Darwin Initiative: Final Report

To be completed with reference to the "Writing a Darwin/IWT Report" Information Note: (https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/).

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

Darwin Project Information

Project reference	25-022
Project title	Restoring Coastal Fisheries through Sustainable Development in Indonesia
Country(ies)	Kubu Raya, Kalimantan Barat, Indonesia.
Lead organisation	Yayasan Planet Indonesia
Partner institution(s)	Oceanwise Australia
Darwin grant value	£ 388,560
Start/end dates of project	1st July, 2018 to 31st March 2021
Project leader's name	Dr Ben Fitzpatrick
Project website/blog/social media	www.planetindonesia.org/ www.oceanwise.com.au https://www.facebook.com/planetindonesia1/ https://fb.me/OceanwiseAustralia
Report author(s) and date	Abrar Ahmad, Adam Millar, Andrew Davenport, Katharina Fannai, Ben Fitzpatrick.

● Project Summary

This project was carried out in 6 villages located within the roughly 15,000 hectare mangrove forest landscape of Kubu Raya regency, West Kalimantan, Indonesia (Fig. 1). Forest cover in the project site consists primarily of mangrove species grading into lowland peat forest. Communities in these villages depend primarily on fisheries and agriculture activities that includes harvesting non-timber forest products (NTFP) such as honey, mangrove fruits, nypa, mud-crab, fish, shrimp, and shells from their surrounding forests and adjacent rivers. Due to lack of proper road access from nearest cities, the predominant mode of transportation to these villages from nearest large cities are by motorized boats.

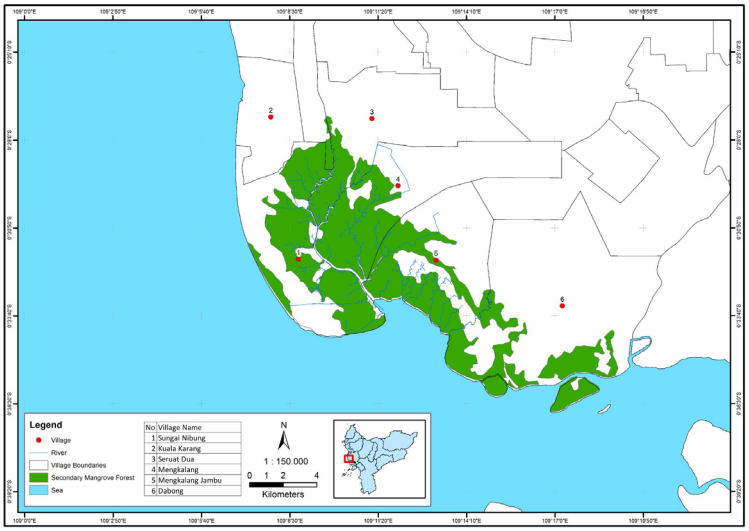


Figure 1: Map showing the locations of the 6 villages (red markers) in the Kubu Raya supported by the Darwin Initiative fund.

Prior to start of project activities, project implementers used focus-group discussions (FGDs) to identify five major issues that local community members identified as main threats facing their communities,

- **Collapse in fish stocks and income:** Communities detailed a collapse in fish, crab, and shrimp populations that had directly led to reduced household income. This stemmed from lack of clear fishing grounds, inter- and intra-village conflict, and high rates of migrant fishermen from other areas entering the fishing grounds. Mud crabs were highlighted as the most valuable commodity currently collapsing.

- **Lack of access to government services:** Due to the rural nature of the village, communities noted that access to education, health, and other government services were almost non-existent in their village. Community members repeatedly mentioned issues with public health and education. For villages that did have community health clinics and schools, many were not staffed or had been built by government agencies but then never staffed or equipped.

- **Mangrove Loss:** Communities identified that illegal logging, aquaculture development, and logging for firewood was a cause of conflict between and within villages. Resource-user rights were still unclear and despite some villages having management of their forests restored through the Social Forestry scheme, outside users often illegally logged and cleared mangroves within their mangrove forest areas.

- **Lack of 'Bargaining Power' and Supply Chain Issues:** Communities identified that they had no systems in place that allowed fishermen or other producers to negotiate with middlemen on commodity prices. Many villagers noted the lack of communal structures (e.g. business groups or coops) and noted failed past attempts to develop fishermen cooperatives and social business schemes. This led to a dependency on middlemen who often dropped prices during peak seasons and exploited resource users and producers across the landscape.

