

Darwin Initiative Main: Annual Report

To be completed with reference to the “Project Reporting Information Note”:

(<https://www.darwininitiative.org.uk/resources/information-notes/>)

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

Submission Deadline: 30th April 2024

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Darwin Initiative Project Information

Project reference	DIR29S2\1038
Project title	Establishing incentive-based mechanisms for biodiversity and well-being in small- scale fisheries
Country/ies	Indonesia
Lead Partner	University of Oxford
Project partner(s)	IPB University Yayasan Impak Laut Biru Yayasan Teman Laut Indonesia, Yayasan Konservasi dan Penelitian Pari Mobula
Darwin Initiative grant value	GBP 599,134
Start/end dates of project	Apr 2023 – Mar 2026
Reporting period (e.g. Apr 2023 – Mar 2024) and number (e.g. Annual Report 1, 2, 3)	Apr 2023 – Mar 2024 Annual Report 1
Project Leader name	Hollie Booth
Project website/blog/social media	https://mcem.web.ox.ac.uk/incentive-based-marine-conservation
Report author(s) and date	Hollie Booth, 3 May 2024

1. Project summary

Large, long-lived marine animals (‘marine megafauna’)—such as sharks and rays—are amongst the world’s most threatened taxa, primarily due to overfishing. This threat is exacerbated by poverty in small-scale fisheries (SSFs). SSFs are ubiquitous throughout tropical coastal waters, and a significant source of marine megafauna mortality. However, SSFs in the most biodiverse ocean regions—such as Indonesia—are also characterised by high household reliance on fisheries, where all catches have economic or subsistence value. Therefore, efforts to conserve marine megafauna in SSFs create direct trade-offs between conservation and human well-being, with coastal communities often burdened with an inequitable share of the costs of conservation (Booth, Squires, et al., 2021). In parallel, wealthier, and more powerful ocean stakeholders (e.g., tourism industry, commercial fisheries) may benefit from marine megafauna and/or cause harm (e.g., bycatch, over-tourism), yet rarely contribute towards meeting the costs of conservation. This calls for socially-just marine conservation mechanisms, which can redistribute these costs and benefits and deliver positive outcomes for threatened and CITES-listed taxa, whilst ensuring local people are no worse off.

Applied research, practical experiences, stakeholder consultation and existing pilot projects conducted by the proposed project team—including with fishers, government, and businesses—indicate that social and economic rewards, financial compensation and/or alternatives represent workable solutions to these trade-offs, which could support marine conservation and social justice (Booth 2022; Booth, Ramdhan, et al., 2023). However, they remain under-explored and under-utilised in fisheries.

Our project fills this gap by investigating the underlying attitudes, behaviours, norms and incentive structures relating to megafauna catch in a range of SSFs; and using this information to design and test a portfolio of locally-appropriate incentive-based interventions. We will evaluate the biodiversity and human well-being outcomes of interventions across the portfolio of projects and establish sustainable revenue streams (e.g., from dive industry and commercial fisheries), then consolidate learning across projects to provide a framework and guidelines for scaling to other SSFs and regions. Finally, we will work closely with local universities and grassroots NGOs to build human and institutional capacity for ethical and evidence-based marine conservation and interdisciplinary applied research.

2. Project stakeholders/partners

There has been strong support and engagement between all formal project partners and key stakeholders during the first year of the project. The project was already founded on demand stemming from Indonesia, including for:

1. Capacity building and international collaboration for a social-ecological systems approach to marine conservation and research (this demand stemmed from IPB University and our local partner NGOs).
2. Trialling incentive-based approaches to marine conservation (this demand stemmed from project communities, based on pre-project research, and interest from local and national governments on evidence and case studies).

Academics and students at IPB University and early career researchers at our partner NGOs are actively involved in identifying the seminar and trainings topics that are most relevant for them, with monthly project coordination meetings between all partners to share lessons learned and plan next steps.

All project interventions within coastal communities are founded on participatory research and collective decision-making, with all communities and partners involved in planning activities that affect them and participating in monitoring and evaluation. For example, all project planning is based on the results of household surveys and focus group discussions (FGDs) to understand the perspectives and preferences of fisher households, and before any decisions are made the results of the research and proposed next steps are communicated to the target communities to allow for feedback and consensus, and secure free prior and informed consent (FPIC). As such, FGDs and community consultation workshops have been conducted in five target communities during the past year. Our greatest achievement in this regard is high participation of fishers in our pilot pay-to-release scheme, with 904 Critically Endangered sharks safely released, and positive perceptions of the incentive-based approach amongst target fisher households, with 100% of participants reporting positive attitudes towards the project and our approach.

Outside of the official project partners we have also collaborated closely with local and national governments (e.g., the Ministry of Marine Affairs and Fisheries (MMAF), the governor of Aceh Jaya, the National Park agency of Karimunjawa National Park), other local and international NGOs (e.g., Rekam Foundation, the Wildlife Conservation Society), and other national and international research institutions (e.g., James Cook University, Syiah Kuala University, the UK Centre for Environment, Fisheries and Aquaculture Science).

3. Project progress

3.1 Progress in carrying out project activities

During April – March 2024, the following progress has been made in carrying out project activities:

Under **Output 1** (*understand and design*) we have recruited and trained four PhD students at IPB University (1.1). Together with the students and local NGO partners, we have drafted research instruments (1.2), and conducted scoping research and piloted survey instruments across a total of 10 sites (Karimunjava, Banda, Aceh Barat Daya, Muncar, Lunyuk, East Lombok, Aceh Jaya, Alor, Sumba, Rembang), collectively covering 38 villages to-date. We have conducted detailed social surveys structured around the Theory of Planned Behaviour (TPB), to collect data on behaviours, norms, subjective wellbeing, and incentives; and regular landing site monitoring, to collect data on (by)catch of endangered species in 8 sites (1.4). These data have enabled us to establish pre-intervention baselines, understand the different fishery contexts and develop initial recommendations for designing locally-appropriate incentive-based interventions (1.5, 1.6). See evidence for [Output 1](#).

Under **Output 2** (*implement*) we have drafted initial recommendations for new incentive schemes for three sites (Banda, Aceh Barat Daya, Karimunjava, Muncar) (2.1), with recommendations still in development for other sites. This builds on a baseline of existing intervention plans for three sites (Aceh Jaya, East Lombok, Alor, which collectively cover seven villages). We conducted workshops with fishers in Karimunjava, Muncar, Alor, Aceh Jaya, and East Lombok to share results from Output 1, and where relevant conducted consultations regarding proposed incentive schemes and obtained FPIC (2.2). We have finalised/continued to implement incentive schemes in Aceh Jaya, East Lombok, and Alor Archipelago (where intervention plans were developed prior to the project), so far reaching 183 households (2.3), with regular distribution of incentives based on clear evidence of (by)catch mitigation (2.4). Incentive schemes will be implemented in additional sites in Year 2. See evidence for [Output 2](#).

Under **Output 3** (*evaluate*) we conduct social surveys and landings site surveys to establish baselines for fisher behaviour, megafauna (by)catch and fisher wellbeing in eight sites (based on existing data, or data collected under Output 1) (3.1). In two sites (East Lombok and Aceh Jaya) we established mechanisms for causal inference and attribution by implementing a randomized control trial (RCT) of a pay-to-release scheme (3.2). We monitored fisher behaviour, megafauna (by)catch and fisher wellbeing throughout the interventions—for treatment and control fishers—using daily landing site surveys and periodic TPB and wellbeing surveys, respectively. We also distributed waterproof cameras for fishers to record and report live releases; and kept records of payments to monitor direct project costs (3.3, 3.4, 3.5). We conducted post-intervention interviews with fishers and female heads of households after 12-months of the pay-to-release trial to understand narratives and perspectives (3.6), and we have combined qualitative and quantitative data into a robust impact assessment (3.7), which has been written up into a manuscript and submitted for publication in *Science* (3.8). The manuscript is currently under review. We also used the results and lessons learned from the impact assessment to modify the pay-to-intervention, and are continuing to implement the pay-to-release scheme as an RCT. In one site (Alor) we used a theory-based and statistical approach to assess the impact of the on-going livelihood-based intervention, which has been written up into a manuscript and submitted for publication in *Oryx* (3.8). See evidence for [Output 3](#).

