Darwin Plus: Final Report

To be completed with reference to the "Project Reporting Information Note":
(*https://darwinplus.org.uk/resources/information-notes/*).

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes.

Submission Deadline: no later than 3 months after agreed end date.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Darwin Plus Project Information

Project reference	DPLUS136
Project title	Anguilla Shark Conservation: social acceptance, spatial protection and legislative reform
Territory(ies)	Anguilla
Lead Organisation	Marine Conservation Society
Project partner(s)	Anguilla National Trust (ANT), Fisheries Unit-Department of Natural Resources (FMRU-DNaR), University of Exeter (UoE)
Darwin Plus Grant value	
Start/end date of project	1 Jul 2021-31 Jan 2025
Project Leader name	Amdeep Sanghera
Project website/Twitter/blog etc.	
Report author(s) and date	Farah Mukhida, Louise Soanes, Amdeep Sanghera, Matthew Witt

1   Project Summary

Anguilla Shark Conservation (ASC) was a multidisciplinary project that aimed to increase knowledge of Anguilla's shark populations, their habitats and conservation needs, while developing local ownership of conservation interventions through comprehensive community engagement. ASC represented Anguilla's first ecological baseline assessment of sharks and also involved working with marine-based stakeholders (fishers, divers) to document their knowledge. Community perceptions were also explored and assessed. All of these sources of data and information helped to inform a research action plan that will enable future species conservation action plans, while considering community values, co-existence, new legislation, and spatial protection of sharks and their habitats.

2   Project Partnerships

Although managed by UK-based Marine Conservation Society, this project was fully supported and driven by local partners who were key in ensuring local stakeholder engagement, emerging from locally-identified data gaps and biodiversity conservation needs. Over the course of the project, a range of stakeholders were included in our work, namely:

Government of Anguilla agencies (Fisheries-Unit Department of Natural Resources) and **Statutory Bodies (Anguilla National Trust),** as partners in the project, sat on the Project Steering Committee, led on-the-ground aspects of this project including the development and implementation of the communications and outreach plan (Evidence 1), the collection of baited remote underwater video (BRUV) data (Evidence 2), as well as assisting with the implementation of the Community Voice Method (CVM), presentation of CVM reports (Evidence 3), and the development of the research action plan (Evidence 4).

Government of Anguilla – Minister of Environment. The Minister responsible for environment, along with the Permanent Secretary responsible for environment were kept abreast of project implementation progress throughout the project duration through regular Heads of Department meetings during which this project was presented and results and planned activities were discussed. With the Government of Anguilla's interest in supporting and developing Anguilla's fishery, there was high level of understanding of the need for evidence-based fisheries management and the importance of addressing data gaps existing within the Government of Anguilla's Fisheries Development Plan. Results of our work, including both the social and natural resources sciences aspects, will be used post-project to inform future high-level management recommendations and interventions. They also led to a new initiative, funded by UK-based The Fishmongers Company, to enhance fisheries managers-fishers relationships through shared understanding, dialogue and collaboration (Evidence 5).

Local Dive operators and divers were important in-water collaborators. Being in the water almost daily, dive operators and the newly established Anguilla Ocean Keepers – nongovernmental organisation established by a group of divers concerned about the state of Anguilla's coral reefs, contributed to our knowledge base through citizen science activities, consistently recording and reporting shark sightings (Evidence 6).

Local fishers were engaged through their participation in Local Ecological Knowledge (LEK) surveys (Evidence 7) and the CVM, both designed to gain an improved understanding of the ecology, distribution, and value of sharks in Anguilla. Fishers also attended a series of community-based workshops during which the results of our CVM work were presented and verified (Evidence 3). To support the research action plan, Key Informant Interviews were also implemented with shark fishers to better understand the social, economic and cultural values and drivers around shark fishing (Evidence 14).

Members of the **wider public** were directly engaged within the CVM process, with participants attending workshops to present the results of our CVM work and to help identify areas that require additional work as it relates to both shark and ray conservation and public outreach and engagement (Evidence 3). Project outreach activities also helped to raise local awareness of the project (Evidence 8).

3   Project Achievements

3.1   Outputs

This project had four main Outputs: 1. Development of the first ecological and social science baselines of sharks in Anguilla; 2. Evidence-based Research Action Plan through a participatory process; 3. At least two priority interventions prescribed by the Research Action Plan are implemented and monitored; 4. Enhanced national capacity to plan, manage, implement and monitor shark conservation action, supported by improved technical skills and greater public awareness and cooperation.

Output 1. Development of the first ecological and social science baselines regarding sharks in Anguilla.

Before we launched this project in July 2021, there were limited data available on shark diversity, distribution and abundance. Although there were some reports of shark landings by fishers, shark reports were anecdotal or shared through social media. This project aimed to take a systematic approach to data collection while also better quantifying local ecological knowledge (LEK) about Anguilla's shark and ray diversity and distribution. In order to do this, we adopted a comprehensive multi-disciplinary approach to data collection using baited underwater video stations (BRUVS), LEK surveys, Community Voice Method (CVM) and citizen science initiatives and a desk-top literature review (Evidence 9).

Over the course of the project period, we collected critical baseline data from 282 BRUV deployments across 84 locations surrounding Anguilla's mainland and offshore islands [(Evidence 2). Through this work and throughout the project period, we recorded 12 shark and ray species, with 6 being the most prevalent in nearshore benthic habitats, 4 in deep water habitats and 2 in pelagic waters. In November 2024, after a series of technology-related failures (malfunctioning deepwater BRUV units), we were able to deploy infra-red cameras in Anguilla's deeper waters (>200m in depth) for very first time. These BRUVS which can be safely deployed to depths of 300m, opened an entirely new and exciting environment to us. Through these recordings, we found sandbar shark, Atlantic six-gill, Cuban dogfish and smoothhound sharks that had been spoken about but never formally recorded or confirmed in Anguilla's waters (Evidence 2).

This underwater work was complemented by LEK surveys, completed through one-on-one interviews with fishers, dive and charter boat operators, restaurant owners and marine resource consumers through which we were able to establish an anecdotal baseline of shark diversity although we also recognised that there was also some misidentification of species. In Year 3 of the project, we delved more deeply into the various values that sharks hold within the fishing industry. A small-subset of shark fishers, vendors and consumers were interviewed through Key Informant Interviews, with finding suggesting while sharks hold relatively minor commercial value compared to other commercial fisheries in Anguilla, they are culturally valuable and play an important role as a food source at certain times of the year, including annual festivals (Evidence 14).

In addition to the LEK surveys, we also conducted wider Knowledge Awareness Perception (KAP) surveys with the wider community to better understand people's awareness of and thoughts towards sharks and their ecological and socioeconomic value (Evidence 7). Through these surveys (with findings, in part, supported by the more in-depth Key Informant Interviews) we found that shark meat is not consumed very frequently by the local community and that sharks are valued for their role in ecosystem balance. Interestingly, the majority of KAP survey respondents indicated that sharks should be protected if their populations are threatened, with suggested potential protection measures including the establishment of fishing quotas, size limits and a fishing season.

As part of our push for citizen scientist engagement, we established a new partnership with a dive operator and his newly established nongovernmental organisation, Anguilla Ocean Keepers (AOK). AOK reports shark sightings (day, location, species, and when possible, size of animal as well as photograph) to us, with all sightings maintained in a regularly-updated database (Evidence 6).

This socioeconomic baseline data served as an introduction to the application of CVM. CVM stakeholder interviews were conducted in Year 2 of the project, with a cross-section of Anguillian society, including natural resources managers, fishers, divers, tourism and hospitality representatives and industry workers, educators, and young people. All interviews were filmed and then analysed and coded using NVivo and then pulled together into a 30-minute film, objectively presenting all views and positions on sharks, their historical, ecological, and economic value, and management/conservation options. The film is accessible on the bespoke [MCS project page](#). It was also presented to the public in June 2023 within three different communities across Anguilla (Island Harbour, The Valley, Sandy Ground). The event screenings also provided participants with a broad overview of the project, a presentation of the findings of the biological research we completed through this project, as well as the results of the LEK and KAP surveys. The CVM documentary was then screened, followed by break-out groups facilitated by project partners. Attended by 50 people, the screenings provided community members and stakeholders with an opportunity to discuss their positions, values, and perspectives as they relate to shark and ray research, conservation, and management. Key findings of these consultations indicate that (a) shark conservation/management is required but that additional data should be collected to ensure that management decisions are data-driven, (b) outreach on promoting the important role that shark species place within the marine ecosystem (to mitigate fear and misunderstanding of sharks) and finally (c) that the marine environment is critically important for Anguillians – for food, recreation, livelihoods, and mental health (Evidence 3).

