Wideawake Fairs, Ascension Island

Year 2 Annual Review of Management

1st June 2024– 31st May 2025

The Wideawake Fairs Management Plan set out how the Mars Bay and Waterside Fairs Nature Reserves will be managed over the five years between 2023-2028. Six strategic objectives were produced with an action plan to achieve these. Opportunities for scientific monitoring and research was identified to understand the ecosystems and conserve the species which utilise the protected areas.

This review summarises the progress that has been made so far with some suggestions for the coming year.

Wideawake Fairs Action Plan

Wideawake Fairs Monitoring and Evaluation

1. Clearance of invasive flora

Proposed: Removal of key invasive plants from Mars Bay and Waterside Fairs NRs plus 200m buffer zone.

Purpose: Protect the NR and relevant species from the threats of invasive species.

Outcome: No invasive plant species remain on the Nature Reserves or in surrounding buffer zone.

	Description	Year 1 Progress	Year 2 Progress	Year 3 Target
1a	Monitor the Mars Bay NR for new recruits of Mexican thorn. Visit previously marked trees to check for regrowth. Where necessary, cut and treat with herbicide. Target– 100% of NR checked and cleared of invasive species.	Extensive work has been undertaken to remove invasive plants on the Mars Bay NR however regular maintenance is required to ensure these species cannot regain a foothold in the reserve. In Y1, nine small Mexican thorn trees were removed from the Mars Bay NR.	There were 5 visits in Y2 and 24 small/seedling Mexican thorn trees were removed.	Continue visits quarterly to remove any invasive species growing on the NR
1b	Removal of all Mexican thorn, tree tobacco and other invasive plant species from Waterside Fairs NR using best practice mechanical and chemical methods. Target– no invasive plant species within Waterside Fairs NR by Y5.	The DPLUS134 project tested best methods to control Mexican thorn on Ascension and recommended cut stump treated with Turbodor 29 mpa herbicide. A total of 62 Mexican thorn trees in a range of sizes from small to extra large were removed in Y1 along with 12 tree tobacco. The DPLUS134 Project also produced a detailed risk assessment for the release of a biocontrol agent – *Evippe* moth– to assist with managing Mexican thorn.	There was no invasive plants removed from Waterside Fairs in Y2. The sooty terns have not nested in this NR for a few years and staff time was used for other action points in other NRs which were a higher conservation priority. Following a public consultation, *Evippe sp. #1* (above) was released on Ascension in April 2024 with additional releases in June, July and September. Although not currently released on the Wideawake Fairs, the long-term effects of this biocontrol agent will be advantageous to the NRs as the moth is well established less than 1 mile from the Mars Bay NR so will slow the spread of Mexican thorn into the reserve and buffer.	Focus on other action points which have the greatest conservation impact. If time/resources allow, remove invasive species growing closest to sooty tern nesting sites and then work outwards towards the NR boundary.

<table>
<tr><th></th><th>Description</th><th>Year 1 Progress</th><th>Year 2 Progress</th><th>Year 3 Target</th></tr>
<tr><td>1c</td><td>Removal of all Mexican thorn and other invasive species in 200m buffer zone around Mars Bay NR boundary using best practice mechanical and chemical methods.

Target– no Mexican thorn within buffer zone of 200m of Mars Bay NR by Y5.</td><td>Twenty Mexican thorn trees (13 Small, 6 Medium and 1 Large) were removed from the Mars Bay NR buffer zone. The tree stumps were cut and treated with Turbodor 29 mpa– a Mesquite specific herbicide.</td><td>Trees in a 200m buffer zone around Mars Bay NR were cut and treated with Turbodor 29 mpa:
<table><tr><th></th><th>Small Mesquite</th><th>Tecoma stans</th><th>Tree tobacco</th></tr><tr><td>Mars Bay NR buffer zone</td><td>28</td><td>1</td><td>151</td></tr></table></td><td>Continue to remove trees within a 200m buffer zone of the NR</td></tr>
<tr><td>1d</td><td>Removal of all Mexican thorn and other invasive species in a 200m buffer zone around Waterside Fairs NR boundary using best practice mechanical and chemical methods.

Target– no Mexican thorn within buffer</td><td>No progress- staff resources focused on other areas of the NRs</td><td>No progress- staff resources focused on other areas of the NRs</td><td>Continue to focus on areas which have the highest conservation impact.</td></tr>
</table>

2. Predator control

Proposed: Control the rodent (black rat and house mouse) populations on the Wideawake NRs. Manage domestic cats on island to prevent individuals from turning feral. Manage rabbits so they are unable to graze on Ascension spurge.

Purpose: Protect the Ascension spurge and nesting seabirds from non-native predators.

Outcome: No rodent or rabbit grazing on the Ascension spurge or predation of seabird eggs/chicks. No seabirds killed by cats.

