The Ascension Island Marine Protected Area

Annual Review



One year on, how are we doing?





Ascension Island Marine Protected Area Annual Review - 2022

Ascension Island Government

The Ascension Island Marine Protected Area Management Plan sets out how the area will be managed over the five years between 2021 and 2026. One year in, this review summarises the progress that has been made so far. It is split into four sections:

What we've done

Management Plan lists 22 actions to be completed by 2026. Each action has a target to be achieved by the end of Year 1. To what extent have these targets been met

What we've learnt

There are 16 priority areas for research listed in the Management Plan, and the aim is to publish results from all of them by 2026. What progress has been made in the first year

What we've achieved

The ultimate measure of the MPA's success is how well we are achieving its four strategic objectives and the 21 operational objectives that sit beneath them.

What we've spent

How much money has been spent managing the MPA and where has that funding come fro

What we've done



Action	Progress		Year 1 target		Year 2 target
1. Prevent illegal offshore fishing		Effective surveillance system using AIS and radar in operation.	Surveillance system in operation based on risk assessment. Staff trained. System for assessing effectiveness of surveillance designed		Surveillance system shown to effectively detect illegal vessels. Procedures for enforcement action agreed with MMO.
2. Monitor new threats to the MPA habitats		Threat assessment published in MPA Management Plan.	Threat assessment published	••••	Threat assessment updated. Monitoring in place for all major threats.
3. Regulate and manage inshore fisheries	Draft inshore fisheries strategy published and developed further following public consultation.		Inshore Fisheries management system and legislation introduced following public consultation. Designs for information leaflets and signs completed		Inshore Fisheries management system and legislation introduced. Monitoring in place for all fished species.
4. Implement Marine Pollution Control Plan	Pollution control gap analysis being carried out by external legal consultant. MCA visit postponed		Marine pollution control plan published and pollution response capability assessed by Maritime and Coastguard Agency (MCA).		Marine pollution control plan published and pollution response capability assessed by MCA.
5. Review Protected Areas legislation	Protected Areas legislation amended development control procedure requirement to consider MPA obj	l to include es and jectives.	National Protected Areas and Harbour Ordinances reviewed and deficiencies identified.		National Protected Areas Ordinance updated.
6. Recognise genetically distinct subspecies in legislation.	No progress		Identify potential research partners.		Prepare research plan. Secure partners and funding.
7. Control developments in or near the MPA		EIA process developed with AIG Operations and applied to maintenance of Turtle Ponds.	Pilot EIA process with developments undertaken by Ascension Island Government Operations Directorate		EIAs routinely carried out for all AIG developments. EIAs required for all development proposals in MPA.
8. Non-native species control	Non-native shrubs removed from Long Beach and Mars Bay. Clearance still ongoing at Waterside and buffer zones.		Complete eradication of non-native shrubs in buffer areas around all coastal nature reserves. Establish rodent monitoring protocol		Eradication of non-native shrubs and routine rodent control in coastal nature reserves and buffers.
9. Biosecurity controls	Biosecurity legislation in place. Surveillance monitoring using eDNA metabarcoding being developed.		Introduce biosecurity legislation Begin a system of risk-based inspection and regular surveillance monitoring.		Regular eDNA surveillance monitoring. All visiting vessels 'make biosecurity declaration and 10% inspected.
10. Conduct regular litter clearance		Six beach cleans conducted around the island involving a total of 97 Volunteers.	Four beach cleans involving a minimum 80 people undertaken		Six beach cleans involving a minimum of 100 people. Data on litter levels uploaded to international databases.
11. Restoration of turtle nesting beaches		Natural and man-made barriers mapped behind four beaches. Impact of sea level rise modeled	Identify barriers to the landward migration of beaches.		All concrete structures and tree roots removed from Long Beach. Plan to remove barriers to migration form one beach in place.