- **Lack of Financial Services and Institutional Access:** Communities also identified that many villages had no access to financial services (loans, savings, etc.). However, majority of the villagers felt exploited by Credit Unions and banking schemes that often lured them into loan programs with high interest rates. This drove many individuals into logging and exploitative activities to repay their debts.

In order to address the biodiversity challenges in the project location, project activities were designed in light of the strategic goals under the Aichi Biodiversity Targets. In particular, biodiversity challenges addressed by the project included collapsing fishery stocks and deforestation of mangroves. Declining mud-crab stocks were reversed by co-implementing temporary marine reserves (TMRs) and creating socio-economic incentives for partner villages to support such measures, while existing deforestation was reversed through locally-led deterrence created by community-led river patrols and reforestation of degraded mangroves. Our communal business approach (e.g. Small micro-enterprises) provides entrepreneurship, training and business investments to low-income communities living in tandem with biologically important ecosystems. More than 90% of the village's primary livelihood is dependent directly (e.g. fishermen) or indirectly (e.g. selling fishing gear, making products from fish bycatch) upon the local fishery.

Specific community needs were sourced through community hearings, semi-structured FGDs, in May–July 2017. Community members were asked to identify issues they felt that influence social, economic and environmental dimensions of their day-to-day lives. Facilitation teams also asked for individuals to identify obstacles and barriers to their future. Semi-structured vision exercises were conducted to visualize conditions 15 years ago and 15 years in the future without fundamental changes made to social, economic and environmental dimensions. Three hearings were conducted, one with village leaders, one with only women, and one ‘mixed’ with community members. These community hearings were open with no participant limit as they were intended to facilitate and activate discussion early in programme design. Participants often came and left. To address challenges and opportunities in the wider landscape, Planet Indonesia together with Oceanwise held a multi-stakeholder meeting in the capital city of West Kalimantan, Pontianak, in 2018. At the meeting the 7 village leaders and important figures from our target area, the Regional Department of Fisheries (Dinas Perikanan), District Department of Fisheries, Regional Department of Forestry, District Department of Forestry (Dinas Kehutanan), The Ocean and River Police, as well as the Regional Department of Ocean and Fisheries Management (BPSPL). The meeting lasted for two days in which our current pilot village, Sungai Nibung, gave the first presentation on the success of the project from 2016-2018. Planet Indonesia presented both from our Conservation Department and Community Services Department, and the Regional Department of Ocean Fisheries and Management (BPSPL) presented the legal process for all 7 villages to band together and register their Locally Managed Marine Area (LMMA). This meeting was extremely successful and attended by a total of 40 individuals.

In order to address the challenges and opportunities sourced through community hearings, project activities were designed to address the following community aspects:

- **Inclusive Governance :** The CC model is a blended approach between a community-led organization and a communal business. It is the main vehicle for which Planet Indonesia delivers services to community partners. Moreover, it acts as the local governing body who oversees the implementation of the project at the village-level. The CC plays a critical role in a variety of aspects from delivering health services to advocating for the establishment of the LMMA created through this project.
- **Community health**: the People- Health -Environment (PHE) approach aims to improve community health through health advocacy and improve access to basic services (see Mayhew et al., 2020). The PHE approach is intended to remove the barrier of poor health that often limits community engagement in marine conservation (see Singleton et al., 2019)
- **Participatory Fisheries management**: the programme strategy included temporary mangrove reserves (TMR) for 18 rivers in Sungai Nibung. This system periodically banned

fishing and use of a fishing ground (river) for 3 months to improve catch rate and size of the target species, a management strategy that has worked elsewhere (see Goetze et al., 2018).