Under **Output 4** (*scale and legacy*) we recruited, trained, and mentored four PhD students at IPB University (4.1), and have provided structured training and on-going mentoring for the PhD students and local NGO project leaders (4.2) including hybrid and in-person seminars and workshops on socio-economic research methods and research and conservation ethics, project management and fundraising, impact assessment, and conventional and electronic tagging of sharks and rays. We have conducted a total of six community engagement and consultation workshops in Aceh Jaya, Karimunjava, Muncar, East Lombok and Alor to communicate results

from year 1 and provide training in key topics including: 1) National and local regulatory context for marine megafauna; 2) Safe handling, live release and tagging (which included development of best practice guides for fishers and trainers); 3) Financial literacy; 4) Bycatch mitigation, which collectively reached 264 people. In addition, we have conducted two workshops with local government agencies in Aceh Jaya and Karimunjawa (4.3). We have begun preliminary conversations with two dive shops and one potential corporate partner to develop long-term sustainable financing (4.4) and prepared one site-based and one generic policy briefing, which have been distributed to MMAF and the local government in Aceh Jaya (4.5). We have begun planning an exchange visit for the four IPB PhD student to visit Oxford, which will take place in June 2024, and will include a range of training and network opportunities (4.6). Project findings and lessons learned have been presented at six international conferences and events, including a seminar at Bangor University (April 2023), a talk for the IUCN Shark Specialist Group on understanding local drivers of shark exploitation to design effective interventions (May 2023), the International Congress for Conservation Biology in Rwanda (July 2023), a webinar on valuing marine wildlife in small-scale fisheries facilitated by the Wildlife Conservation Society (WCS) (September 2023), a WorldFish workshop for the incentive-based coastal fisheries management work package under the FCDO-funded Asia-Africa BlueTech superhighway project (October 2023) and an international shark experts meeting facilitated by WCS in Belize (February 2024) (4.7). One socio-ecological systems research 'bootcamp' seminar was also conducted at the IPB marine and coastal research department in December 2023 (4.8). See evidence for [Output 4](#).

3.2 Progress towards project Outputs

Under **Output 1** (*understand and design*) research outputs estimating how incentives could change fisher behaviour and impact biodiversity and human wellbeing have been developed across a total of eight sites covering 515 households across 38 villages (Indicator 1.1; see [evidence for output 1](#)). Based on this research, preliminary behaviour/behaviour change research outputs and initial recommendations on interventions have been prepared for three new sites (Karimunjawa, Banda, Aceh Barat Daya), which builds on existing data in three sites (East Lombok, Aceh Jaya, Alor), with recommendations now developed for six sites in total and further research on-going to inform recommendations across all sites (Indicator 1.2; see [evidence for output 1](#)). One open access paper, based on research conducted in Karimunjawa, has been published in *Marine and Freshwater Research*. A further paper has been conditionally accepted (with minor revisions) in *Oryx*, based on research conducted in Alor. Two further papers using these research outputs are in review in *Conservation Science and Practice* (based on research from Karimunjawa) and *Science* (based on research from East Lombok and Aceh Jaya) (Indicator 1.3; see [evidence for output 1](#)).

Under **Output 2** (*implement*) full intervention plans were developed (prior to the BCF funding) in East Lombok (two villages), Aceh Jaya (three villages) and Alor Archipelago (two villages) (Indicator 2.1, [evidence for output 2](#)); and incentive-based interventions were implemented across these communities during March 2023 – April 2024, with a total of 96 households participating to date (Indicator 2.2; see [evidence for output 2](#)).

In East Lombok and Aceh Jaya, we are implementing pay-to-release schemes in five villages, where fishers are offered monetary compensation for releasing Critically Endangered hammerheads and wedgefish that become entangled in their nets and lines (N.B. planning and an initial pilot started in 2022 before the BCF funding, BCF has allowed continued implementation and evaluation of these schemes). The compensatory payments are conditional on fishers submitting video proof of live releases, and so far the interventions have reached a total of 87 households. After 12 months of implementation, we conducted workshops with participating fishers and other key stakeholders (e.g., local government) to obtain feedback on the results and agree on next steps (in June 2023 for East Lombok and August 2023 for Aceh Jaya). During the workshops, we obtained FPIC to modify and continue the incentive-based interventions in both communities. To date, 904 Critically Endangered hammerhead sharks and wedgefish have been safely released through our interventions in East Lombok and Aceh Jaya, with >IDR 90 million disbursed in compensatory payments (~GBP 4,400) for participating fishers. See [evidence for output 2](#) and [Booth et al \(IN REVIEW\)](#).

In Alor, we are continuing to implement an on-going livelihood-based intervention (which also started before the BCF funding, BCF has allowed continued implementation and evaluation) in two villages where fishers who were targeting thresher sharks are offered capital and training for several alternative livelihood options, which they chose and developed themselves, including: 1) tuna and red snapper fisheries, 2) small-scale chicken farms, and 3) kiosks. A total of 11 specialised thresher shark fisher households were targeted for the intervention, with nine choosing to actively participate. These nine fishers have almost entirely given up thresher shark fishing in favour of the new livelihoods, and our impact evaluation indicates a 91% reduction in total thresher shark catches among participating fishers relative to non-participants. In addition, nine women (some of whom are female heads of former shark fisher households) are being supported as part of a Small and Medium-sized Enterprise (SME) group for developing value-added fish and non-fish products. Participants in these livelihood-based interventions experience an increase in their income by up to 450% relative to before the intervention. See [evidence for output 2](#) and [Shidqi et al \(IN REVIEW\)](#).

Under **Output 3** (*evaluate*) research outputs detailing the impact and cost-effectiveness of the interventions—on marine biodiversity and human well-being—have been compiled for the seven villages in which interventions have been piloted (East Lombok (2 villages), Aceh Jaya (three villages) and Alor Archipelago (two villages)). In addition, as outlined in **Output 1**, data collection on fisher behaviour, attitudes, and well-being (using interview-administered questionnaires) and megafauna (by)catch (vessel landings surveys) has started in eight additional small-scale fishing communities, which will act as baseline data for future impact evaluations if/when full interventions are implemented in those communities.

In East Lombok (two villages) and Aceh Jaya (three villages) we have implemented the pay-to-release scheme as a randomised control trial (RCT) with a crossover design, to enable robust causal inference and attribution. This means that participating fishers in each village are split into two groups, selected at random, where the first group receives the treatment for three months while the other group does not. After the initial three month period, the control group becomes the treatment group and vice versa, enabling all fishers to have the opportunity to participate. The treatment and control groups then continue to change over every three months. We collected data on conservation actions (number of live releases) and conservation outcomes (retained catches of hammerheads and wedgetfish; a proxy for mortality), as well as disbursement of payments (to assess project costs) and fisher attitudes and subjective well-being. Post-intervention interviews were also conducted with participating fishers and female heads of household after 12 months of the intervention. Data from the first 14 months of the intervention has been analysed and compiled into a mixed-methods impact evaluation, to detail the impact and cost-effectiveness of the interventions. The results have been summarised in a manuscript, which is under peer review in Science. See [evidence for output 3](#) and [Booth et al \(IN REVIEW\)](#).

In Alor Archipelago, a combination of theory-based and statistical research designs was adopted to evaluate the impact of the intervention, since an RCT was not feasible due to the small sample of thresher shark fisher households. Results have been summarised into a manuscript, which has been conditionally accepted for publication (with minor revisions) in Oryx. See [evidence for output 3](#) and [Shidqi et al \(IN REVIEW\)](#).