Action	Progress	Year 1 target	Year 2 target
12. Tourism development strategy	No progress. Awaiting strategic decision on future of Ascension.	Establish scope of Tourism Development Strategy in consultation with Ascension Island Council.	On hold pending outcome of Future of Ascension decision.
13. Guidance and regulations for sports fishing and ecotourism	Proposed licence conditions for sports fishing companies included in draft inshore fisheries strategy.	Inshore Fisheries legislation covering sports fishing operations drafted and enacted. Review of Business Permit process.	Inshore Fisheries legislation drafted and enacted. Licence conditions for sports fishing companies in place.
14. Develop Ascension as a scientific research hub	No progress	Promotional package completed and distributed to international academic institutions. Identify gaps in provision for visiting researchers.	Promotional package completed. Market research with academic institutions identify gaps in provision.
15. Ascension Island public engagement campaign	Engagement activities including school trips, social media and press articles completed. Festival planned for April 2022.	All priority actions in the Public Engagement Strategy initiated including a marine festival, visitor centre, school trips, press articles and social media.	All priority actions in the Public Engagement Strategy implemented. At least 200 people engage in MPA events.
16. Global public engagement campaign	Strategy still to be finalized, but 57 Tweets, 30 FB posts and three videos created and shared.	Public Engagement Strategy initiated including at least 50 social media posts produced and two videos created.	All priority actions in Public Engagement Strategy implemented. At least 100 social media posts produced.
17. Sustainable financing strategy	Sustainable Finance review completed by consultants	Produce sustainable financing strategy	Identify and pursue at least two options from the sustainable finance review.
18. Strengthen governance structures	Governance structures agreed and published in Management Plan. Scientific Advisory Committee established.	MPA governance arrangements have been agreed by the Ascension Island Council. Scientific Advisory Committee established.	All MPA Advisory Committees established and inputting into workplan reviews.
19. Effectively enforce regulations	Fishery Protection Officers warranted. Regulations covering offshore fishing and species protection enforced.	Regulations are drafted. MPA Officers are warranted and trained to carry out enforcement action. Remote surveillance of offshore zone effectively undertaken	Regulations enacted and being enforced by warranted officers. Effective surveillance of offshore illegal fishing.
20. Meet International obligations	Logbooks printed and distributed, but poor uptake.	Establish catch reporting system including logbooks and associated information campaign for recreational fishermen	ICCAT minimum landing sizes for billfish enforced. Logbooks returned from at least 20 fishermen.
21. Data management system	Assessed data management needs and problems with current system.	Deficiencies in data management capacity and procedures identified.	Develop plan for new data management system.
22. Monitoring and evaluation regime	Monitoring Strategy finalised. Progress on measuring coastal and inshore metrics, but only remote monitoring of offshore habitats.	Implementation of the Monitoring, Evaluation and Research Strategy, with monitoring linked to all objectives and management actions initiated.	Implementation of the Monitoring, Evaluation and Research Strategy, with monitoring linked to all objectives.

Summary of action delivery



In Year One we have achieved 45% of the action targets and made significant progress against a further 41%.. That leaves 14% (three actions) where little or no progress has been made. In some cases this has been due to factors beyond our control, but where possible we will redouble our efforts to get these actions back on track.

Action	Year 1 target	Barriers	Measure to improve delivery
6. Recognise genetically distinct subspecies in legislation.	Identify potential research partners.	Requires sample collection by partners outside of Ascension, who may not share this priority. Samples of	 Added as an appraisal objective for the incoming MPA Officer.
		pelagic species will be challenging without ICCAT involvement.	Target sample collection from Ascension and St Helena first.
			Build regional relationships by taking part in Mission Atlantic
12. Tourism development strategy	Establish scope of Tourism Development Strategy in consultation with Ascension Island Council.	Until the UK Government makes a strategic decision about the future of Ascension, it is unclear whether	Focus tourism development on areas that require little long- term investment.
		tourism will be encouraged on the island.	Employ dedicated MPA Development and Engagement Officer to undertake this alongside AIG Business Development
14. Develop Ascension as a scientific research hub	Promotional package completed and distributed to international academic institutions. Identify gaps in provision for visiting researchers.	Continued uncertainty about when direct flight access will be restored to the UK and Covid restrictions lifted.	Request assistance from Blue Belt Programme for willingness to pay and market research support.
			Employ dedicated MPA Development and Engagement Officer to undertake this.

What we've learnt



Progress on research priorities

16 priorities for research are identified in the MPA Monitoring, Evaluation and Research Strategy. The aim is to complete these before 2026. This section summarises progress in Year 1.