- **Education and Literacy**: there is a lack of access to education in Sungai Nibung, three year-long literacy courses were made available to women and youth. Similar to PHE, the conservation tool education services were intended to remove barriers and create the enabling conditions that engage resource users in natural resource management.
- **Livelihood improvement**: the CC approach provides training, startup capital and access to a village savings and loan programme to improve economic resilience and secure livelihoods

● Project Partnerships

Village Partners - We deliver all program services through village-led partnerships. For this project, we have assisted all of our village partners to secure rights and tenure over coastal mangrove resources. Therefore, compared to other projects which may be working in a state-led protected area, our project focuses on grassroots community-led management. We have signed MOUs with all village partners that outline roles, responsibilities, and overarching themes in our project. (MOUs attached in supporting evidence)

Government Partners - As mentioned above, our project works in coastal ecosystems in which tenure and management has been secured by local communities. However, we do include the district department of forestry (KPH), provincial department of natural resources conservation (BKSDA), and provincial department of fisheries (DKP) in all coordination of activities. Currently, we have a 5 year MOU with BKSDA (2020-2025). We are in the process of developing MOUs with other government agencies to strengthen government capacity related to community-led programs.

Planet Indonesia (YPI) and Oceanwise (OW) - The partnership between YPI and OW is collaborative, with YPI leading the project in-country, providing local support, implementing the everyday project activities including social surveys, workshops, training, mentoring, and ongoing implementation of on-the-ground activities. OW role is to provide technical marine science expertise to assist YPI in implementing the project. OW led environmental aspects of the project including mud crab fisheries science and mangrove ecology. OW informed the environmental monitoring practices undertaken, so as to assess the achievement of conservation objectives of mangrove restoration and mud crab fishery improvement.

OW and YPI complement each other's skill sets well, providing the ability to conduct all aspects of the project. Challenges have arisen as a result of COVID19, where Australian based OW were not able to travel into the field for the second half of the project. These challenges were overcome by OW compiling a set of 4 field monitoring protocols for YPI to undertake. The partners will continue to work together into the future, with immediate objectives to submit research undertaken as a result of this project into peer reviewed journals, and to compile an IUCN endorsed Nature Based Solutions report to allow the adoption of this conservation cooperative model by other institutions in different areas.

● Project Achievements

a. Outputs

In order to address the problems facing the coastal communities, the following six (6) project outputs were identified.

Output 1: Mangroves are protected in the SD temporary mangrove reserve (TMR) system

At the start of this project, one of the partner villages, Sungai Nibung implemented their second closure from 1st April 2018 to 30th June 2018. This closure took place *before* the start of the grant but opened up right after the official grant start date (Table 1). Sungai Nibung controls around 18 rivers and this closure consisted of 3 rivers that were closed from 1st April 2018 to

5th July 2018. This closure was ratified through a village level agreement and then patrolled regularly (8-12 hrs a day) during the closure period by villagers.

By Year 3, an additional three (3) villages (Mengkalang Jambu, Mengkalang, and Seruat Dua) signed agreements to carry out temporary river closures activities. In addition, two other villages, Dabong and Kuala Karang, are actively participating in TMRs across the project site. The mangrove forest landscape of Seruat Pulau Tiga has an area of 9,776 hectares including Dabong village. **(Output Indicator 1.1)**. These TMRs were an important first step in setting-up the 11,444 ha LMMA (**Outcome Indicator 1.1**).

Before the start of this project, there were no forest patrol units in the project area. The only patrol that was taking place was during the temporary closure by mud-crab fishermen in Sungai Nibung village. By end of Year 3 (March 2021), four (4) patrol units (**Output Indicator 1.2**) with a total of 28 villagers (**Output Indicator 1.3**) were established in the four (4) project supported villages (Source: *Output 1.3 Rekaman semua kegiatan patroli.zip*). These forest patrol teams carry out routine patrols to protect and secure village forest areas during non-closure months and enforce closure rules during temporary river closures.

Output 2: Participating villages implement the TMR system to improve community-led mangrove management and associated fisheries.

Before the start of project activities, only one (1) village was participating in instituting TMRs in Kubu Raya. With support from this project, five (5) more villages participated in TMRs from August 2018 onwards. These villages include Mengkalang Jambu, Mengkalang, Seruat Dua, Dabong and Kuala Karang (**Output Indicator 2.2**) (*Source: Output 2.2 KESEPAKATAN BERSAMA*). Table 1 provides detailed information about the start and end dates of river closures and the number of participating villages.