Results of all of this research and analysis has been presented in a draft manuscript that will be submitted for peer-review and publication (Evidence 10).

Over last 43 months of this project, we achieved our Output objective having established ecological and social science baselines for sharks and rays in Anguilla.

Output 2. Evidence-based shark research action plan and supporting legislative amendment recommendations are produced through a participatory process.

While we had initially envisioned drafting a shark conservation action plan as part of this project, we amended (with permission) the initial output to instead draft a research action plan. Over the course of our ecological and social data collection programme and following the results of our CVM presentations and consultations, it became clear that there is still much more we need to know before a robust evidence-based fisheries and conservation management approach can be developed and applied. This project allowed us to create valuable species lists and to assess the relative abundance of species in Anguilla's waters. At the same time, though, we recognised that we needed to build on these data and to collect data through additional seasons and years so that presence and distributions can be assessed in more detail. We also need to be able to better understand migratory movements and patterns and this requires framing our in-water data within a regional (and global) context.

While our socioeconomic data (from Output 1) suggest a low-intensity fishery, sharks and rays are a sensitive subject, as is fisheries management in general – especially when active management has historically (or at least previously) been relatively minimal. As outlined within our Year 3 Annual Report, sensitivity expressed by stakeholders, and especially fishers, may not actually be about sharks and rays themselves, but rather the perception of increased restrictions on one fishery may be a precursor to additional management interventions on other fisheries. In addition, in conversation with local stakeholders, there are many differing views and ideas about whether shark and ray populations should be managed and what management measures would be most appropriate. Many of these views and opinions arise from historical and conflictual fisheries management processes, which present difficulties when engaging communities on sound evidence or experiences from other islands. We recognise that we need to do more in increasing our own and also the wider community's understanding of what management measures would entail and the expected impact that they may have. We also recognise that we need to do more work to help local communities understand the science behind conservation management decisions which may foster more support for any future proposed actions as well as open up a wider, more-informed conversation around management activities and what would be appropriate/acceptable to Anguilla. This will take more time than what we had within this project. The change from a species action plan to a research action plan (Evidence 4) was therefore a reflection that we needed to adapt and reprioritise activities to ensure a sustainable pathway to safeguarding Anguilla's sharks

The research action plan that we collaboratively developed was informed by the results of our surveys, assessments, as well as stakeholder conversations and consultations (Output 1). It is multidisciplinary and prioritises actions. It is also realistic as well as future forward, placing research within the context of a climate in crisis. Local partners are committed to implementing the plan and steps have already been taken within this project period to fill in some of these identified data gaps, including assessing the value of sharks and rays to Anguilla's fishery sector and the wider economy (Evidence 4 & Evidence 14) while our Anguilla counterparts with the UoE have developed and submitted a Darwin Plus Local proposal to initiate acoustic tracking surveys on the distribution and movements (including migration movements) of one of Anguilla's most prolific shark species, the Caribbean Reef Shark (Evidence 5). While we wait to hear whether our proposal has been successful, the Ocean Tracking Network has endorsed this work and has committed to loaning acoustic receiver stations should Darwin Plus Local funding be secured.

Output 3. At least two priority interventions prescribed by the shark research action plan are implemented and monitored.

Two key priority interventions outlined with the shark research action plan included (a) better understanding the importance of sharks and rays to Anguilla's fishery sector and (b) exploring options to reduce shark by-catch within the long-line snapper fishery.

As described above, we were able to conduct in-depth key informant interviews with nine participants along with informal discussions with a further 14 people that are directly involved with Anguilla's shark and ray fishery to assess the various values sharks and rays represent to Anguilla's fishing community (Evidence 5). The Marine Conservation Society's UKOT Manager Amdeep Sanghera visited Anguilla in April 2024 to implement the interviews, with the interview guide having been shaped and approved by all project partners including ANT and FMRU-DNaR. With significant support from FMRU-DNaR, we were able to successfully liaise with key shark fishers and vendors across the island over a 10-day research period. The survey participants interviewed provided vital information to help support the understanding of the scale, extent, nature and holistic value of shark fishing in Anguilla. Thes data were analysed, with qualitative coding also being conducted. The analysis shows that sharks generally have low economic value to other commercial fisheries. There are, however, times during the year when shark fishing increases in importance due to wider fishery dynamics as well as cultural drivers such as annual festivals where shark meat is consumed. The study's assessments of the various values attached to shark fishing will ensure human dimensions are acknowledged in future shark conservation and management processes in Anguilla.

Through our LEK and KAP surveys and our CVM consultations, we also learned that while there is a small shark fishery, oftentimes, the sharks that are landed are as bycatch rather than direct target. We also learned that sharks are also sometimes considered a nuisance as they prey on fish caught on fishers' long lines and that these sharks may be killed to reduce impact on the long line fishery. There are, however, tools available to reduce fisher-shark conflict as well as shark bycatch, including the use of circle hooks rather J hooks (although with varying degrees of effectiveness) and SharkGuard, a relatively newly developed device that is attached to fishing lines and that emits electrical pulses to repel sharks and rays.

Output 4. Enhanced national capacity to plan, manage, implement and monitor shark conservation action, supported by improved technical skills and greater public awareness and cooperation.

Our efforts to enhance national capacity through improved technical skills and greater public awareness was supported by hands-on training as well as through extensive public outreach efforts.

At project start, we developed a public awareness and outreach strategy (Evidence 1) which we implemented throughout the project period. Communication and awareness interventions included direct engagement of community members through our LEK (no. individuals: 52), KAP (no. individuals: 164) and CVM consultations (no. individuals: 33) (Evidence 7, Evidence 3). Our presence on social media (Facebook, Instagram) has reached over 4785 accounts/people, and we've reached 7040 people on LinkedIn (Evidence 8). The webpage hosting the short film emerging from our CVM work has received 1437 unique views since it's posting, with users returning to the page on average 1.8 times.

As outlined in our previous project Annual Reports, we have also informally spoken to hundreds of local community members one-on-one about the project as well as the ecological value of sharks and rays. While these informal discussions are more difficult to capture and quantify in terms of evidence and output, they are still essential on small islands where communities are tightknit and information (including rumours and misinformation) is spread quickly. We have also seen these conversations take place and spread on social media where images of sharks on wrecks taken and shared by divers or images of sharks being caught by line spark discussion and debate, with both sides – the need for protection and sharks as being part of a fishery – being voiced. We monitor these posts and they help us frame our conversations with different audiences.

We held eight public presentations (Evidence 8), often taking advantage of Matthew Witt's (UoE) presence on island, and three presentations reporting on the results of CVM. We have also shared results internationally, leading to an exciting partnership with the Imperial College of London. In November 2023, FMRU-DNR presented on marine conservation work being undertaken in Anguilla during the Great Blue Oceans webinar, attended by 55 individuals and facilitated by project partners MCS. The presentation included an overview of the project, its objectives and results. Filippo Varnier, a Masters student at the Imperial College of London, reached out to us following the presentation about collaborating on the development of an AI software (SharkTrack) to help sift through the many hundreds of hours of BRUV footage and identify/classify elasmobranchs. Using the significant amount of data collected through our project, Filippo was able to test the software and its effectiveness at machine learning to correctly identify species as they appear within the footage. Initial results of these test runs indicate that SharkTrack requires just two minutes of manual classification per hour of video, representing a 97% reduction of manual analysis time compared to traditional methods which involve watching the entire captured footage, noting species of sharks and times that they appear on the footage. Traditional BRUV footage analysis is laborious and extremely time-consuming. The benefits of (open source) SharkTrack are very promising and, in the fourth year of our project, we applied this software to our deep-water BRUV footage. As it is a relatively new software, we still cross-checked the data manually but found that SharkTrack was proficient at detecting sharks within the footage. A manuscript regarding SharkTrack has also been drafted presenting initial results, with project partners included as co-authors (and the Biodiversity Challenge Funds through the Darwin Plus Initiative being formally recognised supporting this important work) (Evidence 8).