	Description	Year 1 progress	Year 2 progress	Year 3 target
1	Remove invasive plant species in NRs and buffer zones, which harbour local rodent populations (see action point 1). Target– no invasive plants within NRs and 200m buffer by Y5	See action point 1 for details	See action point 1 for details	See action point 1 for details
2a	Manage the domestic cat population on island to prevent individuals from going feral. Target– no domestic cats go feral. No feline predation on native wildlife.	In Nov 2023, two domestic cats went missing Camera traps were used to identify the cats new territory and live trapping was undertaken for 4 months to no avail. Contact each quarter with cat owners to manage the domestic cat population.	In Y2, one domestic cat went missing but was relocated and returned to the original owner. The two cats from Y1 remain at large but are around Two Boats so pose no threat to the seabirds. Continuation of communicating with cat owners on island to reduce likelihood of cats turning feral.	Monitor the territories of missing cats. Continue to maintain open communication with cat owners.
2b	Set a network of rodent bait stations around the key seabird colonies on both NRs. Target– 100 rodent bait boxes in situ	50 rodent bait stations currently in-situ	50 bait stations currently in place on the NR.	Installation of more bait boxes around key seabird colonies .

	Description	Year 1 progress	Year 2 Progress	Year 3 target
2c	Rodent bait boxes filled fortnightly to reduce local rodent populations. Use a range of bait types (minimum 100g of each bait) to prevent the evolution of resistant in the local population. Target– no rodent predation on sooty terns.	Bait shortage limited re-fills in seabird sites during much of Y1. Changes in budgets in new FY allowed for baiting in the final quarter of Y1. Darwin project (DPL0037) provided the AIG Environmental Health department with training, formal recommendations on how to control the rodent population and price estimation for a complete eradication of invasive vertebrates.	Bait shortages limited number of re-fills during nesting season. When possible, bait boxes filled fortnightly unless in areas of densely nesting birds (bait can also act as an attractant).	Work with Environmental Health department to maintain suitable bait stocks.
2d	If high predation/grazing on seabirds and/or spurge is observed, increase the number of baited boxes around these areas and fill weekly or more frequently if necessary. Additional bait may be hand strewn around the NRs– particularly around Ascension spurge and seabird nesting sites. Target– no rodent predation on sooty terns.	No signs of rodent predation noted on sooty terns or spurge so no actions taken.	Bait shortages limited number of re-fills during nesting season.	Monitor sooty tern and spurge populations for rodent predation and increase bait distribution as required.
2e	Rabbit proof fencing installed around mature spurge plants to protect from grazing. Regular maintenance of the fence is required. Target– no rabbit predation on sooty terns.	In Sept-Oct 2023, a disease went viral through Ascension's feral rabbits, largely reducing the local population. Fencing around spurge restoration site in position and maintained throughout season. No evidence of rabbit grazing on spurge here.	The fencing around the Ascension spurge at Mars Bay required a full replacement. In Y2 This was undertaken in July 2024 to prevent rabbits from accessing the mature plants (page 8).	Maintain rabbit proof fencing.

3. Conservation of the Ascension spurge

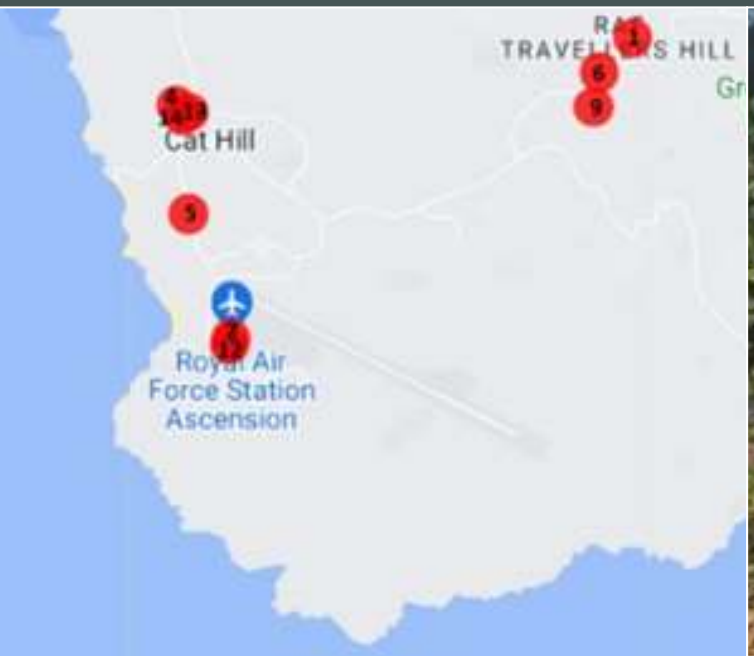
Proposed: Protect and maintain population of Ascension spurge on Mars Bay NR.