Table 1: Start and end dates for Temporary Mangrove Reserves (TMR) in Kubu Raya

TMR #	Start Date	End Date	Participating Villages	Name of village
1	01/10/2017	05/01/2018	1	Sungai Nibung
2	01/04/2018	30/06/2018	1	Sungai Nibung
3	01/11/2018	31/01/2019	1	Sungai Nibung
4	01/08/2019	31/10/2019	3	Sungai Nibung, Seruat Dua, M. Jambu
5	01/03/2020	31/05/2020	6	Sungai Nibung, Seruat Dua, M. Jambu, Mengkalang, Kuala Karang, Dabong
6	17/10/2020	14/01/2021	6	Sungai Nibung, Seruat Dua, M. Jambu, Mengkalang, Kuala Karang, Dabong

In order to understand the impact of the TMRs on target species, the project collected data intensively at landing sites within the village for 21 days prior to the start of a closure and 21 days after the closure is in place. Landing sites are monitored by a team consisting of one local who has been trained in data collection methods and a Planet Indonesia staff. Data collection starts at sun rise and finishes at sun-down. Data is collected on time the fishermen left, time the fishermen returned, number of crabs caught, weight of crabs, the crab class (Class A, Class B, and Class C) as well as measurements of the 5 largest crabs both width and length. This method was adopted previously by our team through our signed memorandum of understanding (MOU) with Blue Ventures, also a previous Darwin Grantee.

Data revealed 0.49 CPUE before and 0.95 CPUE after. Comparing this data to income showed that before closures the average fishermen made roughly USD$ a month and after that reported an improved income of USD$ a month. This can be attributed to the overall increase in CPUE as well as quality of the crabs harvested.

Output 3: Degraded forest patches and shrimp ponds enhanced and restored with mangrove plantings.

In November 2018 (Year 1), Oceanwise Australia conducted a monitoring trip to map out and identify locations for potential mangrove restoration and adjacent undisturbed areas. Preliminary trials of drone based mapping of replanted mangroves were conducted successfully validating this approach for monitoring mangrove growth and canopy cover. This has prepared the team well for establishing baseline plots in mangrove forest areas under various levels of natural and disturbed states.

In 2020, 20,007 seeds were planted on an estimated 0.25 ha of abandoned agricultural land. As planting was done on land directly adjacent to the coast, only 20% or about 4000 seedlings survived. This was due to high tidal waves that caused erosion leading to low survival rate in Year 2. In Year 3, an additional 17,500 seedlings were prepared to be planted in an estimated 1.7 ha of degraded mangroves **(Output Indicator 3.2)**

Additionally, in September 2019 around 3.36 ha of abandoned aquaculture ponds were reforested with around 18,000 mangrove seedlings. The survival rate of the seedlings in 2021 was 83% or around 14,940 seedlings (**Output Indicator 3.3**) (*Source: Output 3.3 and 3.4 - Jumlah Bibit yang Ditanam*).

By Year 3, a total of 38,007 mangrove seedlings were planted (**Output Indicator 3.4**). In case of seedling survival, 80% of the seedlings from the first planting survived while 20% of second planting survived (**Output Indicator 3.5**) (*Source: Output 3.3 and 3.4 - Jumlah Bibit yang Ditanam*)

The change in biodiversity of the aquaculture ponds where mangrove seedlings were planted was not directly measured due to COVID19 complications (**Output Indicator 3.5**). As the OW team could not go into the field to monitor the biodiversity using the Before After Control Impact experimental design, rather a simplified monitoring protocol was remotely taught to the YPI team, which measured only the transplanted seedlings. These were compared to seedlings that were planted by the government prior to this project, measured by OW in Nov 2018. The YPI seedlings transplanted were similar in growth rate to those previously planted (NBS section 3.2.3.3).

Data collected in 2018 for the other planted seedlings included invertebrate biodiversity and abundance, reported on in a manuscript being prepared for submission (Davenport et al. draft mangrove impact manuscript). This showed that the aquaculture ponds transplanted with seedlings had an invertebrate biodiversity typical of this system, which is significantly better than aquaculture ponds barren of mangroves (Fujioka et al. 2007; Bosire et al. 2008; Nagelkerken et al. 2008). While these ponds were not restored to natural mangrove forest areas, this is impossible in the timeframe of the project, as this can take 30 years or more here (Lewis 2005; Kairo et al. 2008), while abandoned mangrove ponds that do not have any restoration interventions are unlikely to ever naturally recover (Hinrichs et al. 2009).