Training of staff and volunteers have taken place throughout the project's duration (Evidence 11), with local staff and volunteers now competently applying their knowledge and skills, including in public engagement, BRUV deployment and data analysis. Through the course of this project, we have trained, in-field, 24 local people in BRUV deployment in benthic habitats and five staff in mid-water and deep-water BRUV deployment, three staff in BRUV analysis, and seven staff in social data collection methods. Two persons from local partner agencies attended the Caribbean Shark Coalitions' (CSC) shark tagging workshop in September 2022 which, in addition to providing training on the actual methods of shark tagging, also led to project partners forming better collaborative networks across the region, with MCS, ANT, and FMRU now all members of the CSC.

The intended Outcome of this project was for Anguilla's apex predators to have a greater chance of recovery through the implementation of comprehensive action plans, strong management competencies and a more supportive civil society. We identified three main indicators to measure impact/success, including:

Measurable indicator 01: Shark and ray research action plan created and an implementation schedule devised by project partners following consultation with the local community and wider scientific networks.

Informed by the ecological and socioeconomic data we collected through this project, as well as through consultations with national stakeholders and experts in the field, and a review of regional and international work and best practice, we successfully developed a comprehensive research action plan to guide long-term, evidence-based, data-driven elasmobranch conservation (Evidence 4). Beyond developing the research action plan, we have been taking steps to actively implement it, including an values-based assessment of the shark fishery (Evidence 14) and the

development of a project proposal aimed at better understanding Caribbean reef shark distribution and migration patterns, as well as potential Important Shark and Ray Areas within Anguilla's waters.

Measurable indicator 02: Workplans and budgets of responsible national agency and supporting partners demonstrate intention to continue implementing action plans beyond the life of this project.

Continuation of the work initiated through this project will depend on local interest and capacity. The research action plan developed through this project clearly identified additional work that will be needed to effectively conserve and manage Anguilla's shark and ray species. Through the capacity that we have developed as well as the partnerships that have established, including with the University of Exeter, the Caribbean Shark Coalition, the UK Government's Blue Belt (and Blue Abacus) programme, the Ocean Tracking Network and the Imperial College of London, we have leveraged this project and this work, creating opportunities to continue to build on this project's successes. The ANT will be reviewing their 2020-2024 strategic plan in 2025 and have indicated that amongst their priorities over the next five years is the integration and implementation of site-based management and action plans as well as species conservation action plans. Their budget, which was presented to and approved by the GOA, clearly articulates this position.

FMRU-DNR, with a newly acquired vessel, are in a position to continue to actively engage in in- and on-water research and have been exploring how to further integrate Blue Belt priorities, including marine park as well as more comprehensive data-driven fisheries management and bycatch reduction methods, into their work programmes.

With UoE, ANT and FMRU-DNR have submitted a new Darwin Plus Local proposal related to Caribbean reef sharks and the identification of Important Shark and Ray Areas, for consideration. They are waiting to hear the results of the proposal review. They are ready to initiate the project should funding be secured.

MCS have also finalised their new UKOT strategy which has, in part, a strategic objective on supporting territory partners with their species and habitat conservation priorities, and are committed to supporting project legacy as and where needed.

Measurable indicator 03: Vulnerable and endangered shark species are protected in Anguilla's waters by law.

We recognised that this was an ambitious indicator and one that we reconsidered based on the work that we conducted through this project and previous reviewers' suggested amendment of our project's Outcome statement (which we made). Based on the amount of time legislative change can take (even amendments to existing Acts and Regulations) as well as stakeholder sensitivities, we recognised by Year 2 that achieving this indicator was not likely to be achieved. At the same time, based on the existing legislation (Biodiversity and Heritage Conservation Act), we identified one Endangered species (spotted eagle ray) and two Vulnerable species (Atlantic nurse shark and lemon shark). As per the legislation, Endangered species are subject to protection (no take), while Vulnerable species are subject to management plans which outline measures for conservation of the species.

Post-project, in March 2025, national elections were held which led to a change in government administration. As part of the post-election hand-over, briefs outlining the work and priorities of government and statutory agencies were submitted to the newly elected Ministers (Evidence 12). As part of their submission, the ANT included a list of legislative review priorities which included the listing of the spotted eagle ray (a non-fishery target species) to Schedule 1 of the Biodiversity and Heritage Conservation Act, and the formal recognition of the Atlantic nurse shark and the lemon shark as Vulnerable species, that would then trigger the development of species management plans, which may call for closed seasons, closed areas or catch limits.

Our work through this project has also focused on the distribution of these species and, working in tandem with another Darwin Plus-funded project (DPLUS137) which focuses on enhancing the management of Anguilla's marine parks, there is further opportunity to effectively protect shark and ray species within marine park waters as these sites will become no-take/replenishment area (through legislative amendments that are being finalised by the Attorney General) (Evidence 12).

Local partners are therefore adopting multiple approaches to shark conservation in Anguilla. Limited formal species-specific protection can be complemented with a whole ecosystem conservation and protection approach through more a more effective marine park network and by at least formally recognising Vulnerable shark species within the framework of the Biodiversity and Heritage Conservation Act, we are creating an enabling environment for effective management of the species outside of protected areas.

3.2 Monitoring of assumptions

This project included seven critical conditions. Throughout the project period, these risks and assumptions were monitored, with most changes in assumptions being that they were no longer relevant due to on-the-ground conditions and approved changes to the project.

Executive Council approves Shark Species Action Plan and legislative recommendations and continues to support the effective management of Anguilla's threatened and at-risk shark species.

This assumption, as it relates to the Species Action Plan, was no longer relevant as we changed the output and supporting indicators. The research action plan was developed and adopted by FMRU-DNaR, with support from the ANT. The research action plan does not require Executive Council approval although steps towards its implementation have been – and will continue to be – presented within operational budgets and applications for additional external funding, which are signed-off by the Permanent Secretary and/or the Minister responsible for Environment.

National strategy correctly identifies and addresses main threats, capacity needs, and resources to conserve and protect species.

This assumption was no longer relevant as the output and supporting indicators were changed from the development of a Species Action Plan to a research action plan. The Research Action Plan, as presented, should ensure that conservation action plans that will be developed post-project address main threats, capacity needs, and resources.

Major field activities can be rescheduled if extreme weather events affect Anguilla during the project period.

We were fortunate throughout the project period to not have been affected by any severe weather events.

The work is not significantly impacted by further COVID-19 restrictions.

This assumption was no longer relevant as all COVID-19 restrictions were lifted in 2022.

BRUV equipment perform as stated and do not suffer from equipment failure/loss.

During Year 4 of the project, we were faced with a setback with the loss of two mid-water BRUVS and malfunction of the newly secured (and developed) infra-red deepwater BRUV system.

In April 2024, we deployed a drifting pelagic system – a system of five connected BRUVS which spanned across a total distance of 880m, marked by bright buoys. When it was time to collect the system, we could not find it and spent two days searching for equipment – including deploying a plane to increase the search area. On the third day, a fisher reported that they had found the chain of BRUVS and upon inspection of the system, we found that we had unfortunately lost two of the five BRUVS. At the same time, we felt fortunate that we were able to recover the remaining three, without any significant damage to them, though some maintenance work was required. These BRUVS were sourced through the Blue Belt Initiative and fortunately, they were replaced and we were able to redeploy them later in the year in November.

Also during April 2024, we had hoped to deploy an IR-enabled camera system that would allow us to survey deepwater environments (>200m in depth). Unfortunately, as we were putting the various system components together, we realised that the central processing computer and battery system had failed due to a broken part incurred during travel from the UK and could not be safely deployed. The manufacturer indicated that the system would need to be returned for

repair. The repairs were completed and we successfully deployed the system in November 2024, capturing exciting new footage of species never previously recorded in Anguilla.