Purpose: Protect the native fauna of the NRs from the impacts cause by invasive non-native species and climate change.

Outcome: Healthy, self sustaining population of Ascension spurge at Mars Bay.

	Description	Year 1 progress	Year 2 Progress	Year 3 target
3a	Protect and maintain wild population of Ascension spurge providing fencing and shade to individuals where necessary. Resume restoration work in this site to prevent extinction of the Mars Bay population. Target– self sustaining wild population of Ascension spurge in the Mars Bay NR	Increased rainfall in 2023 caused the Mars Bay seed bank to propagate with a significant increase in the number of plants within the NR	Ascension spurge plants in the fenced area at Mars Bay were watered weekly during Y2 to ensure their survival.	Continuation of population monitoring and intervene as described in other targets where deemed necessary
3b	Control pest invertebrates found on Ascension spurge. This involves examining individual plants and treating with a species-specific insecticide. Individual pests may be carefully removed and killed on site. During periods of high mealy bug infestation, station ant bait traps strategically around the Ascension spurge sites.	Plants were treated ~15 times in Y1 for insect invasions.	Individual plants within the fenced site at Mars Bay were treated with insecticide ad-hoc, when required.	Treat wild populations of spurge with insecticide where necessary. Add additional ant-traps around the site when required.
3c	Maintain a viable stock of cultivated plants at Kew and on Ascension Island. Each nursery should hold 200 plants, 50 specimens from each sub-population. These will provide a potential source for restoration work. Target– 50 Mars Bay spurge plants held in a nursery on Ascension and at Kew Gardens	~50 Mars Bay individuals in plant nursery on island. Kew Gardens do not possess any Mars Bay spurge plants but store a live culture of seeds.	Reduction to 30 plants from each sub-population maintained in a plant nursery .	Maintain a healthy population of 30 Mars Bay spurge in nursery on island.
3d	Maintain a viable, ex-situ seed bank at Kew's Millennium Seed Bank and on Ascension Island. Collect, clean, dry and bank seed from all wild Ascension spurge populations. Target– viable seed bank of Mars Bay spurge kept on island and at Kew Gardens	Kew's Millennium Seed Bank and Ascension Islands dry lab storage contains >1,000 viable seed from the Mars Bay spurge population.	A viable seed bank from the Mars Bay spurge population is held on island as well as at Kew Gardens, UK.	Regular collection of fresh seed from the Mars Bay spurge population. Appropriate drying and storage as per protocols.

	Description	Year 1 progress	Year 2 progress	Year 3 target
3e	In collaboration with Kew gardens, produce a propagation document to develop cultivation techniques for the Ascension spurge. Target– propogation document produced by Y1	Ascension spurge propagation document produced by Delphine Cabanis and Catherine Gautier, Natural Conservatory of Brest in collaboration with the AIG Conservation Directorate.	Propagation document used to assist with plant nursery works	Use propagation document to assist with plant nursery work, maintaining a healthy nursery population.
3f	Draft a memorandum of understanding with the USAF to mitigate damage during future groundwork in spurge habitat. Target– MoU created by Y3	No action taken	No action taken	Implement target if required
3g	Ensure all island organisations are familiar with and adhere to strict biosecurity control measures. All importations should be suitably cleaned and treated to prevent entry of non-native flora and fauna. All non-native species should be destroyed on entry to the island to prevent colonisation. Target– no new established populations of non-native species	Biosecurity measures being strictly adhered to by all island organisations. Importations are suitably cleaned and treated to reduce entry of non-native flora and fauna.	Island organisations are familiar with and adhere to strict biosecurity measures to prevent the introduction of new pest species. Regular testing in high-risk areas to identify new invertebrate introductions (see photos below)	Maintain close relations with all persons importing goods to island to ensure everyone is familiar with and adheres to biosecurity measures.



4. Public engagement

Proposed: Organise public engagement events for school children and islanders.

Purpose: Encourage recreational use of the Nature Reserves. Educate islanders about the importance of the NRs and the species found there.

Outcome: Higher engagement between islanders and the Wideawake NRs.