As a result of this project, 9 of the 12 aquaculture ponds in the Sungai Nibung study site were earmarked for conservation, and as a result of the achievements to date, we have developed a management plan with the long term goal of restoring them to their natural state. This involves first breaking down the earthen walls of the ponds to restore natural hydrological conditions, which can be supplemented with mangrove plantings. Field data collection protocols will be collated to train the YPI team to monitor each of the ponds earmarked for restoration, including tree growth data and biodiversity assessments.

Output 4: Micro and small enterprises are established to economically empower local fishermen while engaging them in the TMR system.

At the beginning of the project, there were already two (2) established Conservation Cooperatives (CC) in the Sungai Nibung village and the Tanjung Ruu sub-village with a total of 161 CC members. In Year 1 (September 2018), village leaders along with relevant government stakeholders were invited to a multi-day project inception workshop in Pontianak. At the end of the workshop, village leaders from five (5) other villages in the Kubu Raya landscape showed their willingness to participate in this project supported by the Darwin Initiative. At the end of Year 3 (March 2021), there were 7 CCs with a total of 699 CC members, which includes 140 fishermen from the partner communities.

A central component of each CC is its village savings and loans (VSL) program. As a result, the growth of this program through savings generated by the CC members is a sign economic sustainability of each CC. By Year 2 (2018 to 2019) total savings grew by 156% and in Year 3 (2019-2020) savings grew by 60% across all CCs together (**Output Indicator 4.4**) (*Output 4.4 Saving and loan program monitored every month*).

Output 5: Literacy program continues running to improve capacity and job market access for women and youth.

As part of our non-economic support to partner communities, tutoring sessions were organized with support of Pusat Kegiatan Belajar Masyarakat (PKBM). PKBM is a registered Indonesian NGO that provides literacy training and administers government national exams. Project funds were used to identify and support tutoring lessons for individuals interested in continuing their education through monthly tutoring sessions conducted by PKBM tutors. By Year 3, a total of 443 students (169 boys and 274 girls) had enrolled into the literacy training program from 5 project supported villages (**Output Indicator 5.1**) (*Source: Output 5.1 Tingkat pendaftran dalam program literasi*). Out of this, 265 students have appeared for the national exam and 70% (185) of them have passed with a certificate (**Output Indicator 5.3**) (*Source: Output 5.3 - Tingkat kelulusan (5%) dari program keaksaraan dasar*). Students who pass the national exam receive a certificate that helps with job placement and improves access to the labor force. At present, 90 students are continuing their education and preparing for the national exam, and 88 students have enrolled in the 2021/2022 session.

Output 6: Family Planning and Health Sanitation program established to improve access for women/youth.

This project also created greater access to public health services for partner villages through the Healthy Family Initiative (HFI) Program. A key aim of this program was to recruit and train local women to become health ambassadors (HAs) who will be able to extend public health messaging that is in line with Indonesian government's health strategy in their communities. By Year 3, a total of 43 women were trained as HAs in 4 villages in the project site **(Output Indicator 6.1**) (Source: *Output 6.1 Jumlah Duta Kesehatan*). HAs carry out monthly visits to households in their communities to provide information about upcoming government health campaigns and collect data on key indicators used by government public health agencies to measure status of community health. In total, trained HAs visit 322 households each month (**Output Indicator 6.2**) (Source: *Output 6.2 Jumlah rumah tangga yang dijangkau dari program keluarga sehat*)

Before household visits were carried out by HAs, a survey was carried out to understand the access to family planning information in the target community. Survey results showed that 84% of community households never received any information related to family planning from health workers. Evaluation results from Year 3 show that there has been a 31% increase in households who have received information about family planning (**Output Indicator 6.3**) (Source: *Output 6.3 Hasil data pre dan post test*). Similarly, in terms of access to contraceptives by women, baseline figures show that around 49% of women had access to contraceptives. At the end of Year 3, this figure increased to 71% (an increase of 22% compared to baseline) **(Output Indicator 6.5)** (Source: *Output 6.5 Data Base Data Dampingan Kader Kesehatan*).

b. Outcome

The intended outcome of this project was to '*reduce socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries'.* In order to measure the progress towards this outcome, seven (7) measurable outcome indicators were identified in the logframe. The following indicators were used to track a specific aspect of the stated outcome.