Under **Output 4** (*scale and legacy*) progress has been made towards establishing institutions, capacity, long-term partnerships, and financing mechanisms, to maintain on-going investments in project communities, and share methods and lessons learned. Four PhD students were enrolled at IPB University in August 2023. They have all successfully completed their mandatory preliminary training and exams at IPB, prepared detailed research plans, and have begun developing their first PhD chapters. See [evidence for output 4](#).

Structured training for the PhD students and other early career researchers (ECRs) was implemented, included four seminars/workshops on: 1) Interdisciplinary research for behaviour change; 2) Impact assessment methods; 3) Conventional and electronic (in partnership with the UK Centre for Environment, Fisheries and Aquaculture Science, which included development of best practice guides); 4) Human dimensions of shark research and conservation and conservation leadership (in partnership with James Cook University). See [evidence for output 4](#).

Stakeholder engagement, consultation, and capacity building workshops have also been conducted for fisher communities and government stakeholders. This included a workshop with fishers and local government in East Lombok (June 2023) to communicate preliminary results and next steps from the pay-to-release scheme; a workshop plus training in safe handling and tagging for fishers and local government in Aceh Jaya (August 2023); and consultative and training workshops in Alor, Karimunjawa and Muncar. These workshops have collectively reached 279 people, including fishers, female heads of household and government agency staff. See [evidence for output 4](#).

A site-specific policy briefing was prepared for Aceh Jaya and disseminated to the local governor during a policy-focused conference at his official residence in August 2023, and a generic policy briefing on incentive-based approaches to marine conservation was also shared with MMAF. See [evidence for output 4](#).

Plans are underway for an exchange visit to the UK for the four IPB PhD students and other senior academic staff from IPB, which will take place in June 2025, and include a range of training and networking opportunities. See [evidence for output 4](#).

In addition to the seminars and capacity building workshops, results and lessons learned from the project were presented at six international conferences and events, including: one seminar at Bangor University (April 2023), a seminar for the IUCN Shark Specialist Group (May 2023), the International Congress for Conservation Biology in Rwanda (July 2023), a webinar on valuing marine wildlife in small-scale fisheries facilitated by the Wildlife Conservation Society (WCS) (September 2023), a WorldFish workshop offering lessons learned for the incentive-based coastal fisheries management work package under the FCDO-funded Asia-Africa BlueTech superhighway project (October 2023) and an international shark conservation workshop in February 2024, convened by WCS, which included international shark experts and philanthropic donors. IPB also initiated a socio-ecological systems 'bootcamp', with a first workshop conducted in December 2023. See [evidence for output 4](#).

3.3 Progress towards the project Outcome

The intended outcome of our project is that catches of threatened marine megafauna are significantly reduced while maintaining or improving wellbeing of project-affected people (>200 households across four coastal communities), and methods and models are developed for scaling-up.

Data from our pilot interventions in Aceh Jaya, East Lombok and Alor Archipelago offer some early progress towards project outcomes related to threatened marine megafauna and wellbeing of project-affected people, including:

1. An estimated 25% reduction in retained wedgfish catches attributed to the pay-to-release intervention (treatment vs. control) in Aceh Jaya and East Lombok, though hammerhead mortality was not significantly reduced. At the same time, subjective wellbeing was maintained or improved for participating fishers. A total of 87 households have been reached across five villages. See [Booth et al \(IN REVIEW\)](#) for details and evidence.
2. An estimated 91% reduction in thresher shark catches in Alor Archipelago (participating fishers relative to non-participating fishers). These fishers also experienced an increase in their income, in some cases by up to more than 450% relative to before the intervention. A total of nine households are directly engaged across two villages. See [Shidqi et al \(IN REVIEW\)](#) for details and evidence.

In terms of sharing and scaling, the pilot intervention results are now being used to develop partnerships with dive operators and potential corporate investors, to secure long-term funding; one paper on project results has already been published, and a further three are under review in high impact journals including Conservation Science and Practice, Oryx, and Science (See [Outcome evidence](#)). A total of 11 workshops and six international conferences have already been conducted / attended with local and national community leaders, government agencies, grassroots NGOs, and relevant private sector companies and other donors to disseminate methods and models and build capacity for evidence-based and community-based conservation. See [Outcome evidence](#)).

Based on our experiences from Year 1, we conclude that the indicators are adequate for measuring the intended Outcome, and that the project is on-track to achieve the outcome provided new and on-going pilot interventions for additional villages and households are successful in Year 2.

3.4 Monitoring of assumptions

Our experiences from Year 1 suggest that most of our outcome and output level assumptions still hold true, as evidenced by the progress reported herein, however we wish to comment on three assumptions:

“Masters and PhD students are able to collect and analyse enough data for completing their theses”: there were some delays in getting started with the PhD students’ field work during Year 1 of the project, due to mismatches in timing with the IPB official term dates and various administrative requirements that had to be completed before they were allowed to begin fieldwork. However, since the NGO project partners have already collected substantial data, this will help to expedite progress on the students’ first chapters, as it has been agreed that they can use/analyse these data.

“There are no perverse or unintended consequences of the incentive-based mechanisms, such as causing community distrust or indirectly increasing pressures on marine biodiversity” and “The interventions are successfully implemented and monitored, and deliver the anticipated biodiversity and human well-being outcomes as anticipated by all affected stakeholders, with support for continued implementation”. Despite overall evidence of success, our pilot interventions in East Lombok, Aceh Jaya and Alor Archipelago have not been perfect successes. In East Lombok, there was limited uptake of the pay-to-release scheme, with very few fishers reporting live releases, while in Aceh Jaya there was evidence of perverse incentives/hidden action amongst some vessels, wherein they increased their relative fishing effort to receive the compensatory payment. However, these findings are being managed through our robust impact evaluation and adaptive approach. That is, we were able to identify these issues due to the RCT design and implement tweaks to the intervention design to guard against perverse incentives. In Aceh Jaya, we have slightly changed the incentive structure and put a cap on the number of releases that can be reported in a given week; in East Lombok, we also changed the incentive structure to encourage more participation. We are continuing to implement the pay-to-release scheme as an RCT and will re-assess impacts after 12-months of the new design (*i.e.*, in August 2024). See [Booth et al \(IN REVIEW\)](#) for more details. In Alor Archipelago, there were some political and interpersonal issues within the community that have led to non-participation and mistrust amongst some households, however this is being resolved through on-going community coordination and engagement. See [Shidqi et al \(IN REVIEW\)](#) for more details.

3.5 Impact: achievement of positive impact on biodiversity and poverty reduction

The intended impact of our project is that incentive-based mechanisms for conservation in small-scale fisheries reduce overfishing of threatened CITES-listed marine megafauna and alleviate poverty, supporting long-term recovery of marine biodiversity, and its benefits to people and ecosystems. As already outlined and evidenced in Section 3.3, there is already evidence that our project is reducing overfishing of threatened CITES-listed marine megafauna while improving the livelihoods and wellbeing of fishing communities (see [Booth et al \(IN REVIEW\)](#) and [Shidqi et al \(IN REVIEW\)](#) for details). Through scaling and long-term implementation, we anticipate that incentive-based mechanisms can facilitate recovery of marine megafauna populations for the benefit of fisheries, tourism, and other marine ecosystem services in Indonesia.