Inshore, offshore and sport fishers are willing to attend shark by-catch reduction workshops.

We scheduled the shark by-catch reduction workshop during the Government of Anguilla's BLUE Week at the end of April 2024. With ten participants attending the workshop, FMRU officers engaged fishers directly through one-on-one conversations to further reach and all project partners agreed that a practical SharkGuard trial (see Section 3.1) may be a more effective and powerful way to show how shark deterrents tangibly work.

Trained expertise remains in Anguilla.

This project trained more than two dozen Anguillian residents including ANT and FMRU-DNR staff, interns and volunteers. In addition to be trained, these individuals actively applied their knowledge and skills and are in the position of training other. Through this project, we therefore were able to build for individual as well as institutional capacity.

4 Contribution to Darwin Plus Programme Objectives

4.1 Project support to environmental and/or climate outcomes in the UKOTs

The primary purpose of this project was to design and implement effective shark conservation action through a multi-disciplinary, practical, evidence-based approach. This project directly supported Anguilla's ability to achieve strategic long-term outcomes for marine species and habitats, delivering commitments made by the Government of Anguilla under national strategies, policies, and legislation as well as by contributing to a number of different multilateral environmental agreements and agendas.

Through this work (see Section 3 for additional details), we were able to increase our knowledge about Anguilla's marine biodiversity and particularly the diversity, distribution, and socio-economic value of elasmobranchs. This project therefore contributed to:

- The National Biodiversity Strategy and Action Plan, which calls for the gathering of data on "activities that have significant adverse impact on the conservation and sustainable use of biodiversity."

- The National Environmental Management Strategy, which calls for the "meaningful participation of civil society in decision making" and promoting environmental awareness and understanding.

- The Biodiversity and Heritage Conservation Act and Anguilla Fisheries Development Plan, by collecting critical data to inform the development and implementation of evidence-based actions for both threatened and exploited shark species.

- The UN Sustainable Development Goals (Goal 17), by strengthening partnerships through collaborative initiatives amongst national stakeholders (FMRU-DNaR, ANT), international non-governmental agencies (MCS, Caribbean Shark Coalition), and academia (UoE, Imperial College of London).

- The Aichi Targets, by raising awareness of the value of biodiversity (Target 1), taking into account traditional/local knowledge (Target 18), and using science and technology to better understand, develop, and implement conservation interventions (Target 19).

- The Food and Agriculture Organisation's International Plan of Action for the Conservation and Management of Sharks, by conducting assessments of shark stocks, identifying and assessing threats to shark populations, and involving stakeholders in research and education initiatives.

Post-project, we expect that this project will continue to contribute to national and international priorities as local agencies pursue and implement the research action plan and lay the groundwork for the development of species conservation action plans.

4.2 Gender Equality and Social Inclusion (GESI)

Please quantify the proportion of women on the Project Board[1].	33%
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women[2].	67%

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	X
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

Day-to-day management of the project was handled by a mixed gender team comprising MCS Project Lead Mr Amdeep Sanghera (previously Dr Peter Richardson), ANT Project Lead Ms Farah Mukhida, Project Coordinator, Dr Louise Soanes, FMRU-DNR Steering Committee Members Mr Najee Gumbs and Mr Vincent Webster, and UoE Project Partner Dr Matthew Witt. Additional members of the project implementation team included Ms Emily Bunce (MCS), Mr Devon Carter (ANT), Ms Kafi Gumbs (FMRU-DNR), Ms Clarissa Lloyd (ANT), Ms Sue Ranger (MCS), Ms Nicola Saville (MCS) and Ms Sophia Pinheiro Vergara (MCS).

Over the course of the project, the project team directly engaged with 104 individuals (30% female, 74% male) through surveys, interviews, and training. For the CVM surveys, we tried to achieve a gender balance in those interviewed, even though fishers were particularly targeted for interviews, and this is a sector that is predominantly represented by males. None the less, we managed to include 13 females and 20 males in our CVM survey data collection. Regarding the CVM film screening workshops, we deliberately scheduled them at times and at locations to be

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[1] A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

[2] Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

flexible enough to attract a diverse audience. Meeting structures, language and facilitation styles, as well as group composition appropriate for gender-representative and social inclusive participating (e.g., break-out groups) were also devised. This included carrying out workshops at three key community centres across Anguilla, including Island Harbour which has a significant fisher population. Promotion of workshop was carried out digitally through online media promotion and distributing flyers through WhatsApp groups and statuses. A set of "House Rules" were also shared at the beginning of each of the workshops in order to support a sense of respect for all participants while promoting active listening, constructive criticism and solution-focused thinking.

Overall, we believe females were well-represented in this project, as decision makers as well as beneficiaries of the training and learning opportunities. Ethnicity and age were equally well-represented based on Anguilla's population demographics. Post-project, we will continue work towards equal representation (in gender in particular) through the implementation of our stakeholder-informed shark research action plan. Also to note in terms of training of local partner staff and gender representation (see logframe Indicator 4.7 and Table 1), 80% of female ANT staff and 33% of female FMRU-DNR have benefited from project-related training opportunities.

5   Monitoring and evaluation

Following the submission of our Year 1 report and the Reviewers' comments and advice, we requested permission to change our logframe and received permission to do so. Changes requested included:

(a) Changing the project's outcome statement from "*National and regional recovery of Anguilla's apex predators (sharks) through comprehensive conservation policies and actions, strong management competencies and more supportive civil society*" to "*Anguilla's apex predators have a greater chance of recovery through the implementation of comprehensive action plans, strong management competencies and a more supportive civil society*". We essentially removed reference to policy recognising that this could take longer to accomplish than the timeframe of this project.

(b) Changing Output 2 from "*Evidence-based shark SAP [Species Action Plan] and supporting legislative amendment recommendations are produced through a participatory process*" to "*Evidence-based shark research priorities are identified, and implementation plan and schedule developed through a participatory process*". This again, removed reference to potential legislative change and allowed for a more realistic target.

In terms of monitoring and evaluation of project implementation, progress and success, MCS had overall management responsibility of the M&E process, with input provided directly by lead partner agency ANT and more specifically Ms Farah Mukhida (Project Co-Lead) and Dr Louise Soanes (Project Coordinator). Continuous M&E has been undertaken on an at least monthly basis through regular email and WhatsApp correspondences and, more formally, on a quarterly basis through Zoom-based project partner steering committee meetings. These meetings were minuted and shared with all attending (Evidence 13). Both MCS and ANT shared responsibility for keeping records of activities, outputs and the indicators in the project logframe.

The MCS Lead reviewed quarterly financial reports with the ANT Project Co-Lead, with reports delivered to and discussed with the MCS Director of Finance. ANT included project indicators into their quarterly and annual financial and performance reports to the Government of Anguilla. We did not undertake an external review of this project.

6   Lessons learnt

This project was a collaborative initiative amongst Anguilla and UK-based partners. Despite the physical distance and shared responsibilities of project implementation, with local partners and UoE taking the lead on ecological aspects and MCS leading on socio-economic, this project was very much about communication, sharing, and learning from one another. It was also about maximizing time spent together – ensuring that local partners are able to gain as much knowledge as possible and develop their skill sets so that this project could transition into a more long-term

conservation programme, with results and actions feeding into and complementing other important work programmes, including fisheries management and marine parks management.

Over the course of the last three and a half years of the project, we have gained a better appreciation of how real change takes time, especially behavioural and high-level structural change. While local partners have been operating on-the-ground for decades and have a very good sense of the natural and social environment in which they work, through this project we realised that sometimes actions need to be slowed down for the long-term gain, especially if there is the benefit of having extra time to deliver outputs that will have impact and legacy.