	Identified as a priority	Plan and partners in place	Funding secured	Research commenced	Data collected	Data analysed	Results published
Multibeam echosound survey					•		
Data underpinning stock assessments of inshore species				9			
Establish socio-economic baselines			9				
Inshore ecosystem model using stable isotope analysis					•		
Establish eDNA primers to study inshore and offshore diversity and biosecurity surveillance				9			
Galapagos shark movements			9				
Genetic sub-structuring of yellowfin tuna, bigeye tuna and rockhind grouper	9						
Movements of rockhind grouper			0				
Movements of seabirds outwith the nesting season					•		
Morphology of turtle nesting beaches and susceptibility to sea level rise					•		
Vulnerability of inshore species to climate change	9						
Explore hydrothermal vent fields and Mid Atlantic Ridge structures within the MPA	9						
Map inshore current patterns and model larval movement		9					
Establish baseline for mesophotic communities (30- 150m depth)	9						
Develop methods for monitoring nocturnal inshore communities	9						
Recruitment rates of land crabs	9						

Progress on research priorities

Research topic	Progress
Multibeam echosound survey of inshore habitats	Royal Navy vessel HMS Protector conducted a multibeam sonar survey around the coats of Ascension. The data will be passed to British Geological Survey who are collaborating with AIG to create seabed mapping layers as part of a Darwin Plus project.
Data underpinning stock assessments of inshore species	Otolith and gonad collection is continuing from recreational catch on Ascension. Focus is on moray eel and glasseye snapper. In discussion with Cefas about support with otolith reading.
Establish socio-economic baselines	Questionnaire developed in collaboration with Dr Emma McKinley. Marine Festival in early April will be used to collect responses from across the island community.
Inshore ecosystem model using stable isotope analysis	Isotope samples collected by Danielle Orrell, the University of Windsor. Stomach content samples being collected to validate the model. Pending Darwin Plus application would develop the use of metabarcoding to identify species in stomach contents.
Establish eDNA primers for to study inshore and offshore diversity and biosecurity surveillance	DNA laboratory established on Ascension with funding from the PEW Bertarelli Ocean Legacy, Blue Belt Programme and Blue Marine Foundation. Protocols and primers being developed. Darwin Plus project to sequence marine invertebrate species. Will start 2022.
Galapagos shark movements	Satellite tags being deployed in March 2022. Darwin Plus acoustic tagging project will begin in September 2022.
Genetic sub-structuring of yellowfin tuna, bigeye tuna and rockhind grouper	Yellowfin tuna and rockhind grouper samples being taken and stored from the recreational catch on Ascension. No partners yet sought. To extend sampling beyond Ascension or carry out the genetic analysis.
Movements of rockhind grouper	Some acoustic tagging looking at localised home range movement carried out by Danielle Orrell. Awaiting the results of this initial work before expanding to the higher priority study of larger scale movements around the island.
Movements of seabirds outwith the nesting season	100 sooty terns, 10 Ascension frigatebirds, 10 masked boobies and 10 brown boobies fitted with satellite tags supplied by the Max Planck Institute. Results have shown sooty terns dispersing around the tropical Atlantic outside of breeding season.
Morphology of turtle nesting beaches and susceptibility to sea level rise	Three dimensional maps of three Ascension beaches created. Animations simulating impact of sea level rise being created as part of Darwin Plus project with the University of Exeter.
Vulnerability of inshore species to climate change	No progress. Outline plan for physiological experiments discussed with British Antarctic Survey (BAS).
Explore hydrothermal vent fields and Mid Atlantic Ridge structures within the MPA	Limited survey of vent fields planned for the 2021 Blue Belt offshore research cruise that was cancelled due to Covid. Cruise is being rescheduled for late 2022.
Map inshore current patterns and model larval movement	Pending Darwin Plus application led by Cefas and BAS would create ocean basin, EEZ and inshore scale models of current patterns around Ascension.
Establish baseline for mesophotic communities (30-150m depth)	Working with the University of Plymouth to plan dropcam and logger deployment in mesophotic habitats. Purchase of deep water camera housings and lights to allow the use of remote underwater video equipment down to 100m depth.
Develop methods for monitoring nocturnal inshore communities	Hydrophones have been deployed and downloaded at eight sites around the Ascension coast. Further development of analysis tools is needed to calculate species diversity or identify individual species.
Recruitment rates of land crabs	Trial of pitfall traps to measure the density of megalops larvae returning to beaches was unsuccessful. Megalops are being detected in light trap samples, but this is not a good measure of recruitment. No alternative monitoring methods have yet been identified.

What we've achieved

0

0



1a. No loss of species or reduction in species abundance or ecosystem complexity in offshore areas

1c. No loss of species or reduction in species abundance or ecosystem complexity in inshore areas

It is too early to judge whether these objectives are being met for most of the indicator species that we aim to study. However, there are some species that have been monitored on Ascension for many years and we can report trends in their numbers.



Feral cats prevented Ascension frigatebirds nesting on the main island until their eradication in 2004. It took until 2012 for nesting to resume on the main island, but since then the number has increased to around 1300 nesting attempts per year. Through that time the number of chicks fledged per nest (productivity) has remained fairly constant.



