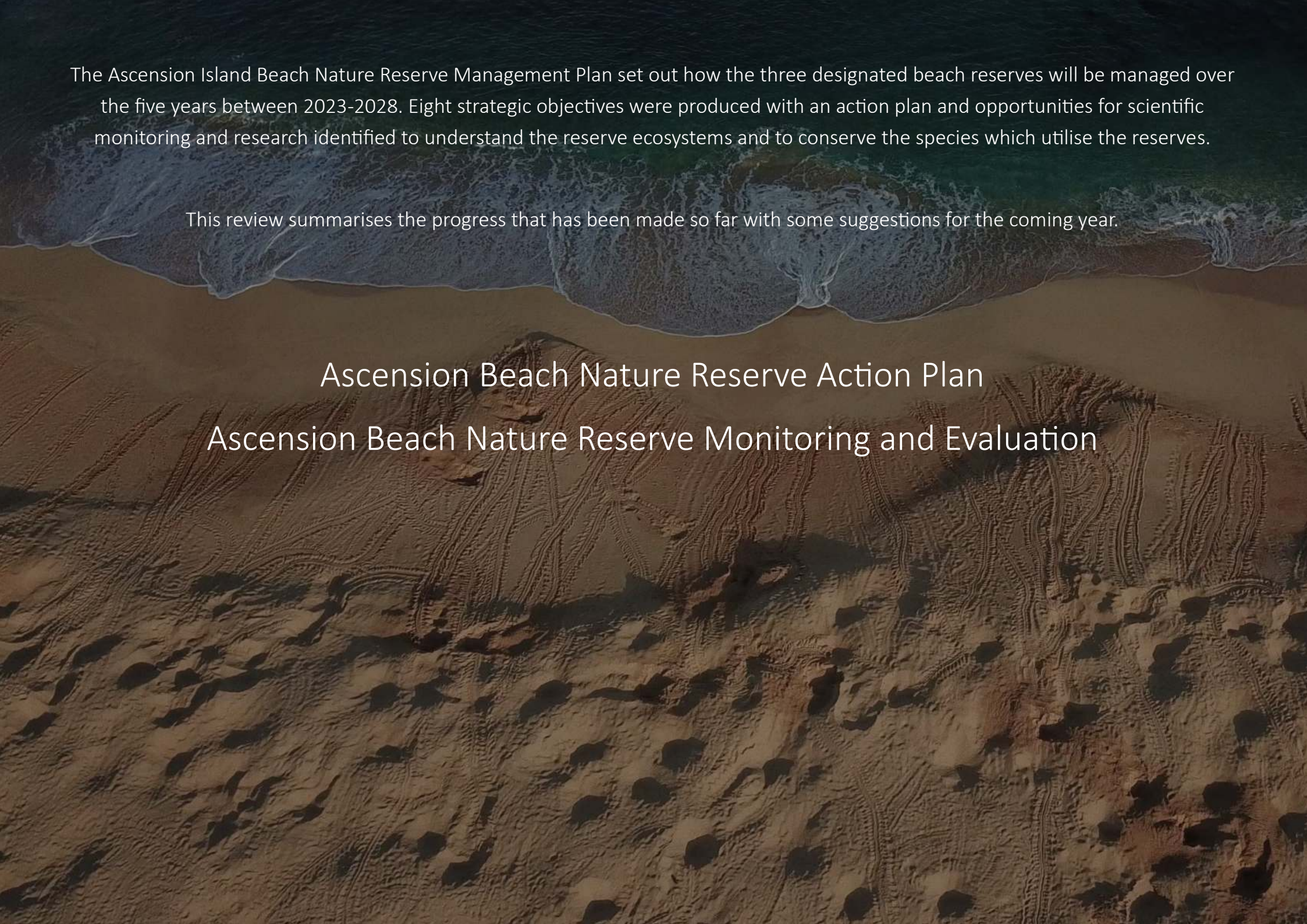


An aerial photograph of a beach. The top half of the image shows the ocean with white foam from waves washing onto the shore. The bottom half shows the sandy beach. A narrow, dark path or track runs diagonally from the bottom left towards the center of the image. The overall lighting is somewhat dim, giving it a moody appearance.

Ascension Island Beach Nature Reserves Annual Review

Year 1: 1 May 2023—31 May 2024



An aerial photograph of a beach. The top portion shows the ocean with white-capped waves breaking onto the shore. Below the water is a wide expanse of golden-brown sand. The sand is heavily marked with numerous parallel and crisscrossing tire tracks, indicating vehicle activity. The overall scene is captured from a high angle, looking down at the coastline.

The Ascension Island Beach Nature Reserve Management Plan set out how the three designated beach reserves will be managed over the five years between 2023-2028. Eight strategic objectives were produced with an action plan and opportunities for scientific monitoring and research identified to understand the reserve ecosystems and to conserve the species which utilise the reserves.

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

Ascension Beach Nature Reserve Action Plan

Ascension Beach Nature Reserve Monitoring and Evaluation

Ascension Beach Nature Reserve

Year 1 Action Plan



1. Non-native plant removal

Proposed: Removal of all invasive plant species from the beach 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 zones.

	Description	Target	Year 1 Progress	Year 2 Target																					
1a	Removal of all Mexican thorn, tree tobacco and other invasive plant species from beach NRs using best practice mechanical and chemical methods.	100% of beaches free of Mexican thorn and tree tobacco by 2023.	<p>Substantial work has been undertaken to remove the Mexican thorn and tree tobacco growing on the Beach NRs. This followed DPLUS134 which tested best practice methods to control these species on Ascension. The recommendation from this project was cut stump treated with Turbodor 29 mpa– a herbicide designed for Mesquite control.</p> <p>The DPLUS134 Project also produced a risk assessment for the release of a biocontrol agent– <i>Evippe</i> sp. #1, a leaf-folding moth– to assist with managing Mexican thorn. Following a public consultation, <i>Evippe</i> sp. #1. was released on Ascension in April 2024. Although not currently released on the beach NRs, the long-term effects of this biocontrol will be advantageous to the NRs.</p>	<p>Beaches remain free of Mexican thorn and tree tobacco.</p> <p>Continue to remove invasive plants from around the remaining NRs with focus on those closest to the beach which pose the most serious threat.</p>																					
		Completed by Year 1	<p>Mexican thorn and tree tobacco was cut and treated with Turbodor 29 mpa on the beach NRs. None of these invasive plants are growing on the beaches and work has begun to remove the remaining trees from the surrounding NR to prevent encroachment. Trees were tagged to allow further checks for regrowth.</p> <table border="1"> <thead> <tr> <th></th> <th>Small Mesquite</th> <th>Medium Mesquite</th> <th>Large Mesquite</th> <th>Extra large Mesquite</th> <th>Tree tobacco</th> </tr> </thead> <tbody> <tr> <td>Long Beach NR</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Pan Am NR</td> <td>2</td> <td>9</td> <td>1</td> <td>1</td> <td>721</td> </tr> <tr> <td>North East NR</td> <td>114</td> <td>11</td> <td>18</td> <td>1</td> <td>21</td> </tr> </tbody> </table>			Small Mesquite	Medium Mesquite	Large Mesquite	Extra large Mesquite	Tree tobacco	Long Beach NR	0	2	0	0	0	Pan Am NR	2	9	1	1	721	North East NR	114	11
	Small Mesquite	Medium Mesquite	Large Mesquite	Extra large Mesquite	Tree tobacco																				
Long Beach NR	0	2	0	0	0																				
Pan Am NR	2	9	1	1	721																				
North East NR	114	11	18	1	21																				

