁴⁾	-	-	-	15	-	11	-	-	-	-	5	14	25	-	-	4	21	-	-	-	-	-		
		ind.	-	-	-	-	-	-	-	64	-	-	-	-	24	43	28	-	53	48	40	-	-	-	-	-		
Alderney		AON	-	-	-	-	-	-	-	-	-	-	-	-	5	14	25	32	-	-	-	2	9	14	23	0		
		ind.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	max. 42	-	-		
Burhou	Puffin	AOB	210 ⁽³⁾	180 ⁽³⁾	-	-	-	-	127	114	132	-	153	160	176	168	143	112	97	93	101	186	157	225	-	198		
		Raft	-	-	-	-	-	-	92	127	134	131	157	174	175	96	58	114	168	167	140	150	167	161	184	176		
Coque Lihou	Guillemot	Max (EBN)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	134	194	164	-	-		
La Nache		Max (EBN)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	11	37	-	-		
Fourquie		Max (EBN)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-		
Little Sister		Max (AIA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-		
La Nache		Max (AIA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15(8)	-		
Coque Lihou		Max (AIA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20(15)	103		
Les Etacs		Max (AIA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63 (28)	98 (22)	86 (24)	55	-		
Ortac		Max (AIA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	22	-		
Coque Lihou	Razorbill	Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	18	40	20(15)			

Historical seabird counts			SCR	Seabird 2000			-	Burhou Project		Ramsar ARS1					Ramsar ARS2					Ramsar ARS3							
Location	Species	Method	1987	1999	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
La Nache		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	52	44	6	35	
Fourquie		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				8		
Little Sister		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3		
Les Etacs		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	0		
Ortac		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0		
Quoire		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	8	13	4		
Le Puits Jervais		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	0	0		
Hanaine bay		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
West Cliffs		Max (AOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4		

*estimated number, p present, Max = highest count of individuals, EBN = estimated breeding number, AOS = apparently occupied site, AON = apparently occupied nest, (1) post-season count of used nest sites; (2) partial colony count only; (3) individuals on land; (4) AOS not AON; (5) inc. Little Burhou; (6) All gull spp.; (7) PVA calc. via ringing; (8) inc. re-traps; (9) whole colony count.

Appendix 3. Historical assessments of productivity from the seabirds nesting around Alderney's coast and outer islands.

Historical seabird data up to 2021 - productivity

Species	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Gannet*	-	-	0.8	0.88	-	-	0.78	-	0.52	0.61	0.48	0.69	0.65	0.40	0.52	0.46	0.45	0.3	0.55
Number of Gannet nests observed			180	184			319		248	250	244	75	69	126	330	300	415	350	350
Shag (Coque Lihou)	-	-	-	-	-	-	-	-	0.69	0.62	-	-	-	-	-	-	-	-	-
Shag (Little Burhou)	-	-	-	-	-	-	-	-	0.74	0.61	-	-	-	-	-	-	-	-	-
Shag (Burhou)	-	-	-	0.14	0.21	-	-	1.24	0.57	0.21	-	-	-	-	-	-	-	-	-
Shag (Alderney)	-	-	-	-	-	-	-	-	1	0.41	0.93	-	-	0.6	-	-	-	-	-
Puffin	0.64	0.61	0.63	0.65	-	0.66	0.66	-	-	0.36 – 0.60	0.71	-	-	0.53-0.94	0.60-0.88**	0.63	0.65	0.5	-
Fulmar	-	-	-	-	0.47	0.53	-	0.56	0.52	0.55	0.4	0.92	0.37	0.33	0.45	0.44	0.42	0.41	0.31
Ringed Plover	-	-	-	-	0.66 ^{ps}	0.2 ^{ps}	0 ^{ps}	0 ^{ps}	1.5 ^{ps}	1 ^{ps}	-	1 ^{ps}	0.8*	1.5*	1.5*	0.17*	1.0*	1.5*	0.57*
Common Tern	-	-	-	-	-	-	-	-	0.57	0.44	-	0	0	0.14-0.29	-	-	-	† 0.095	-
Guillemot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.58	0.39
Razorbill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.33	0.25