Masked boobies were also driven from the main island by feral cats. They returned to nesting on the main island the year after feral cats were eradicated and have been expanding their range since then. The breeding success of masked boobies ha been monitored in fixed areas since 2016. While the number of nesting attempts in these areas has varied little in those years, productivity has ranged from 4 to 58%.



The nesting green turtle population on Ascension has been rebounding after heavy exploitation in the 19th and early 20th centuries. Since 2010 the increase has slowed and numbers appear to be back to estimated levels seen before industrialised harvesting began.

1a. No loss of species or reduction in species abundance or ecosystem complexity in offshore areas

1c. No loss of species or reduction in species abundance or ecosystem complexity in inshore areas

For most species and habitats we are just beginning to collect information about species diversity, abundance and size, ecosystem complexity and habitat condition. Below are the methods we plan to use to establish baselines and monitor trends in different groups and habitats. Where possible we are trialing more than one monitoring method to identify the most robust and efficient suite of tools.



25

1b. Proxy objective: Surveillance, compliance and enforcement regime effectively detects all known threats to offshore ecosystem

1d. Proxy objective: Monitoring, regulation and management regime effectively tackles all known threats to inshore ecosystems

Historical perio

SSP period

2050

2100

Plastic

Rubber

Metal

Glass



As part of a Darwin Plus-funded project, scientists from Plymouth Marine Laboratory have investigated how climate change may affect the MPA between now and 2100 using data from the sixth couple model intercomparison project. The figures on the near right shows the mean sea surface temperature (SST) in the MPA in the historical period and under different future emission scenarios. The four panes on the right show the difference in SST between the forecast years 2040-2050 and the historical years 2000-2010 for the wider South Atlantic region.

Illegal fishing

No large-scale commercial fishing is permitted anywhere in the UK. Satellite surveillance is used to ensure compliance with this. The Global Fishing Watch Marine Manager Portal near right provides public access to fishing vessel transmissions showing that they are respecting the MPA boundary. Illegal vessels will not be transmitting and so synthetic aperture radar is used by the UK Government's Blue Belt Surveillance and Intelligence Hub to identify 'dark vessels' operating in or close to the MPA. In 2021/22 one possible high risk suspected illegal vessel was detected within the MPA.

Pollution

There are many potential sources of pollution into the MPA. We are monitoring the amount and composition of litter washed up on the island's beaches. The figures on the right show the amounts removed in 2021. We also record the number of spill incidents affecting the MPA; none occurred in 2021/22. Further monitoring is planned to consider other sources of pollution and quantify the impact this is having on habitats and species. This future work is described on the following page.



1950

Crystal Bay





Shelly Beach

1.272

0.848

0.424

0.000

-0.424

-0.848

-1.272



1b. Proxy objective: Surveillance, compliance and enforcement regime effectively detects all known threats to offshore ecosystem

1d. Proxy objective: Monitoring, regulation and management regime effectively tackles all known threats to inshore ecosystems

New methods of monitoring threats to the MPA are being developed. These may take many years to build up good datasets, but in time will provide a comprehensive picture of all the main threats facing Ascension's marine environments.

Climate change



Loggers have been deployed at 10 sites around the island. These will provide continuous measurements of water temperature, pH, dissolved oxygen and conductivity. Any long-term trends in these variables will be tracked and we will be able to establish if there are any links between animal abundance or behaviour and changes in these physical measurements.

Non-native species



The newly-established eDNA laboratory on Ascension will allow us to screen water samples and the surfaces of settlement panels for the presence of high risk non-native species. The three-monthly sampling effort will be concentrated around the coastal areas of Ascension with particular emphasis on the harbor where boats arrive at the island.

Plastic pollution



We already have good protocols in place to record the amount of plastic being washed up on Ascension's beaches, but we want to extend this to look at the extent of plastic pollution in the water column and marine sediments. We have also begun more systematic monitoring of the amount of plastic ingested by fish and seabirds so we can infer the impact plastic is having on biodiversity.

Noise pollution



The impact of noise pollution on marine animals is only beginning to be understood. The Ascension MPA should experience relatively little noise because of its remote nature and the lack of fishing vessels operating in the area. It could provide a noise refugia. To monitor the level of noise pollution we will record vessel density and make direct measurements of noise at a range of frequencies using hydrophones. 2021 was not a great year to grow a sustainable tourism sector or attract visitors to Ascension. The Covid pandemic all but halted international travel preventing meaningful progress on some of these objectives. Slower progress than expected on introducing inshore fisheries management measures also reduced our ability to record participation in fishing or satisfaction with the management system.



will be used to create a baseline ecosystem model.

recommended mitigations agreed to ensure

no significant damage to the MPA.

management to be measured.