4. Project support to the Conventions, Treaties or Agreements

We are engaging closely with local and national governments as part of this project. We have not yet interacted directly with the convention focal points for Indonesia; however our project supports Conventions, Treaties and Agreements are follows:

1. Data collected on shark and ray (by)catch will be fed into processes for CITES implementation for Appendix II listed sharks and rays, including helping MMAF conduct non-detriment finding (NDF) studies as well as informing independent reviews of significant trade.
2. Our interventions are providing practical models and lessons learned for CITES implementation for sharks and rays, particularly regarding which types of management measures work to reduce fishing mortality and trade of certain species.
3. Ecological data collected under this project is also feeding into the Important Shark and Ray Areas ([ISRA](#)) project, led by the IUCN Shark Specialist Group, which is identifying discrete, three-dimensional portions of habitat, important for one or more shark species, that are delineated and have the potential to be managed for conservation. This process in turn will inform marine protected area planning in Indonesia, and thus help the Indonesian government to implement their NBSAPs and 30 by 30 commitments.

5. Project support for multidimensional poverty reduction

Our project is directly and indirectly supporting multi-dimensional poverty reduction for coastal communities. The conditional cash transfers under the pay-to-release intervention (Aceh Jaya and East Lombok) and the livelihood-based intervention (Alor) are both reducing destructive behaviours whilst providing alternative income. This offers a direct route to poverty reduction in the short-term (*i.e.*, either via cash transfers or alternative income sources), with fishers reporting that the income is spent on their children's' education and daily household needs, and participating households reporting improved objective and subjective measures of wellbeing ([Booth et al \(IN REVIEW\)](#), [Shidqi et al \(IN REVIEW\)](#)). In the long-term, the project also reduces vulnerability to ecosystem shocks (e.g., due to stock collapses) and maintains the health of marine resources (e.g., providing food security and future options values for marine tourism). The interventions also provide a source of employment, and empowerment to participate in marine resource management during the intervention design process.

Other poverty reduction benefits of the project include providing employment opportunities for local staff, and training and scholarship opportunities for Indonesian researchers (e.g., see [evidence for output 4](#)).

6. Gender Equality and Social Inclusion (GESI)

Please quantify the proportion of women on the Project Board ¹ .	50%
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 .	100%

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	

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.

	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.	
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	X
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

We have taken into account the GESI context in designing our approach in both building our project team and project partners and implementing our projects within communities. For example: the project team is female-led, and all NGO project partners are co-led by a male-female duo, ensuring equal gender representation. We also ensured an equal gender split for the four IPB PhD students and took socio-economic background into account during the selection process; and all trainings for students and early career researchers seek to attain at least 50% female participation. In the communities in which we work, the GESI context is more challenging since our interventions seek to change fisher behaviour, and in Indonesia fishers are almost always male. As a result, when we are conducting engagement or trainings specifically focused on fishing activities and bycatch mitigation practices, these will always be male dominated. However, to counterbalance this we are also engaging and empowering female heads of household in several ways: firstly, we conduct FGDs and interview with female heads of household when designing interventions, to gain their perspectives on intervention design, and follow-up interviews during evaluation to understand how the interventions have influenced them. To date, all responses have been positive with, for example, female heads of fisher households in Aceh Jaya stating that the payments from the pay-to-release scheme are used to support their daily household needs. In addition, we have begun designing and implementing several female-specific interventions alongside those which seek to directly incentivise (by)catch mitigation in fisheries. For example, we are supporting female-led SMEs in both Alor and East Lombok, and our partner NGOs are also supporting youth participation in conservation (e.g., via internships and youth events) in Alor, Karimunjawa and Muncar. Our main lesson learned is that even when the target resources users are male dominated, it is still possible to design interventions such that women and other marginalised groups can benefit.

7. Monitoring and evaluation

Monitoring and evaluation (M&E) are embedded throughout our project design, especially under **Output 3** (^). We are using experimental or quasi-experimental approaches to demonstrate positive outcomes for marine megafauna and people, by monitoring conservation actions (e.g., releases), retained catches (a proxy for mortality) and subjective well-being for treatment and control fishers, which allows us to robustly demonstrate the impact of the interventions. We also conduct interviews with fishers and their families to understand qualitative narratives (see [Booth et al \(IN REVIEW\)](#) and [Shidqi et al \(IN REVIEW\)](#) for details). All interventions are also informed by pre-intervention research and a logical theory of change which demonstrates how the activities and outputs lead to the anticipated outcomes.

This M&E work is shared across project partners, with the IPB PhD students and NGO project leaders all playing a role in collecting and analysing data. Information on progress is shared with fisher communities and local governments on a regular basis e.g., we have so far conducted an 'annual appraisal' of the pay-to-release intervention in East Lombok and Aceh Jaya, sharing results and lessons learned with local stakeholders, and agreeing on adaptations to the intervention design.

8. Lessons learnt

Our main lessons learnt from the first year of our project are:

1. Genuine partnership and engagement is critical for success: the positive progress of our project has only been possible thanks to commitment and buy-in from NGO project partners, coastal communities and government agencies. These partnerships and engagements have been built over several years, with many of the relationships underpinning this project established before the project started, and this has really helped us to 'hit the ground running'. Moreover, the project is built on a principle of genuine exchange and capacity building - acknowledging that institutions and researchers in UK can learn from partners and colleagues in Indonesia, and vice versa – rather than extractive or 'parachute' science. This supports genuine partnership and continuous learning since all parties benefit from the project and related engagements.
2. Allow enough lead time for administrative processes: we faced a challenge regarding establishing all the agreements and payment processes between Oxford University and the partners in a timely manner, and there were long delays in getting the first payments made to our project partners, as well as some additional delays due to administrative processes at IPB University. Based on this, we learned that administrative processes could take more time than expected. It is important to be fully aware of the different administrative tasks that need to be completed and allow enough lead time (plus additional buffer time) to have these complete before planning to start project activities.
3. Human behaviour is complicated, and incentives need to be adapted to fit the context in which they are used and can lead to unanticipated or hidden consequences: we found that our pay-to-release intervention in East Lombok and Aceh Jaya led to heterogenous outcomes for different sites and fishers. In East Lombok, despite fishers reporting positive attitudes towards the program, uptake of the scheme (*i.e.*, fishers submitting live release videos to receive payments) was low with only two videos released throughout the whole trial. Some fishers stated that the payments weren't high enough, while others stated that the sharks and rays were always dead by the time they were brought on the vessel. In Aceh Jaya, the pay-to-release scheme was highly successful, however we also found evidence of hidden action amongst some vessels, where it appears they increased their shark-relevant fishing efforts to get more individuals to release. Based on these findings, we adapted the incentive design in both locations. In East Lombok, we added additional endangered species to the list for compensation, and applied a new rule wherein the payments for larger individuals were higher (as per market rates), however we have still received limited uptake and will this pause the program in East Lombok next year. In Aceh Jaya, we implemented also implemented three different price brackets for different sizes of released individuals, and a cap on the number of releases that could be reported in any one week, to guard against perverse incentives. We are continuing to run the program as an RCT to test if these modifications improve the outcomes.
4. Robust monitoring and evaluation are crucial for understanding the true impact of an intervention: Our RCT impact evaluation design was critical for identifying the hidden action and potential perverse incentives outlined in point 3. If we had used a more traditional monitoring approach—for example, just monitoring conservation actions in terms of numbers of releases, rather than comparing retained catches between treatment and control groups—the estimated positive effect of the intervention would have been much larger. We are therefore eager to continue using experimental approaches to test and adapt our interventions in years 2 and 3.

9. Actions taken in response to previous reviews (if applicable)

Not applicable.

10. Risk Management

No new risks have arisen. An updated risk register has been submitted along with this report.

10. Sustainability and legacy

Increasing interest and capacity resulting from the project is evidenced by fishers' participation in the research and incentive-based interventions (which are entirely voluntary), positive perceptions of fishers and female heads of household towards the project, and interest from local and national government stakeholders in the project and its results (e.g., MMF and the Governor of Aceh Jaya).

The project is also increasingly generating interest from other organisations and institutions, as evidenced by invitations to speak about the project at various events and seminars including: a guest seminar at University of Bangor, a webinar on valuing marine wildlife in small-scale fisheries facilitated by the Wildlife Conservation Society (WCS), a WorldFish workshop for the incentive-based coastal fisheries management work package under the FCDO-funded Asia-Africa BlueTech superhighway project, and an in-person international shark conservation workshop convened by WCS.