	Description	Year 1 progress	Year 2 progress	Year 3 target
4a	Guided walk to Shelly Beach with conservation staff Target– minimum of 10 people engaged	11 volunteers attended a guided walk to Shelly Beach on 14.10.23	Trip for 19 Ascension Explorers and 9 adults organized to Shelly Beach 21.08.2024 (below left). In addition, tour provided to RAF volunteers on 17.08.24 (below right).	Guided walk to Shelly Beach organised for islanders
4b	Litter pick organized on the Mars Bay NR to remove legacy refuse Target– minimum of 10 people engaged	11 volunteers attended a litter pick of Shelly Beach on 14.10.23 Five abandoned trucks from 1980's removed from NR by US Air Force	17 volunteers attended a litter pick of Shelly Beach on 27.05.25 Funding obtained for DPL00123 project to build a temporary road to access and remove the remaining trucks from the NR (overleaf). One remains on site in an area unable to access due to nesting birds. https://www.darwininitiative.org.uk/project/DPL00123	Work to remove last remain vehicle. Organise litter picks on the Mars Bay NR

4c	Field trip for Two Boats School children to the NRs Target– minimum of 2 year groups engaged	Two classroom lessons on seabirds given to Ascension MPA Youth Committee. Field trip for Youth Committee to anchialine pools and additional classroom lesson.	Explorers session to the Gill Observatory on 21.08.2024 (below left) for 19 children.	Organise field trip for local young people to the NRs.
4d	Volunteer opportunities with AIGCFD within NRs. This is open to islanders as well as RAF volunteer days. Target– 20 people engaged	Eight volunteers joined AIGCFD to perform seabird research on the Mars Bay NR.	Volunteers assisted with installing new signage throughout Wideawake Fairs NR (below/ overleaf) on several occasions.	Organise volunteer activities with the NRs
4e	Improved signage on the reserves. Removal of old signs that are showing wear. Target– new signage erected	New signage designed and procured in Y1- awaiting delivery.	New signage erected to welcome visitors to Mars Bay and Waterside Fairs NRs. Additional information signs erected at Shelly Beach and the Gill Observatory (overleaf).	Maintain signage as required
4f	Create videos, posters, islander articles and social media posts regarding the reserves and the wildlife found there. Target– minimum of 10 items on social media regarding Wideawake NRs	Range of videos, articles and posts were posted on social media evert few weeks about the Wideawake NRs. This included publishing about scientific research, peer reviewed manuscripts, NR site visits by youth groups and interest stories	Monthly videos, photographs and interest stories posted on the AIG Conservation social media pages regarding the Wideawake Fairs NRs and their species.	Generate regular items of interest on social media regarding the Wideawake NRs


Welcome to Waterside Fair Nature Reserve

4. Reduce disturbance

Proposed: Reduce the impact of human disturbance on the wildlife of the Wideawake NRs.

Purpose: Protect the wildlife of the Wideawake NRs and allow these species to thrive.

Outcome: No signs of human disturbance on the wildlife.

	Description	Year 1 progress	Year 2 progress	Year 3 target
5a	During periods when sooty terns are nesting, monitor the Shelly Beach access path. If birds nest on the Shelly Beach path or in areas which make it difficult for members of the public to walk around, an application to close parts of the NR may be made to the Administrator. The path and/or other areas of the NR may be closed by the Administrator under section 10 of the National Protected Areas Regulations 2014 to protect the nesting birds. Closures may be temporary until such times that it is safe to re-open to the public. A public notice will be issued and displayed at the main notice boards.	Access to Shelly Beach closed on 20 February 2024 to protect nesting sooty terns. Reopened on 24 May 2024.	No closures of reserve access in Y2.	Regular monitoring of the Shelly Beach track and closures made when necessary.
5b	Designated parking areas and tracks clearly marked on the NR. Target– designated parking site and tracks in place by Y1.	Designated parking area and track clearly marked on the Mars Bay NR with white stones to prevent Ascension spurge from trampling/ being run over.	No maintenance required.	Maintain road markings as needed.
5c	Clearly mark walking routes throughout the reserve to reduce visitors becoming lost and walking through nesting seabirds unnecessarily. Encouragement to follow the route in the Letterbox hiking book to reach desired locations. Target– no signs of disturbance to seabirds (e.g. areas of abandonment)	No markers erected on the NR	No markers erected on the NRs due to funding constraints.	Obtain funding for markers to show routes to Letterbox sites.
5d	Develop wildlife watching guidelines for visitors to the protected areas to minimise disturbance. Target– Wildlife Watching Guidelines created and distributed	Wildlife Watching Guidelines in production.	Guidelines created in a booklet form and procured– awaiting delivery (above).	Distribute wildlife booklets once available.

Wideawake Fairs

Year 2 Monitoring and Evaluation

Monitoring and Evaluation

Monitoring the natural features of the Protected Areas

Five areas were identified for monitoring the health of the natural features of the Wideawake Fairs. These intend to monitor if the reserve biodiversity is declining because the action plan was not completed or if the action plan was sufficient to achieve the Protected Area objectives.