1b	Removal of all Mexican thorn in 200m buffer zone around Long Beach, Pan Am and North East NR boundary using best practice mechanical and chemical methods.	No invasive plants species within Mars Bay NR 200m buffer by Year 3	<p>Work began on controlling the invasive plants in a 200m buffer zone around the beach NRs however the main focus was on clearing the reserves themselves. Mexican thorn and tree tobacco was controlled as in 1a.</p> <table border="1"> <thead> <tr> <th></th> <th>Small Mesquite</th> <th>Medium Mesquite</th> <th>Large Mesquite</th> <th>Extra large Mesquite</th> <th>Tree tobacco</th> </tr> </thead> <tbody> <tr> <td>Long Beach NR buffer zone</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Pan Am NR buffer zone</td> <td>4</td> <td>2</td> <td>0</td> <td>1</td> <td>403</td> </tr> <tr> <td>North East NR buffer zone</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>		Small Mesquite	Medium Mesquite	Large Mesquite	Extra large Mesquite	Tree tobacco	Long Beach NR buffer zone	0	0	0	0	0	Pan Am NR buffer zone	4	2	0	1	403	North East NR buffer zone	0	0	0	0	0	Remove invasive plants around the buffer zones of the NRs.
		Small Mesquite		Medium Mesquite	Large Mesquite	Extra large Mesquite	Tree tobacco																					
Long Beach NR buffer zone	0	0	0	0	0																							
Pan Am NR buffer zone	4	2	0	1	403																							
North East NR buffer zone	0	0	0	0	0																							
Completed by Year 3																												
1c	Annual weeds such as Mexican poppy (<i>Argemone Mexicana</i>) hand pulled from the beaches every six months.	No turtle hatchlings found in weeds, unable to access the ocean	<p>Weeds were removed on the three beach NRs as part of the annual island beach clean in November 2023 (photographed below). Further weeding was performed in December 2023 and January 2024 by AIGCFD staff.</p> <p>Beach cleans were performed on the NRs with weeds being removed during this process. Long Beach NR: 14 April 2024, and Pan Am NR: 18 May 2024.</p>	Continuation of annual weed removal to reduce spread and protect turtle nesting habitat.																								
	Twice annually																											





2. Non-native species control

Proposed: Control the non-native species on the Nature Reserves

Purpose: Protect the turtles, land crabs and endemic invertebrates from non-native predators.

Outcome: No rodent or rabbit grazing on the green turtles, land crabs or endemic invertebrates habitats.

	Description	Target	Year 1 progress	Year 2 target
2a	Set a network of rodent bait stations around Long Beach NR and North East Bay NR and replenish regularly.	Rodent bait stations in situ around beaches	Two bait stations around the Long Beach hut and an additional nine along the back of the beach. Baited monthly. 14 rodent bait boxes in-situ at North East. 100% of bait taken every fortnight.	Increase frequency of baiting at North East Bay during turtle nesting season
		Ongoing		
2b	Non-native cricket control at North East Bay. Traps positioned every 100m along coastline towards Porpoise Point.	Reduction in non-native cricket population	No progress. Expansion of NR still under discussion with MoD.	Implement action when expansion finalised.
		Twice annually		
2c	<i>Solenopsis globularia</i> non-native ant control at Long Beach NR. 10 ant traps deployed at 20m intervals along a 200m stretch of coast close to the beach hut.	Reduction in the spread of non-native ants	Difficulty in obtaining correct ant control so only implemented towards end of year one.	Implement action point quarterly
		Quarterly		

3. Pollution

Proposed: Reduce the impact of pollution on the wildlife of the beach NRs

Purpose: Protect the native flora of the NRs from the impacts cause by pollution

Outcome: Turtle, land crab and endemic invertebrate population is not affected by pollution