Managing Anguilla's shark populations had never really been a point of major discussion within and amongst stakeholders and the local community prior to this project. There would sometimes be a shark-related post on social media or a video that would be circulated on the WhatsApp platform but there was never any sustained conversation or discussion. Through this project, the profile of sharks and rays has undeniably increased: the largest Anguilla-based Facebook page that focuses on the underwater environment, Anguilla Beneath the Blue, often posts images and information about the sharks and rays that they observe with comments ranging from wonder to nervous apprehension. Footage of sharks being caught by fishers have elicited similar responses, but with a far more vocal support for conserving sharks or at least understanding that they are a critical component of the underwater ecosystem. It has been these types of conversations that we supported, and that we wanted to be able to positively contribute to and guide by providing context and information both on the ecological and social aspects of conservation and sustainable use. Our work through this project has allowed us to be in that position. Our newly developed relationship with AOK has also provided us with another partner in our movement to protect and conserve Anguilla's underwater world. As an organisation that is completely separate from politics and with an agenda to promote an appreciation for the marine environment by literally immersing yourself in it, AOK and our diving industry colleagues have become some of our most important allies.

At the same time, while we recognise that there are legal mechanisms in place to pursue full protection of Anguilla's Endangered species, other conservation and management actions may be more appropriate until additional ecological and social data are collected. Furthermore, taking advantage of other work that is approved and in progress (for example, the strengthening of marine parks legislation and the initial expansion of the marine park network to include dive wrecks as being implemented through DPLUS137) can provide potentially just as effective solutions without inciting otherwise unnecessary backlash. Through this project, we have learned that process has been just as important as the end results.

7 Actions taken in response to Annual Report reviews

We received just one comment on our final report: *For the final report please take some care to not only update the logframe, but to submit the means of verification – Darwin reviewers are encouraged to verify reported progress by assessing these annexes of materials and few were submitted with this report weakening the overall view of the project.*

We were surprised by this comment as we had provided a link with all supporting evidence uploaded, but there may have been an issue with the link limiting access to the evidence. We have uploaded all evidence to a cloud-based folder which we hope is more accessible and adequately represents and supports the statements made in our Final Report.

8 Sustainability and Legacy

As outlined in our previous Annual Reports, the initial aim of this project was to achieve a change in legislation to protect shark and ray species in the long-term. Through our work, which focused on the ecological, social, economic and political aspects of species conservation, we realised that a change in legislation may not actually be necessary to effectively conserve and protected shark and ray species at this time. Rather, existing tools (including no-take/replenishment zone marine parks), fisheries management interventions, and building a community of supporters and

advocates for species conservation may be even more effective. We have also realised that while there are some stakeholders that may be firm in their positions and will not waver, there are far more that are responsive to evidence, information and well-framed explanations. Our research action plan, which integrates the questions raised by stakeholders and contextualises shark and ray conservation within climate change as well as community needs and desires provides us with the platform to more effectively collect, analyse and apply data and to engage in thoughtful, respectful, nuanced and evidence-based discussions and conversations.

This project has increased local capacity to implement and pursue the research action plan while also developing and strengthening regional and international networks and relationships which will also help move the plan forward. The Marine Conservation Society and the University of Exeter have a strong track record for securing additional resources for priority work in the Caribbean UKOTs, and are still committed to generating resource to support project partners in Anguilla if the need exists. For example, after the reformed turtle legislation was enacted in the Turks and Caicos Islands (TCI), both UK partners worked with the local partnership to ensure research, outreach and enforcement evaluation studies continued through additional funding. Following the UK Government's Biodiversity Challenge Funds' call for proposals under the Darwin Plus Local funding mechanism, ANT, FMRU-DNR, and UoE submitted a proposal, building on the work, results, and successes of this project and focusing on better understanding the distribution and movements of Anguilla's (and the region's) Caribbean reef sharks through acoustic telemetry. While we are still waiting on the results of that call for proposals, we continue to look for other calls for proposals as well as opportunities to collaborate. This project represents only the beginning of our shark and ray conservation efforts.

9 Darwin Plus Identity

We have included the Darwin logo in all of our public awareness and outreach activities and outputs, including advertisements, posters, presentations, information briefs, project webpages and videos/CVM documentary, and an end-of-project social media film highlighting and summarising project restuls and impact. The Biodiversity Challenge Funds and Darwin Plus are also recognised and tagged in or social media posts.

10 Risk Management

No new risks arose during the last ten months (Year 4) year of the project.

11 Safeguarding
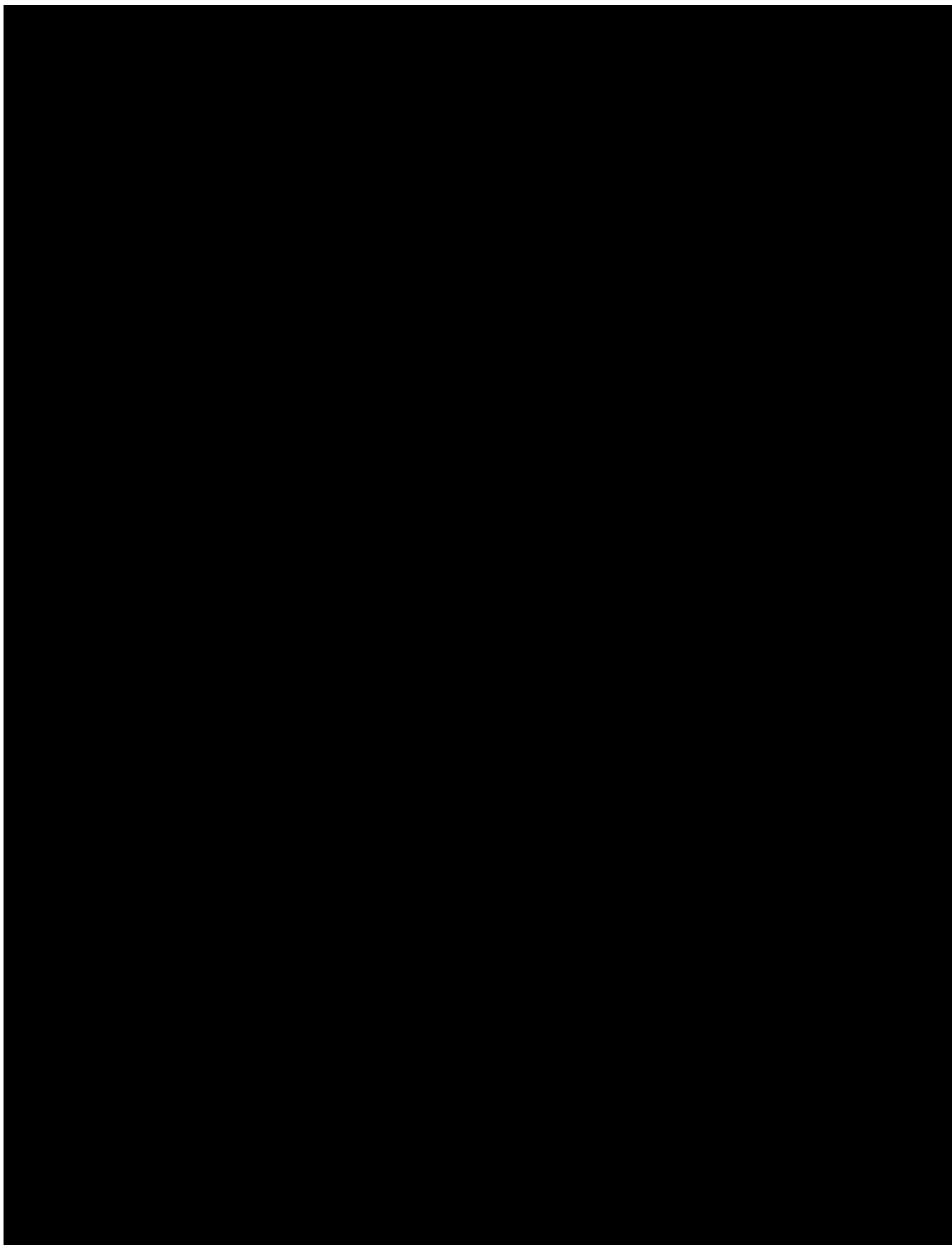
12 Finance and administration

12.1 Project expenditure

Project spend (indicative since last Annual Report	2024/25 Grant (£)	2024/25 Total actual Darwin Plus Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Others				
Audit costs				
TOTAL	44338	49573.70		

We acknowledge that Operating Costs were much lower than anticipated, and this was due to costs items either being more affordable or no longer needed from the when the budget was originally set.