Key

* chicks fledged per pair, ^{ps} productivity data from Platte Saline beach only, # productivity = mean no. chicks fledged per nesting attempt, † productivity = mean no. chicks fledged per AOS

Appendix 4. Document History

Version	Date	Contributors (bold) , Reviewers (standard font) in order of receipt	Notes
1	06/02/24	Alex Purdie, Kelly Huitson, Dr Tara Cox, Matt Lewis, Dr Mel Broadhurst-Allen, Abigail de Castella, John Horton	Initial review compiled by Alex Purdie, sent to Activity Organisations for feedback.
2	23/02/24	Kelly Huitson, Kathy Kissock, Dr Mel Broadhurst-Allen, Dr Tara Cox, Matt Lewis, Roland Gauvain, Abigail de Castella, ABO/CIBRS (specific persons not named in feedback).	Feedback from activity organisations received by Ramsar Administrator (A. Purdie) and compiled. Sent to ARAG for review.
3	09/04/2024	Prof Charles Michele, Paul Buckley, Francis Binney, David Chamberlain, Dr Phil Atkinson	All ARAG feedback received and incorporated.
4	11/04/2024	Alex Purdie	Final version submitted to GSC.
4	12/07/2024	Theo Leijser (States of Alderney Chief Clerk), Lin Maurice (GSC Chair), Bill Abel (GSC), Ian Carter (GSC), Steve Roberts (GSC).	Presented to GSC by Chief Clerk Alderney Ramsar Secretariat present to answer questions. GSC noted review and approved its recommendations.

Appendix 5. ARAG Comments

Page	Document	Comment	Reference Text	Suggested change	Administrator Response	New text
1	Review	Clarify that all these people have reviewed it	Reviewed by: Alderney Animal Welfare Society, Alderney Bird Observatory, Alderney Wildlife Trust, Channel Islands Bird Ringing Scheme	NA	Feedback was received from representatives of all organisations (this included: CIBRS chair / ABO warden for CIBRS / ABO, and various AWT and AAWS staff)	No change
2	Review	I see that there is no executive summary of the report. I think it is very important that one should be included.		NA	An executive summary will be prepared for GSC version.	No change
7	Review	Should BDMLR be included. It is defined where it appears towards the end - so perhaps its omission from this index does not matter.	Abbreviations list	BD ML R Bri tis h Div ers M ari ne Lif e Re sc ue	Thank you for this, now included as suggested	BDMLR British Divers Marine Life Rescue
13	Review	Not clear what this means - a larger colony in Alderney or more widely I think its always been a bit limited at the southern end?	remnant of a much larger colony (with at the southern edge of the species range (JNCC 2023).	NA	It was a larger colony in Alderney. I have added a note and included a specific reference.	The Atlantic puffin colony is vulnerable being a remnant of a much larger colony on Burhou, with an estimated 50,000 pairs in the 1940s, at the southern edge of their range (Lockley 1953, JNCC 2023).
13	Review	Not sure if correct to say abandoned if they were present but did not breed?	but this was abandoned in 2023	NA	There was a couple of records of prospecting birds, but no consistent occupancy etc – so concluded as abandoned. Have adjusted text for clarity.	Until 2023 a population of common terns also bred on Alderney's Fort Houmet Herbe, whilst Terns were observed here in early in the season there was no evidence of breeding in 2023, following a disastrous breeding season in 2022 and potentially due to c hanges in the regional population due to HPAI.
16	Review	Can you clarify this yet?	The ABO recorded a count of 206 Puffins on 14th July, it is being queried as to whether this was within the Puffin Friendly Zone (and therefore can be compared with other counts), or a wider colony count.	NA	After forwarding this query on to the ABO they responded with: "...tells me: these were all birds rafting as a group directly in front of the colony, had the count been outside of the RAMSAR 'Puffin friendly Zone' they would not have been submitted." Data and text updated.	During the late season (June-July), six raft counts (Figure 2.) were conducted, five from Sula of Brays due to PuffinCam being inoperable, and one from land by the ABO. A maximum count of 206 individuals was recorded on 19/07/23, with an average of 122 ± 76 individuals.
21	Review	This sentence needs to be rewritten more clearly.	As a result of the changeover in population, in addition normal to annual variation, the foraging range of Alderney's northern gannets may have varied significantly since the last detailed surveys were conducted (Warwick-Evans et al. 2016, Purdie et al. 2022) .	NA	Adjusted for clarity.	This changeover in population, in addition normal to annual variation, may have resulted in a significant variation in the foraging range of Alderney's northern gannets since the last detailed surveys were conducted (Warwick-Evans et al. 2016, Purdie et al. 2022) .