The data generated under the project will be made available alongside relevant publications as part of the open access plan. For example, the data underlying the RCT of our pay-to-release scheme will be made publicly available on OSF on publication of the paper ([Booth et al \(IN REVIEW\)](#)).

The other post-project intended sustainable benefits are still valid based on how the project is now running.

11. Darwin Initiative identity

The Darwin Initiative logo has been used on all relevant project outputs and communications materials, including on presentations during webinars, workshops, and conferences (see Outcome evidence: [workshops and conferences](#)). The Darwin Initiative project has been recognised as a distinct project as part of a longer-term program of work, and there is a strong understanding of the Darwin Initiative within Indonesia—particularly amongst environmental NGOs and the national government. We have Twitter and Instagram accounts associated with various organisations and individuals involved in the project, and we regularly tag the Darwin Initiative/Biodiversity Challenge Funds in relevant social media posts and updates. See evidence: [social media / Darwin Identity](#).

12. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been reported in the past 12 months	No
Does your project have a Safeguarding focal point?	Yes – Hollie Booth and Katrina Davis are responsible for responding to safeguarding concerns
Has the focal point attended any formal training in the last 12 months?	No
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 86% [12] Planned: >30% [>4] (re-training for PhD students in research ethics)
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.	No challenges or lessons learned to report.
Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so, please specify.	Research and conservation ethics training will be repeated for anyone going to conduct field work.
Please describe any community sensitisation that has taken place over the past 12 months; include topics covered and number of participants.	There has been no community sensitisation conducted specifically regarding safeguarding.
Have there been any concerns around Health, Safety and Security of your project over the past year? If yes, please outline how this was resolved.	No

13. Project expenditure

Please note that all receipts have not yet been received, therefore the project expenditures in Table 1 are indicative figures.

Table 1: Draft project expenditure during the reporting period (1 April 2023 – 31 March 2024)

Project spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				Underspend due to more people taken on as staff rather than consultants, as shown in higher staff costs.
Overhead Costs				

Travel and subsistence			
Operating Costs			
Capital items (see below)			
Others (see below)			
TOTAL	£ 158,004	£158,004	

Table 2: Project mobilised or matched funding during the reporting period (1 April 2023 – 31 March 2024)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)			Save Our Seas Foundation, Shark Conservation Fund, Ocean Blue Tree, CLP, Rumah Foundation, private sector donors
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)			

11. Other comments on progress not covered elsewhere

No additional comments to add.

12. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

904 Critically Endangered hammerhead sharks and wedgefish safely released by small-scale fishers in Aceh Jaya and East Lombok because of our pay-to-release program. We have also begun training fishers in how to tag the sharks they released for long-term population and biological monitoring (please see below for a selection of photos and videos)

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes.

File Type (Image / Video / Graphic)	File Name or File Location	Caption including description, country and credit	Social media accounts and web communities to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
Images	Dropbox link	List of captions (all credits to Francesca Page)	@francescaapage @kebersamaan_untuk_lautan @the_hollitype @biologyoxford	Yes
Videos	Dropbox link	"A Critically Endangered shark being released by a	@kebersamaan_untuk_lautan @the_hollitype @biologyoxford	Yes

		fisherman, Aceh, Indonesia". Credit: Kebersamaan Untuk Lautan		
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Annex 1: Report of progress and achievements against logframe for Financial Year 2023-2024

Project summary	Progress and Achievements April 2023 - March 2024	Actions required/planned for next period
<p>Impact Incentive-based mechanisms for conservation in small-scale fisheries reduce overfishing of threatened CITES-listed marine megafauna and alleviate poverty, supporting long-term recovery of marine biodiversity, and its benefits to people and ecosystems.</p>	<p>By reducing retained catches of wedgefish and thresher sharks in 3 project sites while maintaining or improving subjective and objective indicators of well-being, our project is already providing evidence of positive impact on biodiversity and poverty alleviation, and methods and models for scaling up elsewhere.</p>	
<p>Outcome Catches of threatened marine megafauna are significantly reduced while maintaining or improving wellbeing of project-affected people (>200 households across 4 coastal communities), and methods and models are developed for scaling-up.</p>		
<p>0.1 At least 15% reduction in catch of threatened marine megafauna (wedgefish, guitarfish, hammerheads, mobula rays, thresher sharks) amongst participating fisher households by December 2025, compared to pre-intervention baselines and/or (matched) control fishers.</p>	<ul style="list-style-type: none"> - 25% reduction in retained wedgefish catches attributed to the pay-to-release program in Aceh Jaya and East Lombok (treatment vs. control) - 91% reduction in thresher shark catches attributed to the livelihood-based intervention in Alor Archipelago (participants vs. non-participants) 	<p>Current pilot interventions will continue, and additional coastal communities and households will be added in Year 2 and 3 following further research and consultation.</p>
<p>0.2 Indicators of material and social well-being (e.g., household income, self-reported life satisfaction, social connections) are maintained or improved in the short-term (despite decreases in their catches of valuable threatened species) for >200 fisher households across 4 coastal communities by December 2025, compared to pre-intervention baselines and matched controls.</p>	<ul style="list-style-type: none"> - Subjective well-being (self-reported life satisfaction) the same or higher for fishers in the pay-to-release treatment groups in Aceh Jaya and East Lombok (87 vessels = 174 households across 5 villages) - Up to a 450% increase in household income for fishers participating in the alternative livelihoods (9 households across 2 villages) 	<p>Current pilot interventions will continue, and additional coastal communities and households will be added in Year 2 and 3 following further research and consultation.</p>
<p>0.3 Long-term partnerships, agreements, institutions, and funding sources established for >200 participating fisher households across 4 coastal communities by April 2026 (relative to a pre-project baseline of 0).</p>	<ul style="list-style-type: none"> - On-going agreements with participating fishers/vessels established for Aceh Jaya and Alor Archipelago (60 households across 5 villages) - Conversations initiated with private sector donors (dive operators and corporations with marine impacts) on long-term funding mechanisms 	<p>Evidence of positive impacts will be used to establish long-term agreements and funding sources in Year 2 and 3.</p>
<p>0.4 At least 2 high-impact papers and associated policy briefings published on methods, findings and lessons learned by April 2026.</p>	<ul style="list-style-type: none"> - 1 x open access paper published in Marine & Freshwater Research - 3 x papers in review in Science, Oryx, and Conservation Science and Practice - 1 x national-level policy briefing and 1 x local-level policy briefing (Aceh) prepared, and disseminated to the 	<p>Additional research will be published in open access journals, and policy briefings will be prepared based on published papers.</p>