Staff employed (Name and position)	Cost (£)
Amdeep Sanghera Martine Conservation Society	
Matthew Witt University of Exeter	
Louise Soanes ANT	
Devon Carter ANT	
Giovanni Hughes ANT	
Jonas Hochart ANT	
Conservation Officer ANT D Carty/C Connor	
TOTAL	

Consultancy – description and breakdown of costs	Other items – cost (£)
TOTAL	

Capital items – description	Capital items – cost (£)
Buoys for BRUVs	████████
TOTAL	

Other items – description	Other items – cost (£)
Exeter consumables - licences Exchange rate difference between the amount claimed for the ANT invoice in 2021-22 (£87,036.35) and amount eventually paid to AN (£93,190.14)	████████
TOTAL	

12.2 Additional funds or in-kind contributions secured

Matched funding leveraged by the partners to deliver the project	Total (£)
Fishmongers Hall	████████
TOTAL	

Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project	Total (£)
TOTAL	
TOTAL	

12.3 Value for Money

We believe that this project represented excellent value for money. Through this project we initiated Anguilla's very first shark and ray project, reaching hundreds of individuals through surveys, questionnaires, consultations, and one-on-one discussions. This work raised questions and sparked important conversations about what we value, how we decide what we value, the role of science and evidence in management and decision making, and how science and culture intersect. We established ecological and socioeconomic baselines to support management and future research and were able to build on the successes of another Biodiversity Challenge Funds (DPLUS137) which has transformed Anguilla's marine parks into no-take/replenishment zones

as well as the designation of underwater wrecks as marine parks: this has in turn created safe spaces for Anguilla's sharks and rays. We also leveraged this work to secure additional funds from the The Fishermongers' Company to better understand the extent and value of Anguilla's shark and ray fishery to the larger fishery sector. While also building on existing partnerships established through the UK Blue Belt Initiative and the University of Exeter through which we have been able to use state-of-the-art equipment to undertake our underwater research. We also established new relationships with the regional Caribbean Shark Coaltion and the Canada-based Ocean Tracking Network which will undoubtedly support our efforts to implement our shark and ray research action plan. Furthermore, we've trained two dozen Anguillian residents in ecological and socioeconomic monitoring, with that knowledge and capacity remaining in Anguilla.

All equipment purchased through this project, including GoPros and SSDs for our BRUVS has remained on-island with national lead and implementing partners.

13 Other comments on progress not covered elsewhere

No other comments

14 OPTIONAL: Outstanding achievements of your project (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

We will plan to create a short social media video to share the findings and successes of this project. We will look to launch this on July 14 - Shark & Ray Awareness Day - and tag the BCF social media accounts so they can be highlighted and amplify the posts if they feel it is appropriate to do so.

File Type (Image / Video / Graphic)	File Name or File Location	Caption, country and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
				Yes / No
				Yes / No
				Yes / No
				Yes / No
				Yes / No

Annex 1   Report of progress and achievements against logframe for the life of the project

Project summary	Progress and achievements
Impact Enhanced health and resilience of Anguilla's marine ecosystems established through science, stakeholder engagement and action – exemplary conservation highlighted as a model for marine management by other islands in the region.	The ecological and social data that we have collected have significantly increased our understanding of the diversity, abundance and distribution of sharks in Anguilla's waters – this is an essential step in the process of conservation action planning and policy recommendations.
Outcome National and regional recovery of Anguilla's apex predators (sharks) through comprehensive conservation policies and actions, strong management competencies and more supportive civil society.	████████████████████████████████████
Outcome indicator 0.1 Shark and ray research action plan created and a implementation schedule devised by project partners following consultation with the local community and wider scientific networks	Research Action Plan developed and finalised, approved by local implementing agencies (see Section 3.1, Evidence 4)
Outcome indicator 0.2 Workplans and budgets of responsible national agency and supporting partners demonstrate intention to continue implementing action plans beyond the life of this project	Annual project partner workplans reflected the implementation schedule for this project. A project proposal was submitted under the Darwin Plus Local call for proposals in late 2024 to support shark conservation interventions in Anguilla (submitted by the ANT, in partnership with UoE and FMRU-DNR). MCS continues to work with FMRU to enhance FMRU-fisher relationships, with this work continuing post-project (see Section 3.1, Evidence 5)
Outcome 0.3 Vulnerable and endangered shark species are protected in Anguilla's waters by law	List of vulnerable and endangered species submitted to the Ministry of Environment, to formally enable the development of species conservation action plans under the Biodiversity and Heritage Conservation Act.
Output 1. Development of first ecological and social science baselines regarding sharks in Anguilla	
Output indicator 1.1 1 Baseline Local Ecological Knowledge (LEK) surveys and threat assessment of Anguilla's shark populations collected from at least 50 fishers and community members, ensuring gender balance, by end of Q3Y1.	Completed in Year 1, with 52 fishers and community members interviewed and results of surveys outlined in a report See Section 3.1, Evidence 7
Output indicator 1.2 1.2 Baseline scientific data regarding shark species presence, movements, and behaviour gathered from (i) >280 video datasets from deployment of BRUVs at 16 nearshore locations, and 8 locations around 3 offshore cays; (ii) video datasets from 8 deployments of IR-enabled underwater cameras; (iii) fish	282 video datasets collected from benthic (173), mid-water offshore (100), and deepwater BRUVS (9) between Years 1 and 4. 28 citizen science reports of shark and ray sightings over the project period

catch landing data collected from the 3 main fishing villages (Sandy Ground, Island Harbour and Cove); and (iv) citizen science sighting/photograph data submitted by all 3 of Anguilla's dive operators throughout Y1 and Y2.	See Section 3.1, Evidence 2 and Evidence 6
Output indicator 1.3 Stakeholder attitudes towards and perceptions about sharks and their conservation identified through the application of a gender-balanced CVM process (at least 30 filmed interviews, film/documentary output, at least three CVM follow-up workshops involving at least 60 participants) in Q4Y1 & Q1Y2	31 CVM interviews conducted in Year 2 to support the development of the CVM document. 3 CVM follow-up workshops held in June 2023, attended by 54 individuals See Section 3.1, Evidence 3
Output 2. Evidence-based shark research action plan produced though a participatory process	
Output indicator 2.1. Research Action Plan for Anguilla's sharks (informed by Output 1 – LEK surveys, ecological data, and CVM results) developed through a participatory research action planning workshop attended by at least 15 participants, and shared with all stakeholders in Q1Y3	Research Action Plan developed, with input received from 54 stakeholders, followed by project partner workshop to fine-tune the plan See Section 3.1, Evidence 4
Output indicator 2.2 The research objectives detailed in the research action plan are approved by the Ministry of Natural Resources	Research objectives prioritised and approved by local project partners (FMRU-DNR, ANT), with a Darwin Plus Local project proposal submitted for consideration (focus on assessing Caribbean reef shark distribution and movements and the identification of Important Shark and Ray Areas) See Section 3.1, Evidence 4, Evidence 5
Output 3. At least two priority interventions prescribed by the shark Species Action Plan are implemented and monitored.	
Output indicator 3.1 At least 50% of Anguilla's inshore, offshore and sports fishers (approx. 75 people) are aware of shark by-catch reduction methods and humane release methods, achieved through at least 1 locally held workshop attended by 30 people in addition to public outreach by the end of the project.	One by-catch reduction workshop held in April 2024, attended by 10 fishers. Additional outreach conducted by FMRU-DNR staff through one-on-one meetings and discussions related to shark by-catch reduction. SharkGuards secured for pilot study with one of Anguilla's longline fishers See Section 3.1
Output indicator 3.2 A shark sanctuary marine protected area proposal developed, that identifies at least two potential MPA sites for consideration which are important for foraging and/or breeding sharks identified within territorial/cross-territorial waters by the end of the project.	Maps of shark distribution, overlaid on nearshore habitat maps and existing MP and underwater wreck maps, identifying shark and ray hotspots See Section 3.1, Evidence 2
Output 4. Enhanced national capacity to plan, manage, implement and monitor shark conservation action, supported by improved technical skills and greater public awareness and cooperation.	