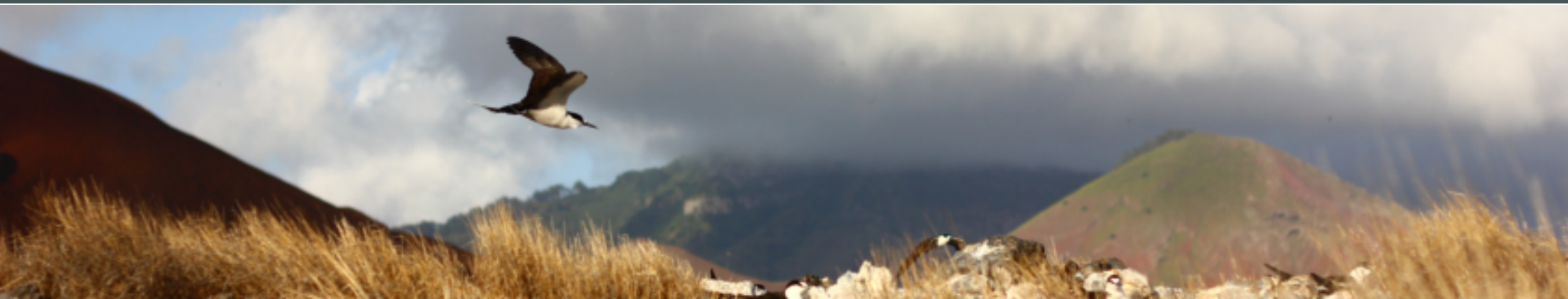
	Monitoring	Details	Related objective	
A	Monitor the distribution of nesting sooty tern populations.	Record locations of nesting sooty terns on a map with a population estimate of sub-colonies. Convert this into QGIS maps		• Uncover trends in the use of the NRs spatially and through time • Identify areas preferred by nesting terns. Determine what makes these areas more suitable.
B	Monitor changes in prey composition and trophic position of sooty terns	Collect regurgitate samples and a minimum of 20 breast feather samples from adult and juvenile sooty terns for stable isotope analysis.		• Determine if sooty tern diet changes over time and investigate potential causes of this.

A. Monitor the distribution of nesting sooty tern populations.

The Mars Bay NR has been split into 10 sectors and each week, the AIG Conservation record nesting activity in each sector– noting if the sooty terns are prospecting, incubating or if there are chicks. This provides evidence to island stakeholders that the birds are continuing to use the NR and not spread into other nearby areas which may be too close to the airfield.

B. Monitor changes in prey composition and trophic position of sooty terns.

When handling sooty terns, five breast feathers are removed for stable isotope analysis. In Y2, 22 samples were collected to contribute to a long-term dataset on seabird diet. There are now 10 years of data which will be analysed by researchers at the University of Exeter and written into a scientific manuscript in Y3.



	Monitoring	Details	Related objective	
C	Monitor the seabird populations of the Wideawake NRs.	Annual population census of brown noddies and tropicbirds nesting on the nature reserves		• Establish a baseline population for noddies and tropicbirds in the NR. • Annual census will determine trends in the population.
D	Monitor the wild Ascension spurge population	Carry out bi-annual census– once in the warm and once in the wet season to determine annual trends– recording the location of mature and seedling plants.		• Understand trends in the size and distribution of the wild Ascension spurge population
E	Monitor soil moisture levels	Record the soil moisture levels at a range of depths from surface roots down to tap root (2m). Loggers deployed in areas which are irrigated regularly and in areas which are not watered. Loggers also deployed at other island locations as potential Ascension spurge restoration sites.		• Determine the appropriateness of the NR for a long-term sustainable Ascension spurge population. • Look for alternative locations on island which may be more suitable for the Ascension spurge to thrive.

C. Monitor the seabird populations of the Wideawake NRS

A number of brown noddies and tropicbirds nest on the NRs. AIG Conservation are working to establish a baseline population for these species for the reserve. This may be possible using the UAV for noddies however additional work may be require to identify tropicbird nests. Work remains ongoing for this target.