New text	Administrator Response	Suggested change	Reference Text	Comment	Page	Document	Comment
NA	Numbering formatting error in ARAG version. Final version will have each list restarting at "1".	NA	7. Continue	If numbers deliberately sequential so that they can be pulled out into a summary then they probably need to include the name of the species in each to avoid losing the meaning?	27	Review	8
Investigating measures (e.g. social attraction, conditioned-food-aversion, supplementary feeding (Hario 1997, Michael W. Parker et al. 2007, Ferguson et al. 2021))	I have included some examples which may be investigated (same as were in recommendations) and have included example citations.	NA	Both razorbill and guillemot are preyed by avian predators, and rodents may also have a negative impact. Whilst guillemot are doing well on the gannetries, they may be vulnerable to future HPAI outbreaks on these densely populated shared colonies. Investigating measures to improve nesting success at other sites may increase the stability of the populations.	Some brief description of how these methods might be indicated if possible. (i.e. I have no idea of this)	30	Review	9
(Inserted into recommendations) 1. Investigate similar programmes at other colonies to develop successful methods. 2. Investigate the use of volunteers to assist with monitoring, and potentially prevention of, predation.	Forwarded to AWT ecologists: Response - please include these suggestions as recommendations.`	NA	productivity has fallen after a consistent rise from 2020 to 2022.	Hard to draw conclusions on a year by year basis Might be interesting to see what works at other colonies? Could volunteers help with monitoring/preventing predator control?	33	Review	10
Trial censusing oystercatchers on mainland Alderney in 2024, potentially as the start of a three-year cycle	Thank you will adjust for clarity.	NA	1. Trial censusing oystercatchers on the mainland in 2024, potentially as the start of a three-year cycle	I assume "mainland" means "Alderney" here. If so perhaps say so.	34	Review	11
See section 4.5.8 for background on access to Burhou in 2023.	I am not sure why more information was not presented by the ABO in this section. For clarity, I have included a link to the section (4.5.8) regarding the closure of Burhou in 2023.	NA	that was moreover a case of wasting police time.	Jon talked about this last week I assume its sensitive but ideally would be slightly edited to fit better into this report. This is accusatory about someone....do we know what happened here, whether it was a mistake or there was some genuine concern? I am guessing there is reason not to say more but it looks a bit weird presented here?	35	Review	12
the 2022 Ramsar report recommendation	Yes, thank you, adjusted.	the 2022 Ramsar report recommendation	the 2023 Ramsar report recommendation	2022, this surely is report of 2023.	43	Review	13
NA	See above (comment 8)	NA	1.	Numbers here are not consecutive	60	Review	14
NA	See above (comment 8)	NA	87.	And I don't think these should be in the numbering system as not recommendations as such?	61	Review	15