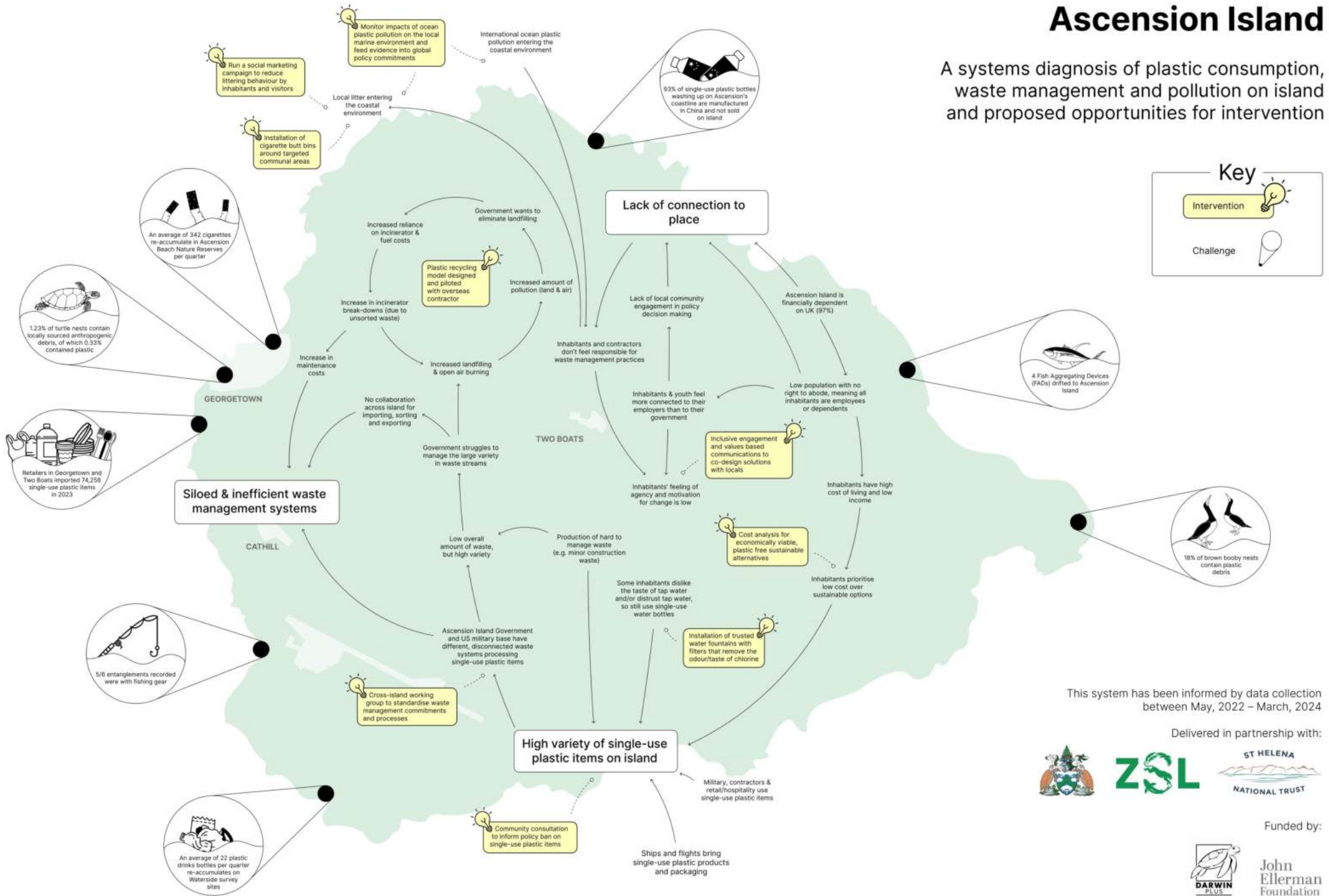
	Description	Targets	Year 1 progress	Year 2 target
3a	Beach cleans organised to remove marine debris and pollution. Attempt to remove all liter but focus on plastic items that pose greatest threat to ecosystems. Items too large to be removed, dragged clear of tide-line to prevent being swept into the ocean.	Community beach cleans every six months on NRs Twice annually	Community beach clean held on 04 November 2024 with 96 volunteers attending across the island. Additional cleans organised on beach NRs: Long Beach NR (14 April 2024) 22 attendees and Pan-Am NR (18 May 2024) 10 attendees.	Annual island wide beach clean organized for Nov prior to turtle nesting season. Additional beach cleans organized for NRs



3b	Reduce plastic waste on island by prohibiting the import of certain single use plastics and improving waste management practices. Explore feasibility of local plastic recycling facilities.	Reduce single use plastic items on beach reserves by 30% in 2025 in comparison to 2022 baseline data Ongoing	South Atlantic Plastics Project produced a systems diagnosis of plastic consumption, waste management and pollution on Ascension with proposed opportunities for intervention (see overleaf).	Work with the AIG to improve local recycling options and investigate the development of Single Use Plastic policies
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Ascension Island

A systems diagnosis of plastic consumption, waste management and pollution on island and proposed opportunities for intervention



This system has been informed by data collection between May, 2022 – March, 2024

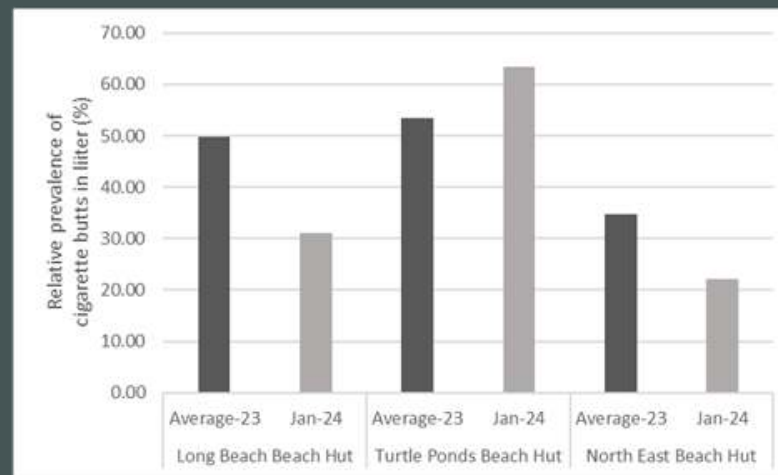
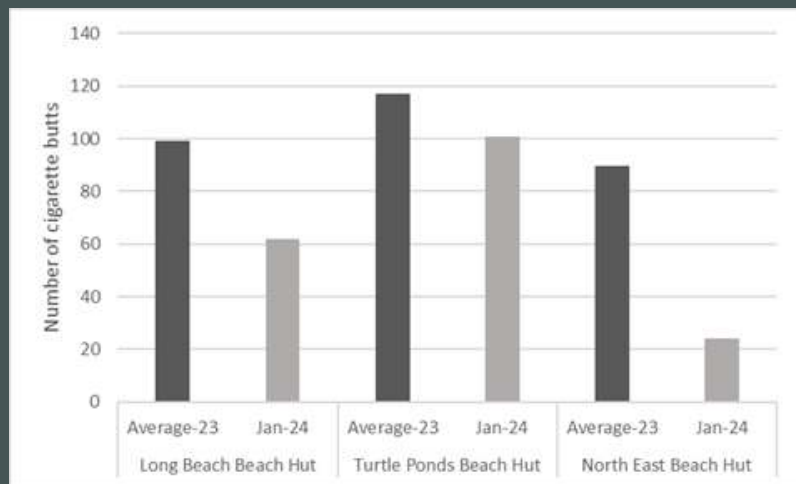
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3c	Replace all street lights adjacent to Beach Nature Reserves with red light bulbs. No installation of new public lighting visible from the beaches. Awareness campaign with local residents and beach users to reduce outside light usage at sensitive times of the year	Red light bulbs installed in all street lights by 2023. Information displayed at beach huts and distributed to residents living close to Long Beach by 2023	Bulbs in street lights adjacent to Beach Nature Reserves changed to red bulbs. Public awareness posters displayed in all beach huts and in regular island haunts. Additionally, information distributed through social media campaign and island newspaper to raise awareness.	Continue with public awareness campaign through social media which has a wide reach. Articles/posters displayed in all beach huts and in island newspaper.
		Annually		
3d	Litter awareness campaign. Provide information on the negative impacts of litter, with a focus on plastics and organics, ensuring littering is seen as antisocial behaviour. Raise awareness of the law against littering, targeting beach huts and parking areas within NRs.	Engage with at least 50 of school children and 10% of island community	South Atlantic Plastic Project implemented a litter awareness campaign. DPL00010 installed cigarette bins in all beach huts and around popular island haunts. The project recorded 41% reduction in the number of cigarettes discarded around beach huts following the implementation. The relative prevalence of cigarette butts in litter collected varied however between sites and suggests more work is required in this area.	Continuation of litter awareness campaign. Create specific campaigns against repeatedly offending pollution items. Specific school lessons on impacts of plastics on Ascension's wildlife.
		Annually		