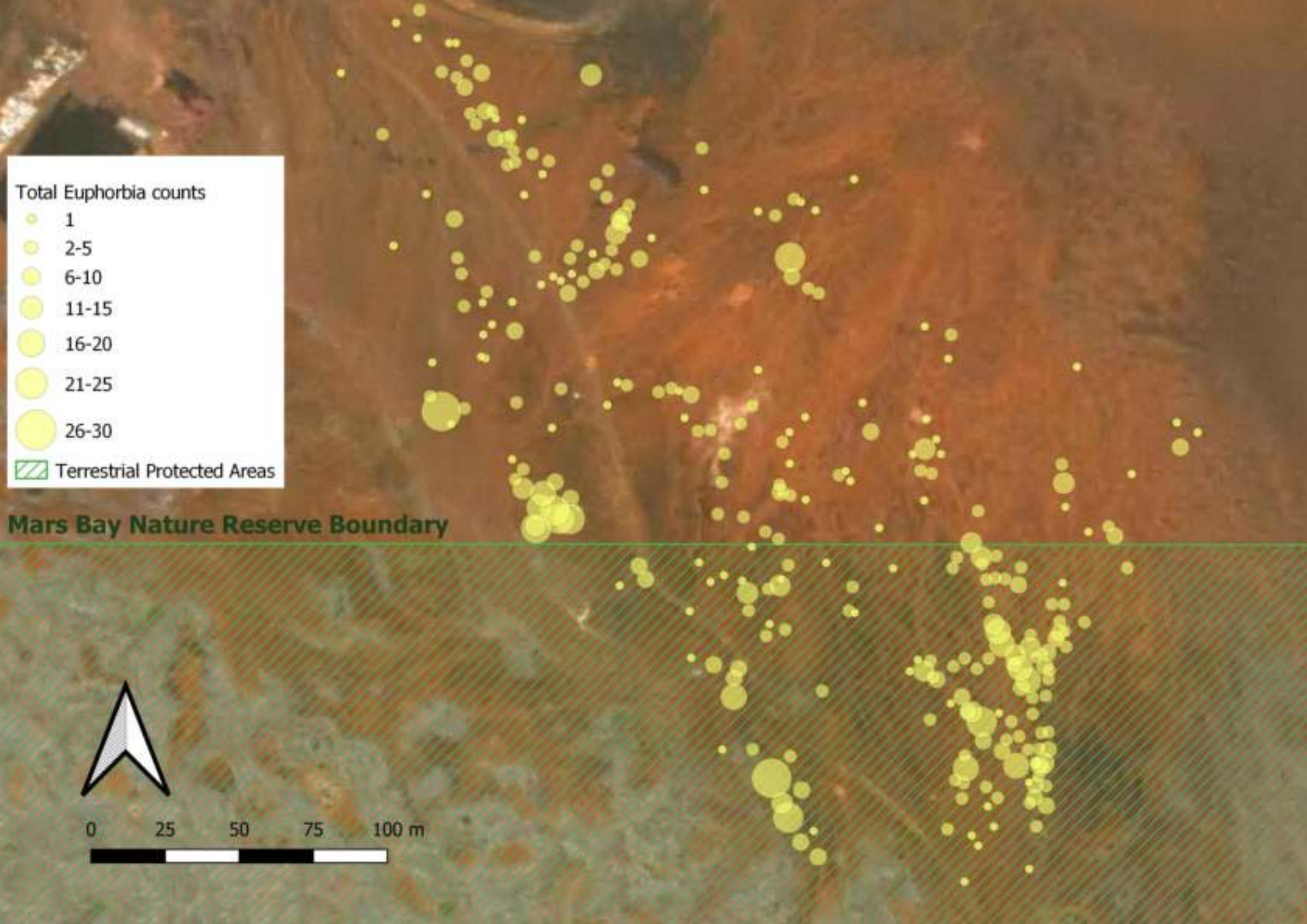
D. Monitor the wild Ascension spurge population

Mars Bay is a stronghold for the Ascension spurge with ~80% of the worlds population found in this area though it is important to note that much of the population is on the out-skirts of the NR. A bi-annual census is conducted to record the population of the Ascension spurge. A GPS error means a count cant be produced for the NR in Sept 2024 however the totals for March 2025 are displayed with a local map shown on overleaf.

	Mature	Seedlings
Sept 2024	Unknown due to GPS error	Unknown due to GPS error
March 2025	725	22

E. Monitor soil moisture levels

The soil moisture levels are collected around a number of sites on island to assess the suitability of translocating Mars Bay spurge to sites which are more climatically suitable. This is an ongoing legacy from the DPLUS113 project.


Total Euphorbia counts
1
2-5
6-10
11-15
16-20
21-25
26-30
Terrestrial Protected Areas
Mars Bay Nature Reserve Boundary
0
25
50
75
100 m

Wideawake Fairs

Year 2 Research

Research

Knowledge gaps prevent the effective management of the Wideawake Fairs NRS. The Management Plan specifically highlighted 16 research opportunities to allow AIG Conservation scientists to understand more about the species of these protected areas and inform conservation management. Some of the research suggested was undertaken in Y2 and the results are described.

A. Determine the population size of the sooty terns nesting on the NRs

The AIGCFD are permitted to fly an Unmanned Aerial Vehicle (UAV) around the Mars Bay NR. Unfortunately the Waterside Fairs NR is not an option because it falls within the red flight zone of the airfield.

Throughout the sooty tern nesting season, images were collected weekly across the Mars Bay NR. These images are shared with project partners at Seabird Watch/Oxford Brookes University as part of the DPLUS174: A cross-UKOT camera network to enhance marine predator conservation project.

Seabird Watch are developing an AI program to produce population counts for nesting birds. The program is being refined to count Ascension sooty terns (page 22). Annual population counts can then be generated and accurate long-term trends identified for the first time for this species.