Indicator 1.1: The Locally Managed Marine Area (LMMA) created at the end of the project includes 15,000 ha of mangrove forest and coastal fisheries

This project successfully created the first LMMA on the island of Borneo. By the end of the project period, an agreement was co-created and signed by members of the Village Forest Management Unit (LPHD), Village Government, Conservation Cooperatives, and local fishermen from the five (5) project supported villages in Kubu Raya (Source: Outcome 1.1 - LMMA Ratification FInal.pdf). The LMMA agreement provides the basis for the creation of a 11,444 hectares LMMA and its different use-zones (Table 2). The location of the LMMA was considered based on SMART patrol results (low human activity variables and high wildlife encounters), location of river openings (high potential crab population in each village) and village forests (secondary mangrove forest and core blocks in each village). Additionally, various zones designated within the LMMA aligns with the Indoneisan government's consideration regarding the division of zones in coastal areas.

Table 2: Village-wise area coverage and zoning of LMMA in Kubu Raya coastal sites

Village	Mangrove area managed	No-take Zone	Sustainable Use Zone
Sungai Nibung	3058	326.95	2731.05
Mengkalang	1984	56.25	1927.75
Mengkalang Jambu	2920	257.24	2662.76
Seruat Dua	613	-	613
Dabong	2869	55.79	2813.21

Indicator 1.2: Increased mud crab harvest rates (25-50%) as a result of TMR system using a before-after-control-treatment analysis

Fisheries dependent data was used to calculate catch per unit effort (CPUE) in terms of both weight per trap and number of crabs caught per trap. Analysis of the fisheries monitoring data revealed that mangrove crab harvest rates increased by 29% in terms of weight CPUE/trap and 13% in terms of individual CPUE/trap in the rivers that were under the temporary mangrove reserves (TMRs) (treatment sites) compared to the rivers that weren't (control sites) (Table 3).

Indicator 1.3: > 85% Loan repayment rates for community members who have taken a loan from Cooperative by the end of year 3.

In the case of borrowers from the VSL program, the maximum duration for loan repayment is one (1) year. Within the project period, 50 first-time borrowers who completed their 1-year term had a loan repayment rate of 94% and eight (8) second-time borrowers who completed a 12 month term had a loan repayment rate of 92%.

Indicator 0.4: > 75% of individuals who received loan reports in the 3rd year managed to increase income at the end of the project

Over the project period, a total of 97 people took a loan from their CCs. Among the people

who took loans, 61 members took the loan for business purposes (Fishing, Farming, Plantation, Other small businesses). From 61 people, 24 people took the second loan, and 4 people took the third loan (Source: *Outcome 1.5 The Conservation Cooperative financial report.zip*).

Table 3: Results from before-after data from non-TMR rivers (control) and TMRs rivers (treatment)

Indicator	Control		Treatment	
	Before	**After**	**Before**	**After**
Average of CPUE weight/trap	0.0596	0.0608	0.0689	0.0890
	+2%		+29%	
Average of CPUE individual/trap	0.2365	0.2390	0.2607	0.2958
	+1%		+13%	

Indicator 1.4: >80% of seedlings survive in reforestation plots (Year 3 = 80% of 35,000 seedlings have survived)

By March 2021, 38,007 mangrove seedlings were planted of which 49% survived into year 3 (18,940 seedlings). The primary reason for this low survival rate is that the location of where the seedlings were planted in Year 2 were along a coast that experienced severe erosion after planting was completed. In addition, unfavorable weather conditions led to destruction of many of the seedlings from this planting.