4. Allow ecosystem functioning

Proposed: Allow for climate change adaptations, natural ecosystem function and manage potential developments

Purpose: Protect the wildlife of the beach NRs and allow the ecosystem to behave naturally.

Outcome: Healthy beach ecosystem

	Description	Target	Year 1 progress	Year 2 target
4a	Enable landward migration of beaches through removing non-essential structures on the landward side of beaches. Allow sand to build up in these areas following high swell and storms. This will eventually result in the landward migration of the beaches.	All barriers to migration of NR Beaches assessed by 2023. Removal of non-essential barriers by 2026	Non-essential structures assessed and where possible removed– particularly large items of man-made items such as tyres, old signage and concrete blocks.	Quarterly inspection of beaches and assessment of non-essential structures.
		Ongoing	Sand building up in the centre of Long Beach and moving naturally.	
4b	Beach shading- use results of trials to consider shading areas of beach habitat or translocate nests into purpose-built shaded hatcheries with the aim of reducing nest temperatures and producing male turtle hatchlings	Assess effectiveness by 2023. Install shaded areas if appropriate by 2025	Results from shade trials published: Efficacy of artificial nest shading as a climate change adaptation measure for marine turtles at Ascension Island - Wiggins - 2023 - Wildlife Society Bulletin - Wiley Online Library	Seek further advice from turtle specialists to formulate a decision on creating hatcheries.
		2025	Results of study under consideration and talks remain on-going with specialists before a formal decision will be made.	
4c	Establish an effective system of development control that includes the requirement for robust impact assessments before the administrator permits development within the NRs	Environmental Impact Assessments carried out for all new development proposals that could impact beach NRs	Two Environmental Impact Assessments were performed which affected Long Beach NR. Both were approved following mitigating recommendations from AIG Conservation.	Regular consultation with island stakeholders to ensure an EIA is performed prior to any works in close proximity of beach NRs
		Ongoing		
4d	Retention of carcasses within coastal ecosystem to allow scavenging by endemic invertebrates. The exception will be where a carcass is in the vicinity of a beach hut or other well-used area where it may pose a risk to human health or peoples' enjoyment of the area.	Animal carcasses left on the coast or buried	No large animals e.g. turtles or cetaceans washed up on the beach NRs during this time period.	Each large animal carcass assessed and where possible retained in-situ
		Ongoing		



5. Public engagement

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

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

Outcome: Higher engagement between islanders and the beach NRs.

	Description	Target	Year 1 progress	Year 2 target
5a.	Turtle tours provided to islanders and visitors, imparting information and enabling people to view nesting turtles without causing disturbance.	Weekly tours provided	Turtle tours were provided to 145 participants during the 2024 turtle nesting season.	Turtle tours provided weekly to islanders and island visitors.
		Weekly during turtle season		



5b	Turtle watching guidelines. Presentations to islanders and school children ahead of turtle nesting season describing responsible turtle watching behaviour	Information distributed annually ahead of turtle nesting season	Turtle watching guidelines produced and displayed at all beach huts and other popular island haunts. Guidelines published regularly through social media posts.	Turtle guidelines re-energised for distribution.
		Annually		

5c	Land crab awareness campaign. Public tours to North East Bay NR to coincide with mass spawning events. Poster and road sign campaign to reduce land crab road deaths.	No land crabs killed on the roads	DPL1066 project: Claw and Order, making Ascension safe for Land Crabs created a campaign to raise awareness of land crab conservation. New signage was ordered but is yet to be installed. A short, animated film about land crab ecology created and shown through social media and at local cinema. Tours were organised during mass spawning events– one cancelled due to inclement weather. 32 participants attended a land crab tour in March 2024.	Installation of new road signs ordered through DPL1066 following recommendations from public consultation regarding location.
		Ongoing		
5d	Invertebrate awareness campaign. Install interpretation sign at North East Bay describing endemic invertebrates and highlight their role in coastal ecosystems. Produce a booklet of Ascension's endemic invertebrates.	Signage installed and booklet distributed	It was decided that short animated videos would have a higher impact, reaching a wider audience about Ascension's endemic invertebrates. Several videos were created including the endemic scaly cricket (<i>Discophallus ascension</i>) found on North East NR. Several scientific manuscripts were published regarding Ascensions invertebrates which were publicized through AIG Conservation's social media pages.	Regular articles and social media posts generated featuring the invertebrates of the beach NRs
		Year 1		
5e	Events at Long Beach Hut Visitor Centre to celebrate the importance of Ascension's Beach Nature Reserves and encourage stewardship of the areas. Events aimed at school pupils, employing organisations and the general public.	Four annual events at Visitor Centre, engaging a minimum of 200 people	Location of annual Ascension Marine Festival moved to Georgetown Pierhead to enhance public enjoyment of the event. Long Beach Visitor Centre used for Ascension Explorers sessions, booked out 16 times for private functions including two island weddings. The Visitor Centre is used informally at weekends and evenings without being booked out.	Investigate new ways to improve the Visitor Centre to encourage use.
		Annual		