B. Methods for the control of the invasive flora of the NRs.

The DPLUS134 Project tested and discovered the best methods for controlling invasive species such as Mexican thorn and tree tobacco. The recommendation from this project was cut stump treated with Turbodor 29 mpa– a Mesquite specific herbicide. The results from this project have been published and the methods adopted for all invasive flora control.

C. Determine the impacts of pollution on Ascension's seabirds of the NRs

Freshly dead seabirds were dissected to collect stomach samples for plastic analysis as part of the South Atlantic Plastics Project (DPLUS176). Samples are with project partners at CEFAS in the UK for analysis and results will be published as a scientific manuscript in Y3.

D. Determine the dispersal of Ascension's seabirds outside of the breeding season

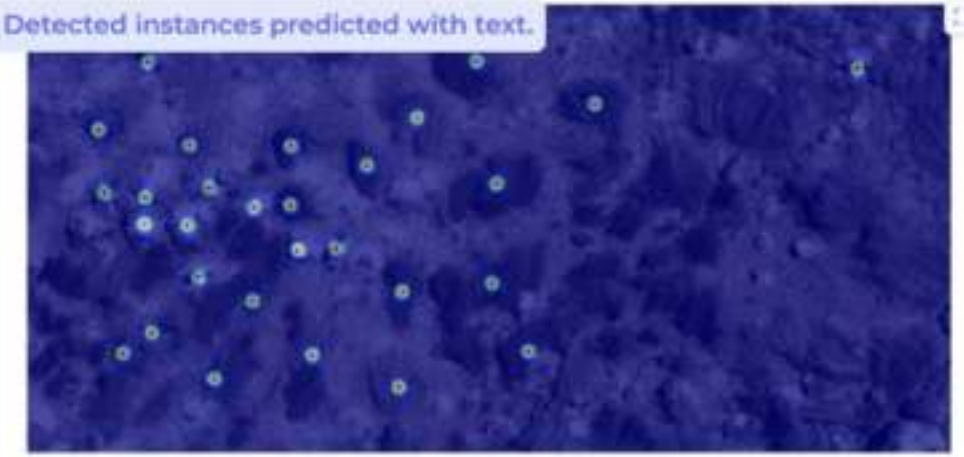
AIGCFD continue to try source satellite tags suitable for use on sooty terns.

E. Estimate rodent population on the NRs

A feasibility study 'Can Ascension be predator free?' (DPL0037) was conducted in Jan 2024. The project could not estimate rodent populations however provided formal recommendations on how to control the local rodent population and price estimations for a complete eradication of invasive vertebrates.

F. Assess impact of myna birds on seabird populations

The DPL0037 identified myna birds as a highly invasive species, negatively impacting the sooty tern population. A full eradication feasibility study was undertaken and the report noted that previous works on myna bird control on Ascension showed a bait aversion. With this in mind, a cost estimation of £4million was calculated to control the population of 1,150 birds though would require trials to determine a suitable method of eradication.



Predicted Count

31

What would you like to count?

G. Predict the impact of climate change on the Ascension spurge

The DPLUS113 project assessed climatic requirements of the Ascension spurge. The detailed relationship between soil moisture and precipitation was identified as an essential part of predicting responses of Ascension spurge to future climate change. The project trialed assisted migration of Ascension spurge plants to new sites which have a better climate for the species. These sites were installed with irrigation systems to assist with plant establishment and have had varying success. The successful sites are now kept as living seed banks and maintenance is carried out when required.

H. Assess the potential of biocontrols

A shortlist of 10 invasive species requiring biocontrol were identified in Y1 (DPL0038). It was determined that suitable biocontrol agents were not readily available for many of the target species on Ascension. The species assessments however are a useful resource for AIG Conservation as we develop an Invasive Species Action Plan.

The project assessed the success of previously introduced biocontrol agents for *Lantana camara* with two deliberately released agents still present but only *Teleonemia scrupulosa* still widespread, particularly around the Wideawake Fairs.

I. Assess the potential of biocontrol agents for Mexican thorn

Following a public consultation, *Evippe sp. #1* was released on Ascension in April 2024. The *Evippe* population was supplemented in June, July and September 2024. Although not currently released on the Wideawake Fairs NRs, the moth has established in nearby areas and long-term effects of this biocontrol agent will be advantageous to the reserve, preventing the continued spread of Mexican thorn.

J. Determine the environmental conditions of the anchialine pools

The environmental conditions of the anchialine pools at Shelly Beach, Mars Bay NR were established in Y1 through a DPL00013 project. Loggers remain in the pools which are serviced quarterly to gather long-term data on the pool conditions as a legacy from this project.

K. Baseline survey of invertebrates in the NRs

A database of Ascension's invertebrates was generated in Y1 as an output from DPLUS135: From Pseudoscorpions to crickets: securing Ascension Island's unique invertebrates. To increase awareness of Ascension's invertebrates, an animated video was developed and shared as part of this project.