	Ministry of Marine Affairs and Fisheries (MMAF) (national level) and the Governor of Aceh Jaya (local level)	
0.5 At least 6 workshops conducted with local and national community leaders, government agencies, grassroots NGOs, and relevant private sector companies to disseminate methods and models and build capacity for evidence-based and community-based conservation by April 2026.	<ul style="list-style-type: none"> - 5 x community workshops conducted in Aceh Jaya, Karimunjawa, Muncar, East Lombok and Alor to communicate results from year 1 and plan next steps - 2 x government agency workshops conducted with local leaders in Aceh Jaya (meeting with Governor of Aceh Jaya) and Karimunjawa (meeting with Karimunjawa National Park agency) - Preliminary methods, results and lessons learned from the project were presented at 5 x international conferences and events - 4 x structured capacity building workshops/seminars conducted for students and grassroots NGOs 	Additional workshops will be conducted with relevant stakeholders as the interventions proceed, to communicate findings, methods, and models.
Output 1 Understand and design: research outputs estimating how incentives could change fisher behaviour and impact biodiversity and human wellbeing compiled for 6 project sites (covering >300 households) by March 2024		
1.1 New behaviour/behaviour change research outputs from 3 fisher communities (>150 household) by September 2024 (building on pre-project research in 3 communities (~150 households) = 6 communities (>300 households in total)	<ul style="list-style-type: none"> - Baseline social research on behaviours, attitudes norms and incentives conducted in 5 new sites (Karumunjawa, Banda, Aceh Barat Daya, Muncar, Lunyuk), with initial scoping conducted in a further 2 new sites (Sumba, Rembang). Building on pre-project research in 3 sites (East Lombok, Aceh Jaya, Alor) = 8 sites in total, covering 515 households across 38 villages 	Research outputs and recommendations to be finalised for all sites.
1.2 Recommendations on impactful, equitable and cost-effective interventions for 3 new sites/communities by September 2024 (building on pre-project research in 3 sites = 6 in total)	<ul style="list-style-type: none"> - Preliminary research outputs and recommendations prepared for 3 new sites (Karumunjawa, Banda, Aceh Barat Daya), building on pre-project research in 3 sites (East Lombok, Aceh Jaya, Alor) = 6 sites in total. 	Research outputs and recommendations to be finalised for all sites.
1.3 Open access research paper detailing methods, results and recommendations submitted for publication by September 2024, and published by March 2025.	<ul style="list-style-type: none"> - Data from across the 8 sites is being compiled for combined analysis. - Data also used for site-specific analyses in Karumunjawa, East Lombok, Aceh Jaya, and Alor, resulting in 1 x open access paper published in Marine & Freshwater Research and 3 x papers submitted and in review in Science, Oryx, and Conservation Science and Practice 	Multi-site analysis to be conducted, additional site-specific analyses to be completed and published.
Output 2. Implement: incentive-based interventions are implemented in 4 coastal communities, with >200 participating fisher households, by March 2025.		

2.1 Full intervention plans developed based on research outputs, and agreements established with >200 fisher households across 4 coastal communities by September 2024	- Full intervention plans developed (based on pre-project research) for East Lombok, Aceh Jaya, and Alor, and agreements established with 96 vessel captains and 9 female heads of household across 5 villages (covering 183 households in total)	Full intervention plans to be developed for Karumunjawa, Banda, Aceh Barat Daya, Muncar, Lunyuk.
2.2 Pilot interventions are implemented with >200 fisher households across 4 coastal communities by December 2025, with monitoring data collected throughout	- Interventions piloted in East Lombok, Aceh Jaya, and Alor with 96 vessel captains and 9 female heads of household across 5 villages (covering 183 households in total) with data collected on biodiversity and wellbeing outcomes for treatment/participating and control/non-participating vessels throughout	Interventions to be implemented in Karumunjawa, Banda, Aceh Barat Daya, Muncar, Lunyuk.
Output 3. Evaluate: research outputs compiled detailing the impact and cost-effectiveness of the interventions - on marine biodiversity and human well-being - by August 2025.		
3.1 Pre-intervention baselines for fisher attitudes, norms behaviour; marine megafauna catches; and fisher well-being established for >200 fisher households across 4 coastal communities (with (matched) controls where feasible) by September 2024	- Baseline social research on behaviours, attitudes norms and incentives conducted in 5 new sites (Karumunjawa, Banda, Aceh Barat Daya, Muncar, Lunyuk), with initial scoping conducted in a further 2 new sites (Sumba, Rembang). Building on pre-project research in 3 sites (East Lombok, Aceh Jaya, Alor) = 8 sites in total, covering 515 households across 38 villages	Baseline social research to be completed and analysed for Sumba and Rembang.
3.2 Interventions pre-registered as field experiments by September 2024	- Pay-to-release intervention in Aceh Jaya and East Lombok registered as field experiment	Interventions in Karumunjawa, Banda, Aceh Barat Daya, Muncar and Lunyuk to be pre-registered as field experiments (where appropriate).
3.3 Fisher attitudes, norms, and behaviour; marine megafauna catches; and project costs are monitored throughout the interventions for >200 fisher households across 4 coastal communities (through to December 2025)	- Fisher attitudes, norms, and behaviour; marine megafauna catches; and project costs monitored throughout the interventions in Aceh Jaya, East Lombok and Alor for for treatment/participating and control/non-participating vessels using period social surveys, daily landing site monitoring and videos of live releases. Data collection covered 114 vessel captains and 9 female heads of household across 5 villages (covering 201 households in total)	Data collection to continue in existing and new intervention sites.
3.4 Post intervention well-being surveys and qualitative interviews conducted for >200 fisher households across 4 coastal communities by December 2025	- Post intervention well-being surveys and qualitative interviews conducted for 96 vessel captains and 14 female heads of household across 5 villages (covering 183 households in total)	Data collection to continue in existing and new intervention sites.

<p>3.5 Qualitative and quantitative data on impact and cost-effectiveness analyzed and synthesised, with open access research paper detailing submitted for publication by March 2026 and published by June 2026</p>	<ul style="list-style-type: none"> - Data on pay-to-release RCT in Aceh Jaya and East Lombok analysed and synthesized, paper under review in Science. - Data on statistical and theory-based impact assessment for Alor analysed and synthesized, paper under review in Oryx (provisionally accepted with minor revisions). 	<p>Impact assessments to be conducted for existing and new intervention sites.</p>
<p>Output 4. Scale and legacy: institutions, capacity, long-term partnerships, and financing mechanisms are established, to maintain on-going investments in project sites, and share methods and lessons learned for scaling up by March 2026.</p>		
<p>4.1 Four PhD Students recruited at IPB University to participate in the project by September 2023, and use research from the project towards PhD theses by July 2026</p>	<ul style="list-style-type: none"> - Four PhD students recruited 	<p>Students to conduct research under the project to complete their PhDs</p>
<p>4.2 A seminar/workshop series conducted for local students and NGO project leaders on socio-economic research methods, project management and fundraising, and impact assessment by September 2023</p>	<ul style="list-style-type: none"> - Seminar/workshop series conducted for local students and NGO project leaders on socio-economic research methods and research ethics, project management and fundraising, impact assessment and conventional and electronic tagging 	<p>Additional mentoring and training to be conducted for students and NGO project leaders as needed/requested.</p>
<p>4.3 At least 4 consultation and capacity building workshops conducted for communities and local government agencies by April 2026, which collectively reach more than 250 people.</p>	<ul style="list-style-type: none"> - 6 x community workshops conducted in Aceh Jaya, Karimunjawa, Muncar, East Lombok and Alor to communicate results from year 1 and provide training in key topics including: 1) National and local regulatory context for marine megafauna; 2) Safe handling, live release and tagging; 3) Financial literacy; 4) Bycatch mitigation, which collectively reached 264 people. - 2 x government agency workshops conducted with local leaders in Aceh Jaya (meeting with Governor of Aceh Jaya) and Karimunjawa (meeting with Karimunjawa National Park agency) which reached a total of 15 government personnel 	<p>Additional consultation and capacity building workshops to be conducted for communities and government agencies as needed/requested.</p>
<p>4.4 Four site-specific and one generic policy briefing document prepared based on project results by December 2025, and disseminated via at least two policy-focused workshops with local and national government by April 2026</p>	<ul style="list-style-type: none"> - One site-specific and one generic policy briefing document prepared and disseminated to MMAF (national level) and Governor of Aceh Jaya (local level) 	<p>Additional policy briefings to be prepared as new research outputs are finalised.</p>
<p>4.5 Long-term agreements and funding mechanisms established for >200 fisher households across 4 coastal communities by March 2026</p>	<ul style="list-style-type: none"> - Initial conversations on-going with potential funders 	<p>To be established after pilot interventions are completed.</p>
<p>4.6 Exchange visits to UK conducted for at least four Indonesian project leaders/students by June 2026</p>	<ul style="list-style-type: none"> - Exchange visits currently being planned, to take place in June 2024 	<p>Exchange visit to take place in June 2024</p>