Ascension Beach Nature Reserve
Year 1 Monitoring and Evaluation



Monitoring and Evaluation

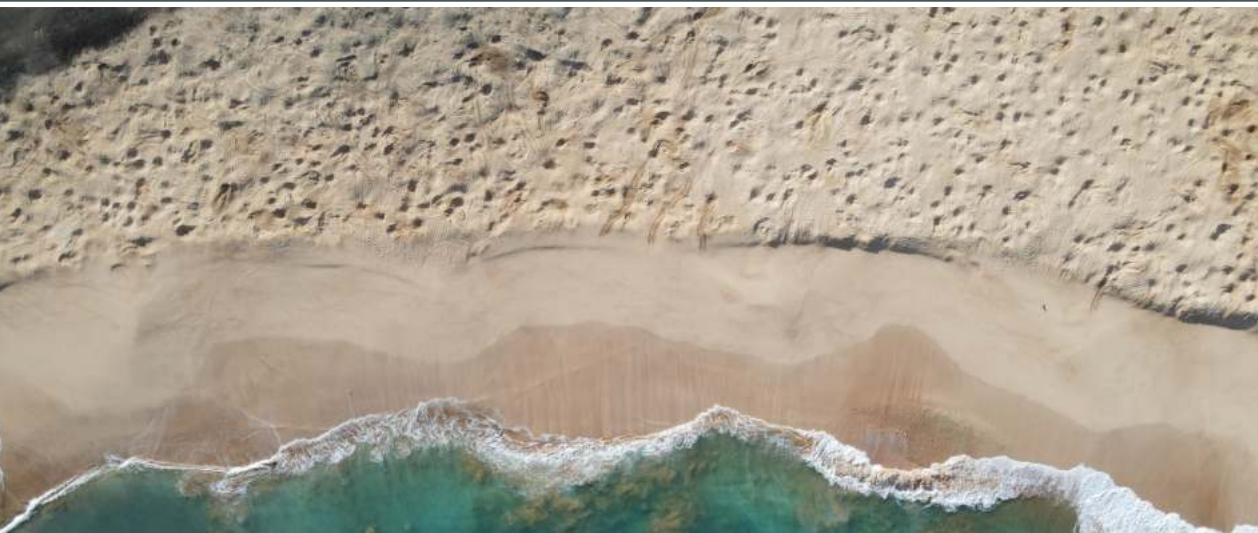
Monitoring the natural features of the Beach Nature Reserves

Four areas were identified for monitoring the health of the natural features of the Beach Nature Reserves. 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 NR objectives.

1. Turtle nesting and productivity

a. Number of emerging green turtle females on the three protected beaches (annual)

	Number of emerging turtles	Number of nests	Average success rate
Long Beach NR	1, 923	688	41%
Pan-Am NR	452	199	53%
North East NR	280	77	31%



b. Number of emerging green turtle females and nesting attempts on all Ascension beaches (every 5 years)

The 2023/2024 turtle nesting season fell on a census year. As a result, the UK Governments Blue Belt Programme sponsored additional AIG Conservation Interns to undertake the extra workload. Eight Conservation Interns performed counts of the emerging green turtles and nesting attempts on all of Ascension’s beaches.

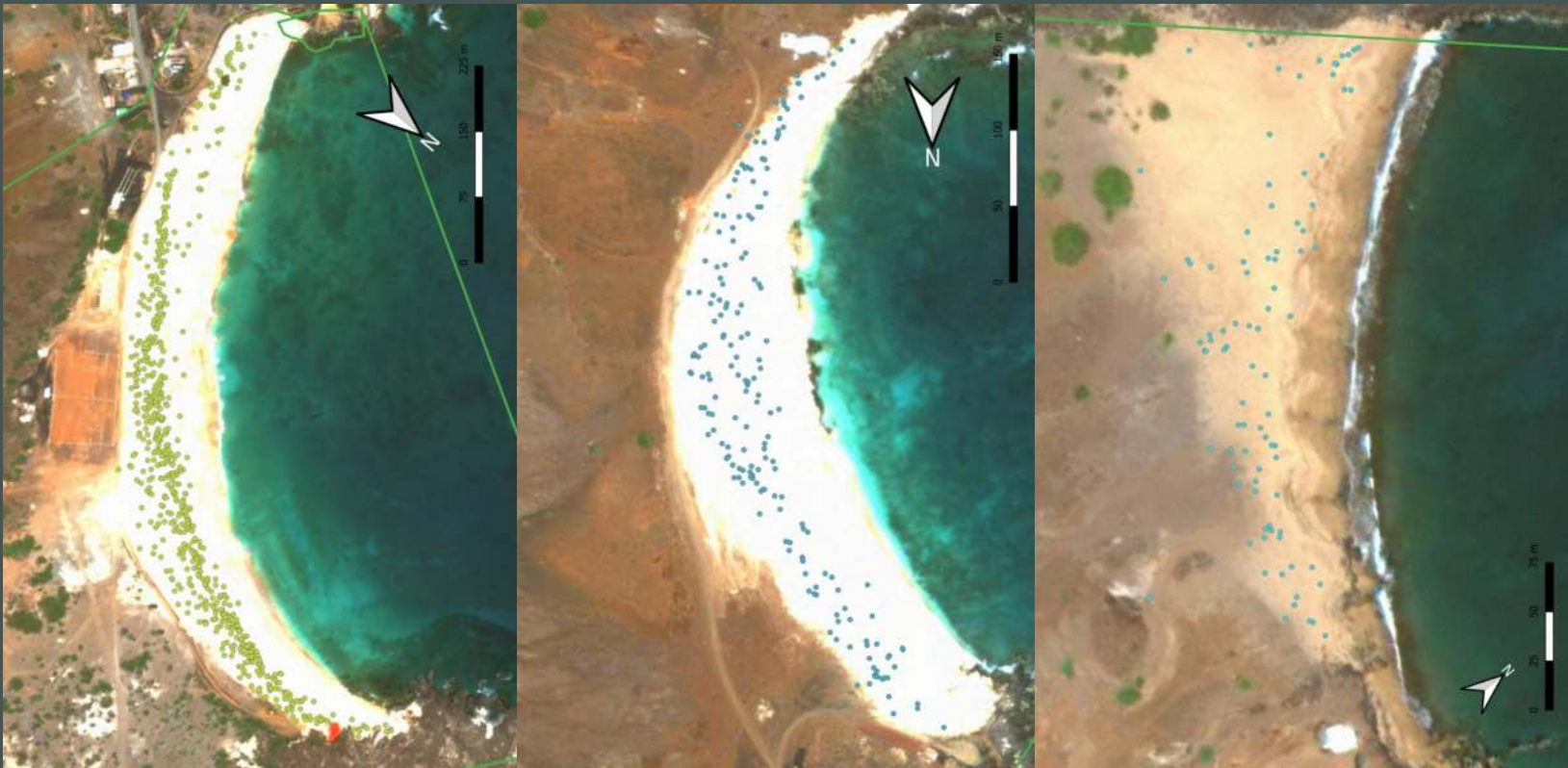
	No of emerging turtles	No of nests	Average success rate
Turtleshell	243	31	16%
Payne Point (Springers)	203	55	32%
Deadman’s	189	44	29%
Hannay’s	166	27	25%
English Bay	163	40	28%
Clarkes (Grubby)	155	43	33%
Scouts	130	13	10%
Georgetown	83	12	21%
Fort Hayes	82	4	13%
Beach Hut (Golf club)	62	7	14%
POL North	61	17	28%