L. Assess the conservation status of the invertebrates found in the anchialine pools.

In Y1, the two species of crustacean in the anchialine pools were recognized by the International Union for Conservation of Nature (IUCN) as Critically Endangered. The other three invertebrate species recorded in the pools are being described by the Natural History Museum and once taxonomic description is completed, an IUCN conservation assessment can be made.

M. Identify breeding behaviour and resource/microclimate requirements of *Discophallus* crickets

A study by Weng *et al.* 2024 described the biology and behaviour of *Discophallus* crickets. The study found that invasive vegetation on Ascension increases the microclimate temperature to above the preferred temperature of the endemic scaly cricket and identified other areas of conservation concerns including competition from other non-native invertebrates.

N. Identify competitive and predatory threats to *Discophallus* crickets

A study in Y1 by Weng *et al.* 2024 found a higher concentration of scaly crickets in native habitat compared to degraded habitat where invasive vegetation was altering the microclimate temperature. The endemic *Discophallus* cricket is relatively abundant along the southern coast of Ascension, particularly around the eastern edge of the Waterside Fairs NR. Unfortunately rats are also abundant in the Waterside Fairs NR, with high populations supported by the seabird and invasive species found here. The study noted a high predation risk by rats in native habitat.

O. Pseudoscorpion taxonomy

A taxonomic assessment of Ascensions pseudoscorpions was conducted in Y1. As a result, a new Nature Reserve joining the eastern edge of the Waterside NR to the western edge of the Letterbox NR was created to incorporate pseudoscorpion habitat. There is potential to perform some habitat maintenance (removing invasive species) to create suitable habitat for pseudoscorpions to spread back into the Waterside NR.

P. Tolerance range of inshore marine species

A study in Y1 by de Mora et al. 2024 modelled the potential impact of climate change on the Ascension Marine Protected Area. The study found the MPA region will become warmer, more saline, more acidic and less productive, negatively impacting the ability of the MPA to provide ecosystem services.

Further research on the species inhabiting the rock pools at Shelly Beach is being conducted by AIG Fisheries.

References

Bell, E.A., Marshall, E.S. and Titterton, L.J. (2024) *A feasibility Study for the Eradication of Invasive Species on Ascension Island, United Kingdom Overseas Territory.* Unpublished Wildlife Management International Technical Report to the Ascension Island Government.

Chin, W. Y., Wilkins, V. and Sharp, A. (2024) Invasive vegetation encroachment modulates dual threats faced by island-endemic scaly crickets. Biological Invasions. https://doi.org/10.1007/s10530-024-03355-w

Cusset F, Reynolds SJ, Carravieri A, Amouroux D, Asensio O, Dickey RC, Fort J, Hughes BJ, Paiva VH, Ramos JA, Shearer L, Tessier E, Wearn CP, Cherel Y, Bustamante P. (2023) *A century of mercury: Ecosystem-wide changes drive increasing contamination of a tropical seabird species in the South Atlantic Ocean*. Environmental Pollution. Apr 15;323:121187. doi: 10.1016/j.envpol.2023.121187

de Mora, L., Galli, G., Artioli, Y., Broszeit, S., Garrard, S. L., Baum, D., et al (2024) Impacts of climate change on the Ascension Island Marine Protected Area and its ecosystem services. *Journal of Geophysical Research: Biogeosciences*, 129, e2023JG007395

Reynolds, S.J., Hughes, J.B., Wearn, C.P., Dickey, R.C., Brown, J., Weber, N.L., Weber, S.B., Paiva, V.H. and Ramos, J. A (2019) *Long-term dietry shift and population decline of a pelagic seabird– A health check on the tropical Atlantic?* Global Change Biology; 1-12

Sherwood, D., Grignet, V., Harvey, M.S., Sharp, A., Wilkins, V., Ashmole, M. and Ashmole, P. (2024) *David and Goliath: on the pseudoscorpions of Ascension Island, including the world's largest Garypus titanius Beier, 1961, and a new, minute, Neocheiridium Beier, 1932 (Arachnida: Pseudoscorpiones*). Natura Somogyienis 42: 131-150

Photo credits:

P.1: L. Shearer. P.2: J. Holt. P.3: L. Shearer. P.4: CABI, UK. P.5: AIGCFD. P.8: J. Duffell. P.9: E. Wagdin. P.10: A. Fry & AIGCFD. P.11: AIGCFD & T. Halling. P.12: AIGCFD. P.13: AIGCFD & C. Robinson. P.14: S. Tuppen & L. Shearer. P.15: AIGCFD. P.16: L. Shearer. P.17: J. Holt. P.20: L. Shearer. P.22: Seabird Watch & AIGCFD. P:24-25: AIGCFD.