<p>4.7 One guidance document developed and disseminated on how to apply the project process and methods to develop locally-appropriate incentive-based interventions for marine conservation in other contexts by June 2026</p>		<p>Guidance document to be developed in Year 3 based on outputs and lessons learned from the project</p>
<p>4.8 Project research outputs and lessons learned are presented national and international conferences (at least 3 in total) by March 2026</p>	<ul style="list-style-type: none"> - Preliminary methods, results and lessons learned from the project were presented at 6 x international conferences and events 	<p>Additional conferences to be attended in Y2. A lightning talk will be given for Seattle Aquarium in May 2024, a poster on the project will be presented at the Oxford Nature-based Solutions conference in June 2024, and a presentation will be given at IMCC7 in Cape Town in October 2024.</p>
<p>4.9 Materials and learnings from the project are used to inform the development of a curriculum within IPB for an interdisciplinary / socio-ecological systems 'bootcamp' for marine conservation practitioners in Indonesia by March 2026</p>	<ul style="list-style-type: none"> - First bootcamp event conducted on international collaboration conducted for marine and coastal department at IPB University in December 2023 	<p>Full bootcamp curriculum to be developed in Years 2 and 3 based on outputs and lessons learned from the project.</p>

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

Project Summary	SMART Indicators	Means of Verification	Important Assumptions
<p>Impact: Incentive-based mechanisms for conservation in small-scale fisheries reduce overfishing of threatened CITES-listed marine megafauna and alleviate poverty, supporting long-term recovery of marine biodiversity, and its benefits to people and ecosystems. (Max 30 words)</p>			
<p>Outcome: Catches of threatened marine megafauna are significantly reduced while maintaining or improving wellbeing of project-affected people (>200 households across 4 coastal communities), and methods and models are developed for scaling-up. (Max 30 words)</p>	<p>0.1 At least 15% reduction in catch of threatened marine megafauna (wedgfish, guitarfish, hammerheads, mobula rays, thresher sharks) amongst participating fisher households by December 2025, compared to pre-intervention baselines and/or (matched) control fishers.</p> <p>0.2 Indicators of material and social well-being (e.g., household income, self-reported life satisfaction, social connections) are maintained or improved in the short-term (despite decreases in their catches of valuable threatened species) for >200 fisher households across 4 coastal communities by December 2025, compared to pre-intervention baselines and matched controls.</p> <p>0.3 Long-term partnerships, agreements, institutions, and funding sources established for >200 participating fisher households across 4 coastal communities by April 2026 (relative to a pre-project baseline of 0).</p> <p>0.4 At least 2 high-impact papers and associated policy briefings published on methods, findings and lessons learned by April 2026.</p>	<p>0.1 Catch monitoring conducted before and during interventions for intervention and (matched) control fishers</p> <p>0.2 Socio-economic surveys conducted before and during the interventions for intervention and (matched) control fishers</p> <p>0.3 Signed agreement and/or incorporation documents</p> <p>0.4 Published papers</p> <p>0.5 Workshop attendance sheets</p>	<ul style="list-style-type: none"> - We are able to develop suitable cost-effective interventions in at least 4 communities, which can effectively incentivise pro-conservation behaviour. This assumption holds based on research conducted to date by the project team, and discussions with stakeholders. - There are no major micro- or macro-economic fluctuations outside of the control of the project, which shift market values and incentives towards increasing catches of marine megafauna relative to pre-intervention baselines. This assumption holds based on our current knowledge of markets, though numbers of small-scale fishers may have increased during the pandemic as a safety-net livelihood. - There are no major micro- or macro-economic shocks outside the control of the project (such as earthquakes, tsunamis or political instability) which destabilise local economies and/or significantly reduce human well-being relative to pre-intervention baselines.

	<p>0.5 At least 6 workshops conducted with local and national community leaders, government agencies, grassroots NGOs, and relevant private sector companies to disseminate methods and models and build capacity for evidence-based and community-based conservation by April 2026.</p>		<p>Natural disasters are difficult to predict, though Indonesia has been increasingly politically stable since the fall of the Suharto in 1998. The pandemic has significantly impacted tourism-based economies, although efforts are already being made to slowly re-open.</p> <ul style="list-style-type: none"> - There are no perverse or unintended consequences of the incentive-based mechanisms, such as causing community distrust or indirectly increasing pressures on marine biodiversity. Our rigorous intervention design will ensure this assumption holds. - The pilot interventions are successful in at least 4 communities, and communities and local stakeholders support their continuation. Our participatory process and rigorous intervention design will ensure this assumption holds. - The threatened marine megafauna are extirpated from Indonesia due to other external fishing pressures (e.g. from commercial fisheries). This assumption holds based on previous research – while other fisheries also add external pressures on these taxa, SSFs typically operate in isolate coastal areas of important habitat (e.g., nursery grounds) which can be effectively
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			<p>protected in isolation to support long-term health of the populations.</p> <ul style="list-style-type: none"> - Suitable long-term revenue sources can be identified through collaboration with governments, philanthropists and private sector. This assumption holds based on research and consultations by the project team (e.g. with dive operators and fishing companies) – we have already identified some potential long-term funders. - The peer-review process proceeds in a timely manner. We have built in ample time for peer review based on our past experiences of publication.
<p>Outputs:</p> <p>1 Understand and design: research outputs estimating how incentives could change fisher behaviour and impact biodiversity and human wellbeing compiled for 6 project sites (covering >300 households) by March 2024</p>	<p>1.1 New behaviour/behaviour change research outputs from 3 fisher communities (>150 household) by September 2024 (building on pre-project research in 3 communities (~150 households) = 6 communities (>300 households in total)</p> <p>1.2 Recommendations on impactful, equitable and cost-effective interventions for 3 new sites/communities by September 2024 (building on pre-project research in 3 sites = 6 in total)</p> <p>1.3 Open access research paper detailing methods, results and recommendations submitted for publication by September 2024, and published by March 2025.</p>	<p>1.1 A brief report and slide deck which summarises findings and recommendations for project partners</p> <p>1.2 A brief report and slide deck which summarises findings and recommendations for project partners</p> <p>1.3 Proofs of submitted paper, published article</p>	<ul style="list-style-type: none"> - The Project Leader is able to secure a foreign research permit for Indonesia. This assumption is supported by an existing research permit for the PL (which will need to be renewed during the life time of the project) supported by an on-going MoU between Oxford and IPB. - Four project communities give their free, prior and informed consent for the research to take place. This is consistent with experiences during pre-project research and existing local NGO relationships. - Field work is able to take place, and there are no major events

			<p>which disrupt the field work plans (e.g., natural disasters, on-going pandemic restrictions). Natural disasters are difficult to predict, however field work in Indonesia has been able to continue during the COVID-19 pandemic, albeit with strict health and safety procedures in place.</p> <ul style="list-style-type: none"> - The research is able to identify suitable, cost-effective incentive-based interventions. This assumption is consistent with pre-project research and local NGO activities. - The peer-review process proceeds in a timely manner. We have included ample time for the peer-review process, based on previous experiences with publishing.
<p>2 Implement: incentive-based interventions are implemented in 4 coastal communities, with >200 participating fisher households, by March 2025.</p>	<p>2.1 Full intervention plans developed based on research outputs, and agreements established with >200 fisher households across 4 coastal communities by September 2024</p> <p>2.2 Pilot interventions are implemented with >200 fisher households across 4 coastal communities by December 2025, with monitoring data collected throughout</p>	<p>2.3 Photographs and minutes from community meetings, signed agreements</p> <p>2.4 Photographs and videos of project communities implementing catch reduction practices, photographs and receipts for any bycatch reduction technologies purchased, monitoring data</p>	<ul style="list-style-type: none"> - Three project communities give their free, prior and informed consent for the interventions to take place. This is consistent with experiences during pre-project research and existing local NGO relationships. - We are able to co-design three cost-effective incentive-based interventions which are within the total budget of the project. This is consistent with pre-project research, which we have used to inform the budget available for community interventions. One community has already been identified as a