	No of emerging turtles	No of nests	Average success rate
Pebbly West	61	2	2%
Little English Bay	60	14	33%
Power Station	60	19	28%
Porpoise Point	55	29	60%
POL South	46	7	19%
Pebbly East	36	6	14%
Narrow Opening	30	16	51%
Porpoise Cove 1	6	0	0
Porpoise Cove 4	3	0	0
North East Point	1	0	0
Slabs	0	0	0

This produced a total of 4,550 emerging female turtles with 1, 350 nests (23% success rate).

In comparison to the previous census performed in 2016, the green turtle population on Ascension Island is stable. Annual fluctuations are expected of a healthy population however this highlights the importance of this long-term dataset to be able to draw lasting conclusions.

c. Beach area, nest location, temperature and hatch success (15 nests on each NR annually)



Left-Right: Long Beach NR, Pan Am NR, North East Bay NR

The areas used by turtle nests are displayed left.

A GPS point of each nest allows long-term understanding of how the turtles use the beach and preferred nesting locations.

This is important when assessing potential climate change impacts as nests lower down the beaches are more vulnerable to flooding and washing over events.

The upper thermal tolerance of marine turtle embryos is reported to range between 33 and 35°C with some of Ascension’s beaches approaching the tolerance limits (Weber *et al.* 2012). It was estimated by Godley *et al.* 2002 that the overall sex ratio on Ascension was 75% female bias.

Long-term monitoring of nest temperatures allows Ascension Island Government Scientists the opportunity to make informed decisions with regards to potential shading of the beaches in order to create a more balanced sex ratio.

A minimum of 15 nests were randomly selected across each beach NR and a temperature logger installed during the egg laying process. An average temperature of the nest chamber during the incubation period is displayed below. It highlights the temperature difference across the NRs.

	Average temp	Average hatch success
Long Beach	31.4	90%
Pan-Am	31.9	76%
North East Bay	33.5	34%

2. Land crab abundance and growth

a. Number of land crabs on a 100m transect on North East Bay during spawning events (three times a year in Feb, Mar and Apr)

In 2024, land crab numbers were recorded along a 100m transect on North East Bay beach. Surveys were performed five times during each month of the peak spawning events in Jan-May inclusively. All females were marked and counted during a 15 minute survey. All new individuals encountered during the subsequent survey was also marked, producing a total for that area each evening.

A total of 10,565 females were recorded during this season and moving forward this will be incorporated as the main monitoring technique to understand the health of the land crab population. A similar technique in 2013 counted 8,124 females suggesting that the population remains fairly stable.

b. Growth rates of individually tagged crabs (measurements taken annually)

Land crabs were tagged using AVID coded PIT tags inserted into their left claw. Each tag bears a unique number, exclusive for each individual. Once PIT tagged, the carapace of each crab is measured 3 times and an average carapace length deducted. AIG Conservation staff scan all crabs encountered during spawning events with the ambition of finding previously tagged individuals. Over time this will allow government scientists the opportunity to understand the growth rates of individual crabs. This is a long-term study with 11 years of data collected on Ascension Island.

Discussions with project partners resulted in a decision to stop measuring crab carapaces to calculate growth rates due to the high volume of data already collected. This data is currently being processed with the ambition to publish in a scientific manuscript as soon as possible.



3. Scaly cricket recovery, catch per unit effort of scaly cricket in non-lethal traps deployed at North East Coast Nature Reserve (Biannual)

Talks remain on-going with the Ministry of Defense (MoD) with regards to land use around the North East Coast. It was initially planned to expand the NR boundary to incorporate a strip of the coast which was identified as important scaly cricket habitat. During the first year of this management plan, no monitoring was conducted for this species until a full resolution with the MoD is found.

4. Public attitudes (Biennial)

- a. Percentage of island community aware of Beach Nature Reserves and threats they face
- b. Percentage of island community reporting pride in nature features of the Nature Reserves

A questionnaire is in development, seeking assistance of trained social scientists to capture the public attitudes towards the Beach NRs and the natural features they host. This is planned to be implemented in Years 2 and 4 to allow a comparison to be made in Year 5.



Monitoring and Evaluation

Monitoring threats to the Beach Nature Reserves

1. Non-invasive crickets—visual index of abundance of crickets caught in control traps (Twice annually)

Traps were designed to be placed around the new boundary of the North East Nature Reserve. While land use discussions remain ongoing with the MoD, no further research on crickets were taken during Year 1. This will remain until a formal decision is made.