Strategic Objective 3. To promote scientific research and share knowledge about Ascension Island's marine biodiversity in order to encourage support for marine conservation locally and internationally

2021 was also not a good time to attract scientists to Ascension. Most institutions barred their researchers from international travel and a planned offshore cruise to the Ascension MPA had to be cancelled due to Covid infections in the crew. However, it was still possible to plan research projects and reach people on island and globally via remote methods.

Operational objective	3a. The Ascension Island MPA becomes a world-renowned site for the scientific study of marine ecosystems	3b. Ascension becomes an active and influential member of international networks of MPA managers, and initiates and participates in collaborative projects	3c. Every person on Ascension is aware of the MPA and its purpose	3d. The Ascension MPA and the conservation and scientific work being undertaken reaches a global audience leading to increased political and financial support
Metric	Number of research permits 3 Number of scientific expeditions 0 (1 cancelled) Number of peer-reviewed papers published 4	Number of network events attended 0 Number of collaborative projects 5 Value of collaborative projects £480,000	% Ascension population aware of the MPA Collecting baseline % Ascension population supporting MPA Collecting baseline Number of people participating in on-island events 260	Number of social media followers Twitter—346; Facebook—637 Instagram—396 Number of media articles 57 Tweets; 10 articles Value of crowd funding campaigns £0
Comment	Access restriction have limited scientific work on Ascension, but we are building and strengthening partnerships for the future.	No conferences were attended this year, but two abstracts submitted for the IMPAC5 conference in September 2022. Collaborative projects include mapping the seabed around Ascension with BGS and UKHO, rationalising our turtle monitoring programme with University of Exeter and the	The Marine Festival in April 2022 will be used to gather the island community's views on the MPA.	We are building an audience for the social media channels and it provides a platform to share information. engagement occurs when we share a

establishment of a DNA lab with the Pew Berterelli Ocean Legacy Program, membership of Global Fishing Watch's

Marine Manager Portal and ecosystem modeling with the

University of Windsor.

MPA good platform to share information. Most engagement occurs when we share a high density of posts on a subject and the recruitment of a dedicated Engagement and Development Officer will give us greater capacity to do this.

Strategic Objective 4. To achieve effective governance and management of the MPA that is transparent and underpinned by sustainable financial and human resources

Governance and management structures are never the most exciting part of an MPA, but they are fundamental to its success. This year we began implementing our management plan and secured core funding from the UK Government until March 2024. Including the local community in decision making is an important part of the MPA. The consultation on a draft Inshore Fisheries Management Strategy reached approximately 25% of the island population, but we have so far struggled to recruit volunteers for the MPA Steering Group. The Youth MPA Committee and Scientific Advisory Committee have been more successful—they are well established and providing ideas, inspiration and oversight.



place and the Management Plan has been adopted. Secondary legislation formalizing that offshore fishing will only be licensed for research and establishing a system on inshore fisheries management are still in progress.

shown in this report) progress is being made delivering most of these. It is too early to judge if objectives are being met, but actions and better monitoring are being put in place. You are reading the first annual review!

There is still some way to go to reach our aim of involving people living on Ascension in decision making around the MPA. We have not been able to recruit people to the MPA Steering Group, and many people seem reluctant to take an active role. It may take time and effort to build trust and participation.

March 2024 from the UK Government. This has allowed us to build a strong team of permanent staff who deliver the core workplan and can create extra capacity by supporting partnerships or project staff.

What we've spent

Core spending



■ Satellite surveillance (AIS)

- Vessel (operation and maintenance)
 Vehicle (operation and
- maintenance)
 Office overheads
- Office overnead

Staff

- Scientific equipment (renewal and replacement)
 IT and communications
- Training

Between March 2021 and March 2022 a total of £826,580 was spent managing the Ascension MPA. The majority of this (£644,180) was project and investment spending, compared to £182,400 of core costs.

The UK Government Blue Belt Programme and Darwin Plus grant scheme provided the majority of the funding, with significant contributions from the Pew Berterellii Ocean Legacy and the Blue Marine Foundation. The Ascension Island Government continued to fund the staff costs of the Ascension seabird team to the value of £26,400 alongside a contribution of £6,000 from RSPB.



Funding sources