			<p>promising and cost-effective intervention site, with initial support from local government. Livelihood-based incentives have already been introduced in a further two communities, which could be scaled-up/built upon under this project.</p> <ul style="list-style-type: none"> - Field work is able to take place, and there are no major events which disrupt the field work plans (e.g. natural disasters, on-going pandemic restrictions). Natural disasters are difficult to predict, however field work in Indonesia has been able to continue during the COVID-19 pandemic, albeit with strict health and safety procedures in place.
<p>3 Evaluate: research outputs compiled detailing the impact and cost-effectiveness of the interventions - on marine biodiversity and human well-being - by August 2025.</p>	<p>3.1 Pre-intervention baselines for fisher attitudes, norms behaviour; marine megafauna catches; and fisher well-being established for >200 fisher households across 4 coastal communities (with (matched) controls where feasible) by September 2024</p> <p>3.2 Interventions pre-registered as field experiments by September 2024</p> <p>3.3 Fisher attitudes, norms, and behaviour; marine megafauna catches; and project costs are monitored throughout the interventions for >200 fisher households across 4 coastal communities (through to December 2025)</p>	<p>3.1 Databases of pre-intervention baseline data</p> <p>3.2 Certificate of pre-registration from Wharton Credibility Lab's AsPredicted pre-registration platform</p> <p>3.3 Databases of monitoring data</p> <p>3.4 Databases of monitoring data</p> <p>3.5 Proofs of submitted paper, published article</p>	<ul style="list-style-type: none"> - The Project Leader is able to secure a foreign research permit for Indonesia. This assumption is supported by an existing research permit for the PL (which will need to be renewed during the life time of the project) supported by an on-going MoU between Oxford and IPB. - Four project communities give their free, prior and informed consent for the research to take place. This is consistent with experiences during pre-project research and existing local NGO relationships (S1, S2). - All field work is able to take place, and there are no major

	<p>3.4 Post intervention well-being surveys and qualitative interviews conducted for >200 fisher households across 4 coastal communities by December 2025</p> <p>3.5 Qualitative and quantitative data on impact and cost-effectiveness analyzed and synthesised, with open access research paper detailing submitted for publication by March 2026 and published by June 2026</p>		<p>events which disrupt the field work plans (e.g. natural disasters, on-going pandemic restrictions). Natural disasters are difficult to predict, however field work in Indonesia has been able to continue during the COVID-19 pandemic, albeit with strict health and safety procedures in place.</p> <ul style="list-style-type: none"> - The peer-review process proceeds in a timely manner. We have included ample time for the peer-review process, based on previous experiences with publishing.
<p>4 Scale and legacy: institutions, capacity, long-term partnerships, and financing mechanisms are established, to maintain on-going investments in project sites, and share methods and lessons learned for scaling up by March 2026.</p>	<p>4.1 Four PhD Students recruited at IPB University to participate in the project by September 2023, and use research from the project towards PhD theses by July 2026</p> <p>4.2 A seminar/workshop series conducted for local students and NGO project leaders on socio-economic research methods, project management and fundraising, and impact assessment by September 2023</p> <p>4.3 At least 4 consultation and capacity building workshops conducted for communities and local government agencies by April 2026, which collectively reach more than 250 people</p> <p>4.4 Four site-specific and one generic policy briefing document prepared based on project results by December 2025, and disseminated via at least two policy-</p>	<p>4.1 Enrolment documents, copies of PhD chapters</p> <p>4.2 Training agenda, attendance list, polling results</p> <p>4.3 Meeting agenda, minutes, photos, agreement documents</p> <p>4.4 Briefing, guidance documents, meeting agenda, minutes, attendance sheets</p> <p>4.5 Signed agreement and/or incorporation documents</p> <p>4.6 Exchange visit reports, blogs on the ICCS Biodiversity Fellows website</p> <p>4.7 Guidance document</p>	<ul style="list-style-type: none"> - Three project communities and other relevant stakeholders give their free, prior and informed consent for the research and interventions to take place. This is consistent with pre-project research and NGO partner experiences. - The interventions are successfully implemented and monitored, and deliver the anticipated biodiversity and human well-being outcomes as anticipated by all affected stakeholders, with support for continued implementation. Our robust design phase will ensure the interventions are designed for success. - Potential long-term funders support the interventions, and are willing to commit long-term sustainable revenue streams.

	<p>focused workshops with local and national government by April 2026</p> <p>4.5 Long-term agreements and funding mechanisms established for >200 fisher households across 4 coastal communities by March 2026</p> <p>4.6 Exchange visits to UK conducted for at least four Indonesian project leaders/students by June 2026</p> <p>4.7 One guidance document developed and disseminated on how to apply the project process and methods to develop locally-appropriate incentive-based interventions for marine conservation in other contexts by June 2026</p> <p>4.8 Project research outputs and lessons learned are presented national and international conferences (at least 3 in total) by March 2026</p> <p>4.9 Materials and learnings from the project are used to inform the development of a curriculum within IPB for an interdisciplinary / socio-ecological systems 'bootcamp' for marine conservation practitioners in Indonesia by March 2026</p>	<p>4.8 Conference proceedings and copies of presentations</p> <p>4.9 Bootcamp curriculum</p>	<p>This assumption holds based on pre-project research and consultations (e.g., with dive operators and fishing companies) which has enabled us to already identify potential long-term funders (e.g. via tourism levies, S1), though this also depends on Indonesia's tourism market recovering after the pandemic by 2025. Indonesia is already beginning a multi-stage plan to re-open to international travellers, and we are confident that the tourism market will recover once travel resumes to normal.</p> <ul style="list-style-type: none"> - Masters and PhD students are able to collect and analyse enough data for completing their theses. This assumption is consistent with the PL's previous experience of working with IPB Masters students during her PhD.
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Annex 3: Standard Indicators

Table 1 Project Standard Indicators

DI Indicator number	Name of indicator	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-A01	Number of people in eligible countries who have completed structured and relevant training	People	Men	278			278	>250 people in total
DI-A01	Number of people in eligible countries who have completed structured and relevant training	People	Women	45			45	>250 people in total
DI-A03	Number of local/national organisations with improved capability and capacity as a result of project.	Number of organisations	Civil society	7			7	7
DI-B04	Number of new/improved sustainable livelihoods/ poverty reduction management plans available and endorsed.	Number	New	2			2	>4
DI-B07	Number of people participating in community-based management groups and/or Payment for Ecosystem Service schemes.	Number	People	183			183	>200
DI-C01	Number of best practice guides and knowledge products published and endorsed	Number	-	2			2	3
DID02	Number of people whose disaster/climate resilience has been improved.	Households	-	183			183	>200
DI-D16	Number of households reporting improved livelihoods.	Households	-	31			31	NA
DI-D17	Income derived by local communities from new/enhanced Payment for Ecosystem Services.	GBP Sterling/ Household/ Year		GBP 100-500			NA	NA

Table 2 Publications

Title	Type (e.g. journals, best practice manual, blog post, online videos, podcasts, 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)
Search for the vulnerable giants: the presence of giant guitarfish and wedgefish in the Karimunjawa National Park and adjacent waters	Journal	Faqih Akbar Alghozali et al. 2023	Male	Indonesian	Marine & Freshwater Research	https://www.publish.csiro.au/mf/pdf/MF23101_CO

Annex 4: Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Annex 1. [Outcome evidence](#)

Annex 2. [Output 1 evidence](#)

Annex 3. [Output 2 evidence](#)

Annex 4. [Output 3 evidence](#)

Annex 5. [Output 4 evidence](#)

Annex 6. [Social media / Darwin identity](#)

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?	Y
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Y
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.	N
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.	Y
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	Y
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	