Output indicator 4.1 Project steering committee established with partners, Anguilla Fisherfolk Association and other key stakeholders in Q2Y1, and to meet every quarter thereafter.	Quarterly Project Steering Committee meetings held amongst project partners See Section 3.1 and Section 3.3, Evidence 13
Output indicator 4.2 Communications and public awareness plan finalised by Q4Y1, factoring in findings from LEK surveys and CVM.	Public awareness strategy drafted in Year 1 and implemented throughout the project period See Section 3.1, Evidence 1, Evidence 8
Output indicator 4.3 Creation of digital posts for project-partner social media accounts in Q2Y1, producing at least 1 post per month for duration of project.	Ten digital posts on Facebook, eight digital posts on Instagram See Section 3.1, Evidence 8
Output indicator 4.4 Knowledge-Attitudes-Performance (KAP) surveys carried out with at least 50 community members (ensuring gender balance) at start and end of project, to evaluate change in opinions towards sharks and their conservation.	Completed in Year 1, with 164 individuals completing survey and results of surveys outlined in a report See Section 3.1, Evidence 7
Output indicator 4.5 Project communications demonstrate at least 70% of Anguilla nationals (c.8,500 people) are sensitised to the project and the need for shark conservation intervention (by end of project).	Project has reached at least 7040 individuals through social media alone See Section 3.1, Evidence 8
Output indicator 4.6 At least 20 local stakeholders assist with continuation of citizen science programme to support SAP monitoring efforts by the end of the project	8 individuals contributed 28 shark and ray sightings throughout the project period See Section 3.1, Evidence 6
Output indicator 4.7 At least 15 stakeholders gain technical skills, experience and assist with advanced data collection via two separate workshops (BRUVs deployment, CVM) by the end of the project.	Over the project period, 23 project staff and volunteers trained in BRUV deployment (19 male, 4 female), 8 project staff trained BRUV analysis (5 male, 3 female), 7 project staff trained in CVM protocols (3 male, 4 female) and 2 local staff trained in shark satellite tag deployment (2 male); total number of individuals trained: 24 (19 male, 5 female) See Section 3.1, Evidence 11

Annex 2 Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Enhanced health and resilience of Anguilla's marine ecosystems established through science, stakeholder engagement and action – exemplary conservation highlighted as a model for marine management by other islands in the region. (Max 30 words)			
Outcome: *Anguilla's apex predators have a greater chance of recovery through the implementation of comprehensive action plans, strong management competencies and a more supportive civil society* (Max 30 words)	0. Shark and ray research action plan created and a implementation schedule devised by project partners following consultation with the local community and wider scientific networks 0.2 Workplans and budgets of responsible national agency and supporting partners demonstrate intention to continue implementing action plans beyond the life of this project 0.3 Vulnerable and endangered shark species are protected in Anguilla's waters by law	0.1 Shark and ray research action plan produced and shared with project stakeholders and the Ministry of Natural Resources 0.2 Institutional work plans and budgets 0.3 Government of Anguilla Executive Council minutes; legislative amendment document	National and regional stakeholders continue to be willing to cooperate on proposed shark conservation initiatives. The work is not significantly impacted by further covid-19 restrictions.
Outputs: 1. Development of first ecological and social science baselines regarding sharks in Anguilla	1.1 Baseline Local Ecological Knowledge (LEK) surveys and threat assessment of Anguilla's shark populations collected from at least 50 fishers and community members, ensuring gender balance, by end of Q3Y1. 1.2 Baseline scientific data regarding shark species presence, movements, and behaviour gathered from (i) >280 video datasets from deployment of BRUVs at 16 nearshore locations, and 8 locations around 3 offshore cays; (ii)	1.1 Notes and reports of stakeholder interviews; signed informed consent forms; threat analysis. 1.2 Video records from BRUVs; fish catch data report; species database; including shark identification	Major field activities can be rescheduled if extreme weather events affect Anguilla during the project period. National stakeholders, including fishers and community members, are willing to participate with project activities including the LEK surveys and CVM. BRUV equipment perform as stated and do not suffer from equipment failure / loss.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	video datasets from 8 deployments of IR-enabled underwater cameras; (iii) fish catch landing data collected from the 3 main fishing villages (Sandy Ground, Island Harbour and Cove); and (iv) citizen science sighting/photograph data submitted by all 3 of Anguilla's dive operators throughout Y1 and Y2.

1.3 Stakeholder attitudes towards and perceptions about sharks and their conservation identified through the application of a gender-balanced CVM process (at least 30 filmed interviews, film/documentary output, at least three CVM follow-up workshops involving at least 60 participants) in Q1Y2 & Q1Y3

1.4 At least one manuscript submitted for publication, and at least one presentation at an international conference by the end of the project. | photographs (from BRUVs and divers); habitat and species maps.

1.3 Stakeholder interview notes; stakeholder video footage; qualitative database; analysis document; CVM film; CVM stakeholder screening sign-in sheets; CVM screening notes; CVM follow-up workshop presentations; CVM stakeholder workshop minutes.

1.4 Finalised manuscript; PowerPoint presentation; social media posts; conference proceedings. | Fishers allow their shark landings to be sampled.

The ecological and social science fieldwork is not significantly delayed by further Covid-19 restrictions.

Concerning Covid, stakeholders are comfortable in participating in CVM process facilitated by local/international fieldwork team and it is permissible to arrange Covid-secure screenings / workshops to facilitate CVM stakeholder engagement.

Data will be collected, properly managed and robustly analysed for peer reviewed publication. |
| 2

Evidence-based shark research action plan produced though a participatory process | 2.1 Research Action Plan for Anguilla's sharks (informed by Output 1 – LEK surveys, ecological data, and CVM results) developed through a participatory research action planning workshop attended by at least 15 participants, and shared with all stakeholders in Q1Y3.

2.2 The research objectives detailed in the research action plan are approved by the Ministry of Natural Resources | 2.1 Workshop agenda and sign-in sheets; PowerPoint presentations; shark Species Research Action Plan, (informed by LEK and scientific data).

2.2 | National and regional stakeholders continue to be willing to cooperate on habitat and species conservation initiatives, specifically participating in the participatory research action planning workshop.

Government continues to support collection of scientific data to inform the effective management of Anguilla's threatened and endangered shark species. |

Project summary	Measurable Indicators	Means of verification	Important Assumptions
3. At least two priority interventions prescribed by the shark Species Action Plan are implemented and monitored.	3.1 At least 50% of Anguilla's inshore, offshore and sports fishers (approx. 75 people) are aware of shark by-catch reduction methods and humane release methods, achieved through at least 1 locally held workshop attended by 30 people in addition to public outreach by the end of the project 3.2 A shark sanctuary marine protected area proposal developed, that identifies at least two potential MPA sites for consideration which are important for foraging and/or breeding sharks identified within territorial/cross-territorial waters by the end of the project.	3.1 Licensed fisher databases (via FMRU-DNR), workshop attendance lists, workshop evaluation forms and report, outreach material. 3.2 Spatial data layers; shark distribution maps; shark sanctuary marine protected area proposal.	Inshore, offshore and sports fishers are willing to attend shark by-catch reduction workshops. Sites for consideration as shark sanctuary marine protected areas are identified through robust biological evidence and fair stakeholder deliberation via CVM process.
4. Enhanced national capacity to plan, manage, implement and monitor shark conservation action, supported by improved technical skills and greater public awareness and cooperation.	4.1 Project steering committee established with partners, Anguilla Fisherfolk Association and other key stakeholders in Q2Y1, and to meet every quarter thereafter. 4.2 Communications and public awareness plan finalised by Q4Y1, factoring in findings from LEK surveys and CVM. 4.3 Creation of digital posts for project-partner social media accounts in Q2Y1, producing at least 1 post per month for duration of project. 4.4 Knowledge-Attitudes-Performance (KAP) surveys carried out with at least 50 community members (ensuring	4.1 Written confirmation from steering committee members; Terms of Reference; minutes of first committee meeting. 4.2 Partner-endorsed communications and public awareness plan. 4.3 Online record of posts on partner organisations' channels, as well as public response. 4.4 KAP report 4.5 Newspaper articles; CVM documentary; social media posts; radio press releases; PowerPoint presentations; sharks exhibit at Anguilla Endangered Species Festival; posters	Key stakeholders are willing to join and participate in Project steering committee People are willing to engage in KAP surveys at the start and end of the project. Trained expertise remains in Anguilla. Increased national capacity/knowledge and active engagement leads to improved species conservation. The work including training workshops and KAP surveys are able to be carried out in a Covid-secure manner, respecting national measures.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	gender balance) at start and end of project, to evaluate change in opinions towards sharks and their conservation. 4.5 Project communications demonstrate at least 70% of Anguilla nationals (c.8,500 people) are sensitised to the project and the need for shark conservation intervention (by end of project). 4.6 At least 20 local stakeholders assist with continuation of citizen science programme to support SAP monitoring efforts by the end of the project 4.7 At least 15 stakeholders gain technical skills, experience and assist with advanced data collection via two separate workshops (BRUVs deployment, CVM) by the end of the project. 4.8 Project methods and lessons learned disseminated to relevant natural resource managers within Anguilla, Caribbean UKOTs and other sub-regional islands by the end of the project.	and presentations for schools; social media analytics. 4.6 Names and details of participating residents; photos; shark monitoring and tracking datasheets and database (including names of volunteers). 4.7 Training workshop agendas; workshop attendance sheets; workshop materials; CVM best practice guide; shark monitoring and tracking datasheets and database; workshop evaluation forms. 4.8 Case studies; presentation abstracts; PowerPoint presentations; peer-reviewed paper.	