Page	Document	Comment	Reference Text	Suggested change	Administrator Response	New text	
62	Review	16	ABO also suggested that it had been agreed to invite someone from the CIBRS Do we know if this is correct?	In the Alderney Ramsar Stakeholder forum, it was suggested that the ARAG membership be expanded to include a lay person, potentially with experience in community engagement.	NA	The CIBRS are one of the activity organisations. It was stipulated in the stakeholder forum that the new member of ARAG should not be associated with any stakeholder or activity organisation. The ABO representatives were keen to stress the importance of this, so I am unsure where they have heard that a member of the CIBRS is being invited.	NA
5	Action Plan	17	Is this still the case?	Other breeding species include European storm-petrel <i>Hydrobates pelagicus</i> colony in the Channel Islands	No, I believe their breeding has been confirmed on Sark. Updated.	Other breeding species include European storm-petrel <i>Hydrobates pelagicus</i>	
6	Action Plan	18	This does the question of whether at some point the Ramsar boundary should be reviewed? While its convenient to include other work there does need to be a justifiable link to the ramsar site. (Fully support ringed plover inclusion)	In April 2019, the GSC approved the updating of the current 2017-2021 Ramsar Management Strategy's title to include 'and other sites.	NA	I believe this is a reasonable suggestion. I will raise your comment at the next Alderney Ramsar Stakeholdr Forum.	NA
11	Action Plan	19	Licencing only applies to birds	All activities involving the handling of wildlife	NA	Added "(birds)".	All activities involving the handling of wildlife (birds)
11	Action Plan	20	Seabird monitoring will continue in accordance with the JNCC Seabird Monitoring Handbook (Walsh et al. 1995), RSPB guidelines and the 2017 – 2021 Ramsar Management Strategy (ARS3; (Wieckowski and Ferrar 2016) with adaptations as detailed and approved in the 2023 Ramsar Action Plan (Purdie 2023), unless otherwise stated. Data will be shared with the national Seabird Monitoring Program (SMP). This monitoring will enable us to measure baselines for these populations, in line with the aims of the Ramsar convention.	(include suggested text)	This has become more important given the devastating impact that high-pathogenicity avian influenza has had on Alderney's Northern Gannet population and more widely on the UK's breeding seabirds in 2021 and 2022 (Tremlett et al. 2024)	Seabird monitoring will continue in accordance with the JNCC Seabird Monitoring Handbook (Walsh et al. 1995), RSPB guidelines and the 2017 – 2021 Ramsar Management Strategy (ARS3; (Wieckowski and Ferrar 2016) with adaptations as detailed and approved in the 2023 Ramsar Action Plan (Purdie 2023), unless otherwise stated. Data will be shared with the national Seabird Monitoring Program (SMP). This monitoring will enable us to measure baselines for these populations, in line with the aims of the Ramsar convention. This has become more important given the devastating impact that high-pathogenicity avian influenza has had on Alderney's Northern Gannet population and more widely on the UK's breeding seabirds in 2021 and 2022 (Tremlett et al. 2024)	
11	Action Plan	21	Can we make sure the "Puffincam" is situated on the edge of the colony. This would avoid any need to enter the colony should repairs be needed.e	PuffinCam	Yes for sure, I was noted in the review and I have now included a note on page 24 section 4.4.1.4. The main camera (which failed previously) has not been located inside the colony previously.	(Page 24) The camera is located outside of the Puffin colony.	
11	Action Plan	22	Just check initial capitalisatons or not. 4.1.1.1. is not for example.	assessment	Thank you for this, have adjusted	<i>Capitalised headings which were formatted incorrectly</i>	
11	Action Plan	23	Reference?	represents the best approximation of the total number of pairs present .	Thanks for this, I have included the reference for the 5-year strategy. I believe that this survey was designed with the original Alderney Ramsar Steering Group.	represents the best approximation of the total number of pairs present (Wieckowski and Ferrar 2016).	