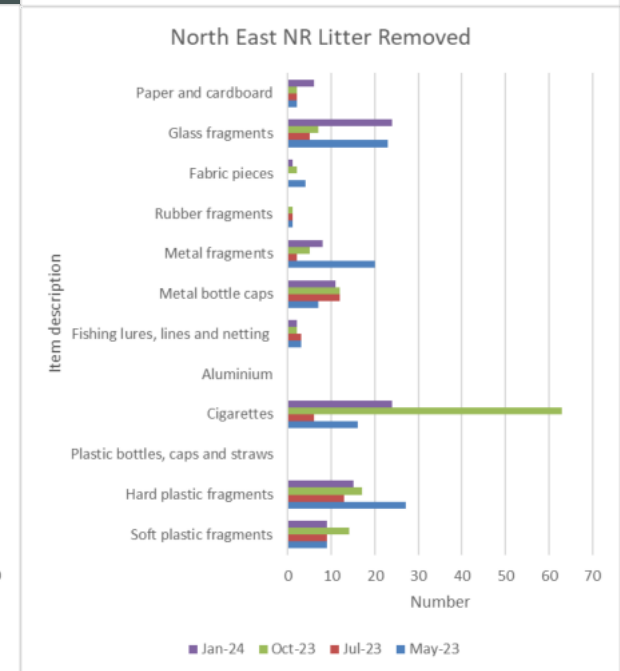
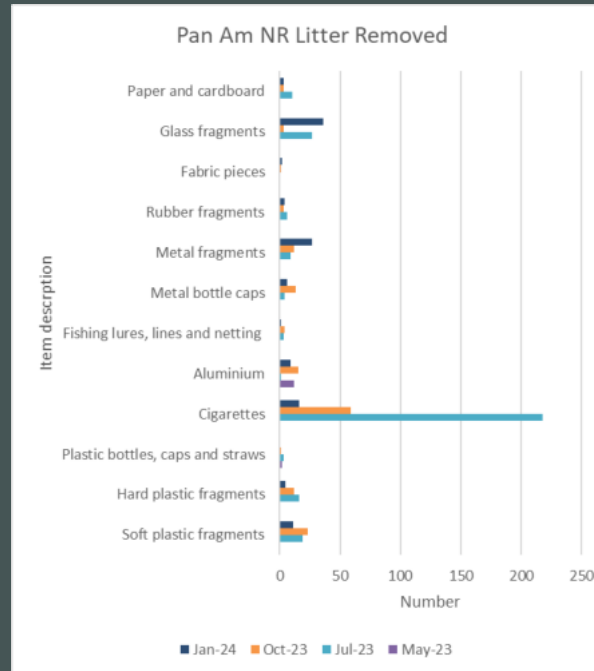
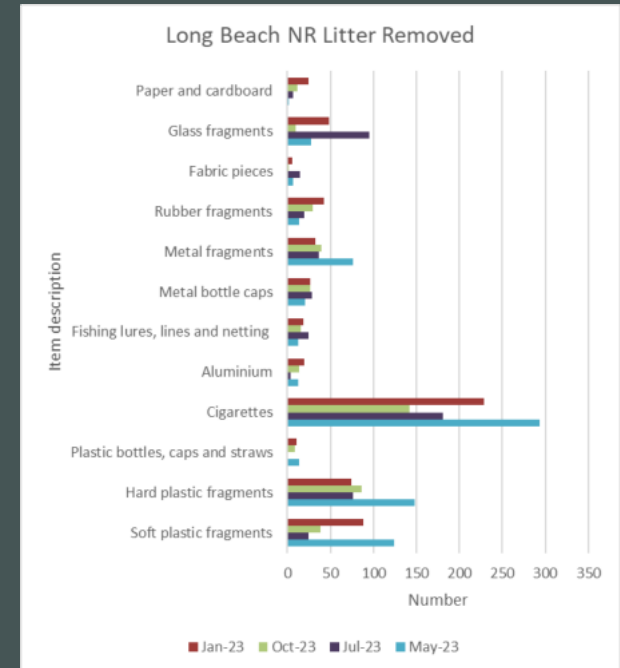
2. Litter accumulation and removal

- a. Weight of litter accumulating on beaches per year categorised by type (annual)
- b. Weight of waste removed from beaches per year categorised by type (annual)

The South Atlantic Plastics Project performed an intensive study of the litter which accumulated on the Beach NRs, categorizing the items collected. This was performed every quarter with the results shown right.

The results show that each NR face different litter issues. The beach huts at Long Beach and North East result in a rise of plastic fragments such as food wrappers, plastic utensils and metal bottle caps.

The results from this study can be used to produce specific litter campaigns e.g. Cigarette campaign to highlight the impacts of this litter on the environment. It is hoped that regular beach cleans will continue to highlight the marine debris concerns. This nesting season, AIG Conservation have been recording the prevalence of litter items in Green turtle nests with seven nests excavated containing a man-made item within the cover up.



3. Light pollution– number, type and duration of lights visible from the Beach Nature Reserves (monthly Jan-May)

Weekly checks were performed from Jan-May to assess the number of lights visible from the Beach Nature Reserves. In April, it was noted that turtle hatchlings were following lights towards the Georgetown hospital and becoming disoriented around China Town. After thorough investigation, it was found that the lights from the hospital were essential for human safety and therefore no further action was taken. Other options for hospital lights are being considered for future use.

4. Non-native shrubs– number of non-native shrubs present with the Nature Reserves and buffer zones (annually)

Drone surveys have been conducted to understand and manage the number of non-native shrubs within the NRs and surrounding buffer zones. These surveys will be conducted monthly to record the encroachment of invasive species onto the NRs and to record the progress of invasive species clearance by AIG Conservation and other island partners. These surveys will be useful to monitor the spread of the *Evippe* moth as the species migrates into the reserves, recording fine images of individual trees to monitor tree health.