Activities (each activity is numbered according to the Output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1. Development of first ecological and social science baselines regarding sharks in Anguilla

1.1 Implement at least 3 stakeholder engagement meetings in key fishing centres of Anguilla (Sandy Ground, Island Harbour and Cove), introducing project need, aims and participatory engagement to key stakeholders
1.1.1 Identify and approach key stakeholders for activity 1.3
1.2 Develop baseline LEK survey
1.2.1 Pilot baseline LEK survey with community members to ensure locally appropriate.

Project summary	Measurable Indicators	Means of verification	Important Assumptions

1.3 Complete baseline LEK surveys with at least 50 Anguillian fishers/community members to record knowledge and understanding of shark ecology (including species presence/absence, species-specific spatial/temporal distributions, key habitats, and fish catch).
1.4 Complete detailed analysis of LEK surveys, including historical, current, and future threats against sharks.
1.5 FMRU–DNR staff members trained in fish catch landing protocol to monitor landed sharks through bespoke workshop and in-situ.
1.5.1 Commence fish catch landing data collection at 3 main fishing villages (Sandy Ground, Island Harbour and Cove).
1.6 Finalise methodology for shark citizen-science programme, and initiate with Anguillan dive operators.
1.7 Complete literature review of shark-related scientific studies from within the Caribbean Basin and particularly within the Caribbean sub-region.
1.8 Develop and formalise BRUVs protocol for baseline data collection.
1.9 Collect baseline scientific data of shark species through the deployment of BRUVs at at least 24 sites within Anguilla's waters over two years.
1.10 Analyse BRUVs footage to determine shark presence and diversity.
1.11 Use BRUVs data to inform the placement of IR-enabled long-term video cameras (8 deployments).
1.12 Analyse the IR-enabled camera data to determine shark presence, diversity and use shark measurements to understand population composition (percentage of adults and juveniles in the population).
1.13 Develop interview questionnaire and interviewee list for CVM filmed interviews (aided by Activity 1.3).
1.14 Carry out at least 30 CVM filmed interviews ensuring gender balance.
1.15 Transcribe and analyse filmed interview data, write analysis summary report, and produce CVM film output.
1.16 Hold at least three CVM film screenings and stakeholder workshops to present and discuss biological and social science findings from Output 1 and, using a participatory process, identify conservation action priorities for Anguilla's sharks.
1.17 Finalise draft shark SAP in preparation for consultation at participatory action planning workshop (Activity 2.2) (aided by Activities 1.4, 1.10, 1.12, 1.15, 1.16).
1.18 Write draft manuscript for submission and peer-review.
1.19 Present project results at one international conference.

2. Evidence-based shark SAP and supporting legislative amendment recommendations are produced through a participatory process
2.1 Complete literature review of national policies, legislation, and regulations for sharks.
2.2 Plan and implement participatory action planning workshop to develop Anguilla Shark SAP.
2.3 Write up, peer-review, and publish evidence-based Anguilla Shark SAP.
2.4 Draft policy brief on status of Anguilla's sharks, requesting inclusion of relevant species on Schedule 1 of the Biodiversity and Heritage Conservation Act (Threatened and Endangered Species of Anguilla).

3. At least two priority interventions prescribed by the action plan are implemented and monitored
3.1 Hold a workshop to train local fishers on shark-bycatch reduction methods (e.g. appropriate types of fishing gear, humane release)
3.2 Identify areas that are important for foraging and/or breeding sharks within Anguilla's territorial and/or cross-territorial waters to help inform marine spatial planning and the designation of marine protected areas (using results of Output 1).
3.3 Draft proposal outlining potential sites for shark sanctuary marine protected area.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
4. Enhanced national capacity to plan, manage, implement and monitor shark conservation action, supported by improved technical skills and greater public awareness and cooperation 4.1 Implement first project steering committee meeting, 4.1.1 Partners sign-off Terms of Reference. 4.2. ANT staff and other participating national partners complete self-assessment competencies questionnaire to identify training needs (repeated at project end to measure impact on capacity). 4.3 Develop and finalise draft communications and public awareness plan for project, guided by the findings of LEK and CVM. 4.3.1 Create and disseminate communication, outreach and advocacy outputs including newspaper articles, press releases, blogs, docuseries, and social media posts throughout project life-cycle. 4.4 Implement Knowledge-Attitudes-Performance (KAP) surveys with at least 50 community members in parallel with Activity 1.3 (ensuring gender balance and repeated at project end to evaluate project impact). 4.5 Plan and undertake training and on-the-job mentoring of ANT staff and other nationals in applied conservation management. 4.5.1 Design and implement two separate workshops focusing on CVM and BRUVs (monitoring and data analysis, acoustic monitoring, data/statistical analysis, Advanced Open Water Diving). 4.6 Implement training with stakeholders to support continuation of citizen science programme to support SAP monitoring efforts (see Activity 1.6). 4.7 Publicise and report on project progress, results, and lessons learned through national and international media and directly to national groups, cross-territory stakeholders, international scientific community, and the Government of Anguilla Executive Council. Other project management activities: X.1 Establish Project Steering Committee and meet every quarter (remote members to participate by Zoom). X.2 Project inception meeting X.3 Project biannual reports/donor technical and financial reports X.4 Monthly financial accounts X.5 End of project audit			

Table 1   Project Standard Indicators

DPLUS Indicator number	Name of indicator	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DPLUS-A01	Number of people from key national and local stakeholders completing structured and relevant training	People	Men / Women	8 / 3 (BRUVS deploy-ment) 5 / 3 (BRUV analysis)	4 / 1 (BRUVS deploy-ment) 3 / 4 (CVM methodo logy)	5 / 1 (mid-water BRUVS deploy-ment)	14 / 5	15
DPLUS-A03	Number of local or national organisations with enhanced capability and capacity	People	Number of organisations	2	2	2	2	2
DPLUS-B02	Number of new or improved species (research) plans available and endorsed	Number	Type			1 Research Action Plan	1	1
DPLUS-C06	Analytics for funded project-specific social media (Facebook) posts	Number	Reach	232		4785 (min, but up to 16631)	5017 min (but up to 16863)	7000

Table 2   Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Shark and ray populations of Anguilla, BWI	Journal	Soanes et al. (in prep.)	Female	UK	Oryx	In preparation

Annex 5 Supplementary material (optional but encouraged as evidence of project achievement)

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Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	x
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line. All supporting material should be submitted in a way that can be accessed and downloaded as one complete package.	
If you are submitting photos for publicity purposes, **do these meet the outlined requirements (see section 14)?**	x
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	x
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	