New text	Administrator Response	Suggested change	Reference Text	Comment	Page	Document	Comment
No change	The current plan does not state this intention, this was reviewed by the CIBRS and ABO and no comment was made to this effect. There was a similar proposal made by the ABO in 2023 which aligns with this. See below for proposal and ARAG response from 2023. I do not believe the ABO ever took this through to GSC. I will email the ABO and ask if they would like this included as an option. ABO Proposal "The ABO would also like to propose incorporating completing the burrow checks (appendix 5.1 2017 to 2021 seabird work plan and appendix 4.1.1.2 of the 2022 work plan) as an addition to their current ringing programme. The ABO would be happy to share our expertise with other relevant Stakeholders and incorporate a suitable individual to accompany the ABO on a visit to complete the burrow productivity checks at end of the nesting season at the end of July. As an appropriately licensed and qualified handler would be present (through the ABO) during the burrow productivity checks any pufflings or European Storm Petrel (<i>Hydrobates pelagicus</i>) present can also be ringed. This would be an addition to the work currently provided, avoiding important missed research opportunities and data collection." ARAG response: "Based on this (above text), the ARAG would like to recommend two potential options: 1. AOB survey and the Storm Petrel ringing trip are aligned, so that the ringing takes place in early August, which is when the AOB survey is carried out (when the Puffins have fledged but Storm Petrels are still present). In a joint operation the ABO lead on the ringing, including the opportunistic ringing of any Puffins or Storm Petrels found during the burrow survey and the AWT lead on the AOB survey. 2. ABO join the AWT on their AOB survey and opportunistically ring any Puffins or Storm Petrels which are found."	NA	If an appropriately licensed handler is present, the adult may also be temporarily extracted to look for the presence of a ring .	Will a metal ring be applied if no ring is present?	12	Action Plan	24
Walsh et al. (1995)	Thank you, adjusted.	Walsh et al. (1995)	(Walsh et al. 1995)	Brackets not necessary here.	12	Action Plan	25

New text	Administrator Response	Suggested change	Reference Text	Comment	Page	Document	Comment
changeover in breeding individuals as a result of non-breeding and young birds now occupying sites	It refers to the potential for previous non-breeders now occupying AONs and breeding. I have adjusted for clarity.		changeover	Not sure what this mean?	12	Action Plan	26
gannets	Thank you, adjusted	gannets	gannet's	Not 's but a staight "gannets" as it is a plural here.	13	Action Plan	27
northern	Thank you, adjusted.		Northern	Check capitalisation	13	Action Plan	28
NA	There is an intention for a thorough review into this in 2024. Initially, there are several benefits of gathering additional data on movements of northern gannets. These include: • Much of the data from the colonies is now quite old, and gannets have not been tracked on Les Etacs since 2015. • There is annual variation in the movements of northern gannets https://link.springer.com/article/10.1007/s00227-016-2922-y • Given potential changes in fish stocks which could drive shifts in foraging behaviour it is not unlikely the foraging ranges may have shifted. • The potential impact of changeover as a result of HPAI. • There are more and more windfarms being constructed, and areas for development. • Modelling of their behaviour in different areas can be used to predict the potential impacts of windfarms • Data and subsequent modelling is required to ensure any impact on the colonies is properly mapped. • Some developers have not considered Les Etacs/ Ortac to be near enough their farms to be considered – but the colonies here have a greater foraging range than others (likely due to southerly location)	NA	There is a need for up-to-date information on the movements of Alderney's northern gannets to understand the potential impact of international windfarm developments on the colonies.	I thought sufficient data had been accumulated from earlier studies to understand the factors which influence Gannet movements. Short of establishing a wind farm it is impossible to understand the potential impact it will have.	13	Action Plan	29