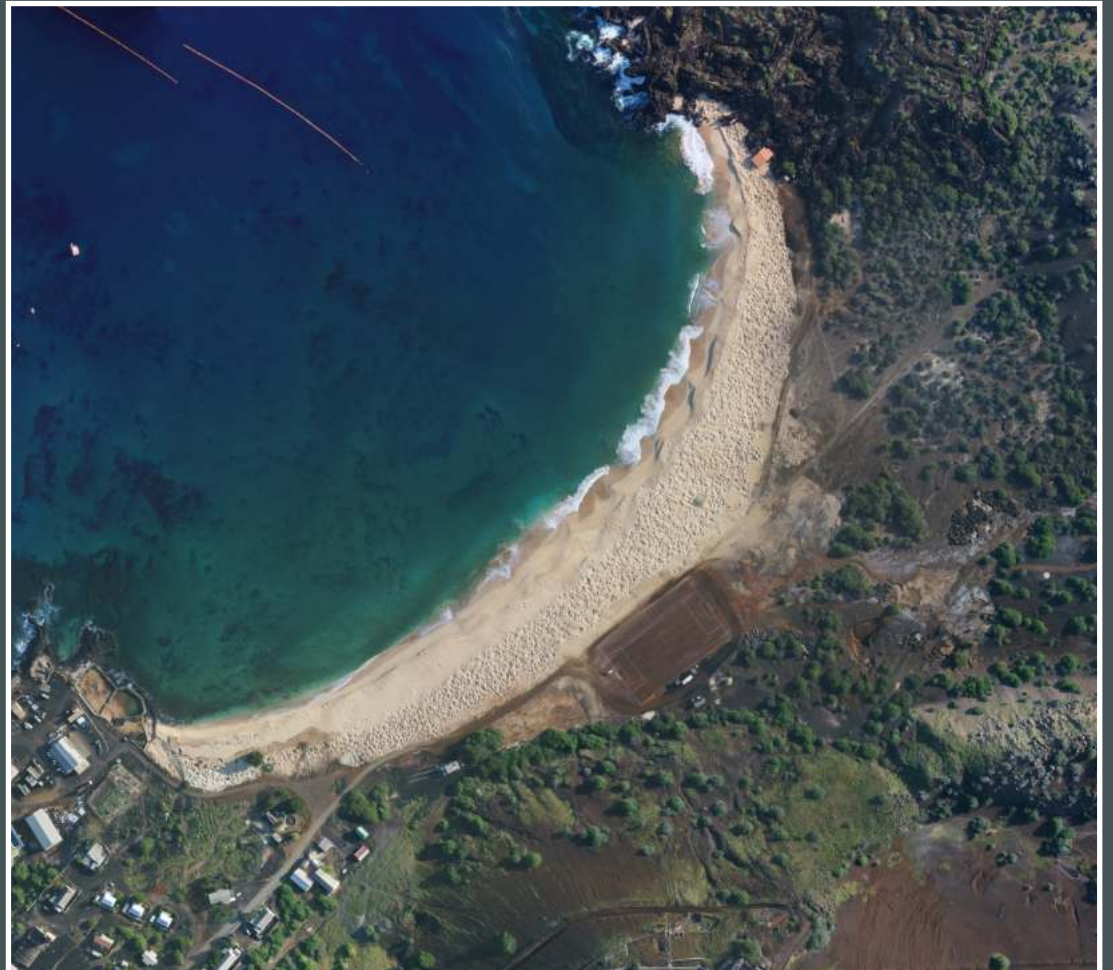
5. Non-native predators

- a. Amount of rodenticide bait taken on Long Beach and North East Bay
- b. Incidence of rodent predation on hatchlings

Rodenticide is used fortnightly at North East Bay and monthly at Long Beach. During each replenishment, 100% of bait is taken, suggesting that the frequency of distribution may be increased.

A feasibility study 'Can Ascension be predator free?' (DPL0037) was conducted in January 2024 and a report drafted (Bell *et al.* 2024). The project provided the AIG Environmental Health department with on-site training and advice as well as formal recommendations on how to control the rodent population and price estimations for a complete eradication of invasive vertebrates. The recommendations are being put into practice to better control the rodents on island around essential settlements and in key biodiversity sites such as the Beach NRs.

A pilot study was performed to record the number of rodent predation incidences on turtle hatchlings but this proved to be labour intensive and so resources were utilized on other tasks.



Ascension Beach Nature Reserve
Year 1 Research



Research

Knowledge gaps prevent the effective management of the Beach Nature Reserves and the protected and endemic species found there.

Turtle Migration

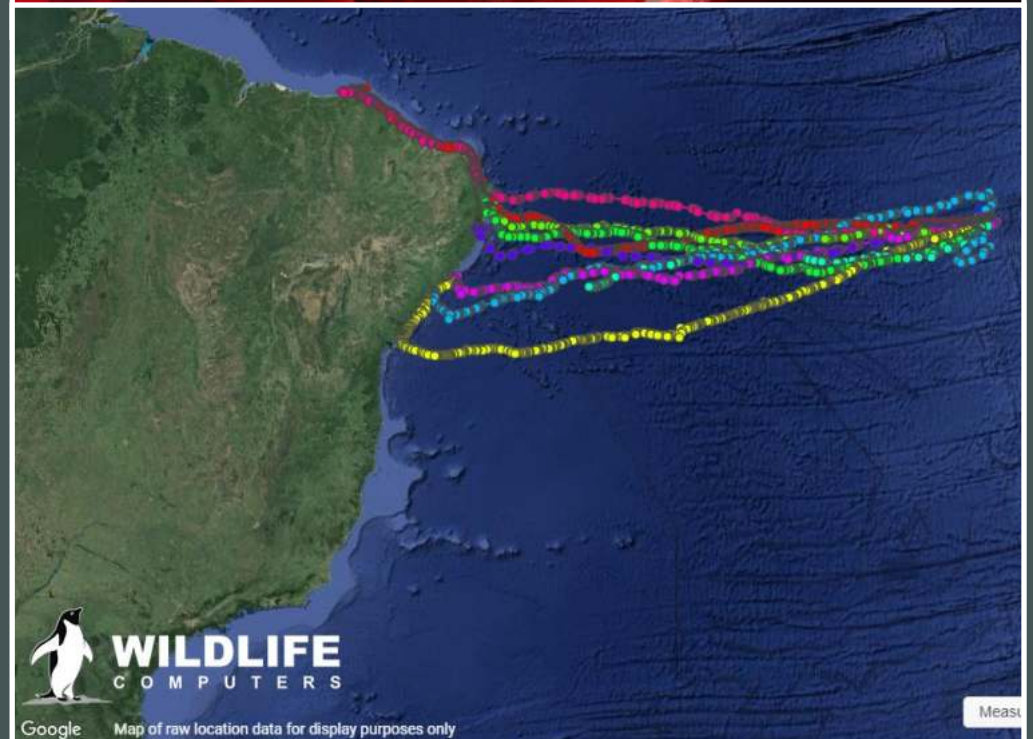
Over the last year, work was undertaken to satellite tag Green turtles nesting on Long Beach NR. 11 turtles were tagged in 2022-23 and a further 11 turtles were tagged in 2023-24. This was kindly funded by the UK Governments Blue Belt Programme and allows AIG Conservation to understand the migratory routes of our turtles (below right).

Muscle samples were collected from tagged turtles for stable isotope analysis. It is hoped to combine the data to understand the isotopic signature of different foraging sites around Brazil. The tags are still transmitting but once complete the data will be analysed by experts at the University of Exeter and published as a peer-reviewed scientific manuscript.

Climate Change

Understanding the potential impacts of climate change allows AIG Conservation to develop new methods to mitigate against negative impacts. An intensive study was undertaken over the last few years to understand specifically how climate change may impact Ascension's marine environment.

Modelling by de Mora *et al.* (2024) showed that by 2040-2050 the Ascension MPA will become warmer (+0.9 to +1.2°C), lower surface nutrient concentrations (-0.023 to -0.0141 mmol N m⁻³ and -0.013 to -0.009 mmol P m⁻³) with less primary production (-0.31 to -0.20 mol m⁻² yr⁻¹). This is obviously important in relation to the Green turtles and Land Crabs which use the Beach NRs but also rely on a healthy surrounding Marine Protected Area (MPA).



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