New text	Administrator Response	Suggested change	Reference Text	Comment
Geolocator retrieval will be undertaken by a small team with an appropriately licensed ringer and will follow procedures set out in previous years to minimise the impact on the birds, this includes recording colour rings as well as recovery of geolocators.	Yes, thank you, adjusted.		Geolocator retrieval will be undertaken by a small team with an appropriately licensed ringer and will follow procedures set out in previous years to minimise the impact on the birds.	Can you record colour rings as well?
other geolocation studies from gannetries elsewhere in the species' range (e.g. (Lane et al. 2020, Peschko et al. 2021, Pollock et al. 2021).	Yes for sure – my bad for not citing some examples, thank you for highlighting. e.g. https://www.sciencedirect.com/science/article/pii/S0141113621002130 https://www.sciencedirect.com/science/article/pii/S0301479720314341 https://www.sciencedirect.com/science/article/pii/S0141113620305304	NA	other geolocation studies from gannetries elsewhere in the species' range	Can you share previous studies with us so that we can understand gaps in knowledge.
licence	Thank you.	lic en ce	licences	Typo "s" deleted from "licences"
Wetland Bird Survey (WeBS), BTO, RSPB, JNCC,	Thank you, adjusted.		Wetland Bird Survey (WeBS)	BTO/RSPB/JNCC if you want to add affiliations, but it is not necessary
Tape playback e.g. (Walsh et al. 1995) is a likely method, and the review will investigate how this, or another method such as passive acoustic monitoring could	Yes I think this would be a good method, and could be combined with bat surveys. Will forward on to AWT ecologists.	NA	Tape playback e.g. (Walsh et al. 1995) is a likely method, and the review will investigate how this, or another method could	Passive acoustic monitors + use of a classifier to pick up manxie calls?
NA (stakeholder engagement already mentioned in plan)	Forwarded to AWT marine ecologist, response from AWT (paraphrased from phone conversation): Thank you for this feedback it is really good to have. We are currently following advise from Natural England, but following your feedback will look to launch a broader consultation with marine organisations in the channel islands to gain more evidence to advise best practice.	NA	For 2024, the AWT should consider pro-active marine INNS management options which could include species eradication (e.g. Pacific oyster) and use (harpoon weed (<i>Asparagopsis armata</i>) for cattle feed).	(Paraphrased from phone conversation) Would suggest using Jersey as an example of Pacific oyster in warmer waters. They do breed here but do not appear to have caused significant harm. Francis is unsure if their removal (which would be very high effort) would be worth the effort, due to the likelihood of reinfection from other sources (e.g. French coastline). However I (Francis Binney) am not a specialist on Pacific Oyster, I am very happy to discuss this in detail with (AWT Marine Ecologists).

New text	Administrator Response	Suggested change	Reference Text	Comment	Page	Document	Comment
NA	Sour fig has previously been present on Burhou and was targeted, and there have been a couple of isolated reincursions of the plant (likely due to seabirds using it as nesting material). Currently it is not targeted at other sites within the Ramsar Site. If/when cleared on Burhou, sour fig would be binned and incinerated. There are currently no marine IINS removal plans – the potential for these (e.g. pacific oyster) will be developed in 2024 and any proposals on the site will go through Ramsar ARAG SoA etc.	NA	Management of Marine IINS	Is <i>Sour Fig</i> (<i>Carpobrotus edulis</i>) a target IINS? How are IINS disposed of?	20	Action Plan	36
NA	'Planktoscope' is correct – initially set up as a citizen science project hence the colloquial name.	NA	Planktoscope	Check spelling - you could be correct..	21	Action Plan	37
NA	It should pick up all plankton including toxic bloom producing species, although there is not currently a plan to target specific groups of plankton in data analysis (due to lack of resources and high level identification skills required). The data goes to an open source database across Europe and may be requested/ used at any time.	NA	Planktoscope surveys	Will this survey look for toxic phytoplankton?	22	Action Plan	38
Sea-Change	Was a typo, thank you. Changed to "Changers"	NA	Sea-Change	Is spelling correct here?	22	Action Plan	39
No change	Thanks for this, good point, I will forward your suggestion to the AWT marine coordinator. Data from the wider project (e.g. including from sites not within Ramsar) will be publicly available. I believe it will be published on a dedicated page on AWT's website.	NA	(pH fluctuations)	Will the sea salt produced be interested in this?	22	Action Plan	40
. Any projects which take place within the Ramsar site, or wish to draw funds from the Ramsar programme, should be presented to ARAG and then GSC for consideration, in particular if they will change the existing Ramsar work programme, or require licensing.	Thanks for this. Any academic projects which take place within the Ramsar site (in particular any which might 1. Change the work programme, 2. Draw funds from Ramsar, or 3. Require licencing) should be presented to ARAG. I will clarify in text.	NA	Support and lead for academic projects will be continued in 2024, if resources allow and suitable projects can be found.	Would ARAG have an opportunity to consider if these are appropriate for Ramsar?	23	Action Plan	41

New text	Administrator Response	Suggested change	Reference Text	Comment	Page	Document	Comment
Hanaine	Thank you.	Hanaine	Hannaine	Spelling, which I have corrected here.	23	Action Plan	42
NA	Agreed, the camera mounting is fixed outside of the colony. See comment 19.	NA	when the cameras position does not need to be fixed for survey purposes.	On the edge of colonies to avoid any tunnel collapse.	24	Action Plan	43
In 2023, the GSC agreed a development plan for the next five-year Alderney Ramsar Strategy 2024-2029.	They agreed the development plan in 2023, the "2024" is a typo – I suspect the original 2023 was incorrectly corrected! Thank you for highlighting – changed to "2023".	Will agree		Will agree?	26	Action Plan	44
Furthermore, a standard methodology reporting form which activity organisations can fill out to submit standardised proposals to the ARAG.	This is a proposal to be developed for ARS4 (now clarified in text). If agreed, the intent would be for this to be a standard form which ARAG can request is used when organisations submit proposals for work on the Ramsar Site.		Furthermore, a standard methodology reporting form which activity organisations can fill out to submit standardised proposals to the ARAG.	Not sure what this means - is this a requirement, or suggestion?		Action Plan	45
	Thank you for this. When the next action plan (2024) is agreed by GSC, I will enquire with the JNCC as to how we get the management strategy documents up. A final version of the RIS sheet has been submitted to the JNCC and they are submitting it to the Ramsar Secretariat.	NA	The Alderney Ramsar Administrator will continue to maintain the Channel Island Ramsar Website.	Comment made during ABO presentation that the global Ramsar website does not have updated info on Alderney. Looked to me as if very few sites had updated info anywhere - but it's a fair point and would be good to update this website also - once its established who has editing permission. The updated RIS could also then be added	27	Action Plan	46
<i>Various tense adjusted.</i>	Thank you for this, have updated so tense is correct as suggested.	<i>Various tense errors</i>	Seabird monitoring methodologies	Various comments - summarised here by Charles Michele "Use of the past tense suggests you are describing what happened last year, not what you intend to do this year. There are earlier examples of this earlier to which I should have drawn attention. This needs to be corrected."	31-43	Action Plan	47
No change	Only the 100 AONs are repeated each year, however, overall 350 AONs are monitored across the colony, see method 1.8.	NA	1. 100 pe-selected AONs are monitored on Pyramid stack through the season.	Were more sites monitored for productivity during HPAI. Any plans to carry this on? 100 nests is quite a small sample.	35	Action Plan	48
amounting to a 6% decline	I have forwarded this to AWT ecologists. Response: I've looked into this and I can confirm it's actually a typo in the text – it should say 'amounting to a 6% decline since 2017'. My apologies to Phil for the confusion.	NA	amounting to a 6% annual decline	What is the total decline in this period?	44	Action Plan	49
See appendix 3. figure 1 for updated figure.	Thank you, I have remade the figure as suggested.	NA	Appendix 3. Figure 1.	Suggest you use a yellow or white trace to mark the intended route. I found the red line very difficult to see on my screen.	47	Action Plan	50