Indicator 1.5: 15% reduction in mangrove deforestation across the site by the end of Year 3 (baseline = set at year 1; year 3 = 15% reduction from baseline)

Using the Global Forest Watch tool, we determined change in mangrove loss before and after the project. We only used the primary mangrove forest area, derived from Sentinel 2 satellite imagery and ground truthed data, discluding aquaculture and agriculture areas external to the forest. Between 2001 and 2017, 939ha of mangrove forest was lost, at a rate of 55.2ha/yr. For the project duration between 2018 and 2020, 69ha was lost at 23ha/yr. In the three years preceding the project 170ha was lost at 56.7ha/yr. This demonstrates a reduction in deforestation from a long term and short term baseline by 68% and 69% respectively. In the term of the project, 24 ha was lost in 2018, 31 ha lost in 2019 and 14 ha lost in 2020. In Year 3 deforestation was 42% less than in Year 1. The majority of mangrove lost during the project is a result of agricultural encroachment in the northern and the southeastern borders. The villages responsible for these areas have only been involved for less than half of the project duration.

c. Monitoring of assumptions

Assumptions from the project design phase remained constant throughout the project period. Below we note key assumptions and our experience and observations with these assumptions & risks throughout the project period:

Assumption: Community members are open to new natural resource and fisheries management plans
Comments: Based on the creation of the LMMA we can conclude that communities remained open to new natural-resource management plans and innovations.

Assumption: Communities are open to Conservation Cooperatives and continue to enroll and invest in Savings & Loans program
Comments: The Savings and Loans programs is a cornerstone for every CC. Across the project site, growth in both CC membership and CC savings funds indicates that community members are open to this program.

Assumption: Communities value CC services provided and enroll in healthcare and education programs
Comments: Proxy indicators from the health program suggest that community members are open to participating in YPI programs.

Assumption: SMART patrol teams collect high-quality data in the field and abide to rules and regulations in the program's Standard Operating Procedures
Comments: Continuation support and use of data generated from the SMART program by BKSDA (Provincial Natural Resource Management Agency) in management of project sites indicates data quality and integrity along with observance of park regulations. Source:

Assumption: Members are interested in participating in TMRs
Comments: The number of participating villages and size of TMRs indicates that their was landscape wide support and participation in TMRs

Assumption: Community members are open to new livelihoods

Comments: Indicators of new income generating activities suggest that community members are indeed open to new livelihood opportunities.

Assumption: Communities are open to Conservation Cooperatives and continue to enroll

Comments: Enrollment continued throughout the project period and surpassed our year one target, indicating community excitement and motivation around enrollment.

Assumption: Communities value CC services provided and enroll/remain active in health, literacy, and finance programs

Comments: Enrollment continued throughout the project period and surpassed our year one target, indicating community members remained active in health and education interventions.

Assumption: Communities are active in savings funds in community-based savings/loans program

Comments: The size of the savings program grew consistently throughout the project period, despite economic challenges related to the global pandemic. This indicates communities have trust in the savings/loans program

Assumption: Women and youth enroll in healthcare and family planning services

Comments: The program continued to grow over the project period, indicating excitement around healthcare services.

Assumption: Members enroll in literacy program and remain active to reach graduation

Comments: The program continued to grow over the project period, indicating excitement around education services.

Assumption: Health ambassadors are properly trained and remain active and effectively distribute healthcare services

Comments: Health ambassadors were able to meet their targets, suggesting they were properly trained and capable of reaching many households through weekly visits.

d. Impact: achievement of positive impact on biodiversity and poverty alleviation

Positive impacts on biodiversity conservation identified are as follows :-

- Improved mangrove forest health and restoration.
- Protection of mangrove associated biodiversity
- Improved size and abundance of Mud crabs.
- Awareness of climate change impacts such as coastal erosion.
- Creation of a locally managed marine area (LMMA).

Positive impacts on poverty alleviation identified are as follows :-

- Improvement in Community health and Wellbeing
- Increased Education including Literacy and numeracy
- Livelihood improvement and increased Household income

- Focus on Women and youth
- Assisting small business development predominantly in farming, fishing, other livelihoods
- Improved village governance, treasury, meetings, committees, village boundaries, inter and intra village relationships

The results of biodiversity assessments undertaken at TMR sites and revegetation plots including list of species, their abundance and biomass, mangrove canopy cover, density and health are presented below. Crab indices monitored including species, abundance, biomass, assemblage composition and related data.

3.1 Fishery independent monitoring of Temporary Marine Reserve effect

- **Size**

In the 2018 to 2019 closure, the mean size of male crabs was significantly greater in open rivers in November and significantly greater in TMR rivers in February (Fig 2, Table 4). The size of males was significantly greater in open rivers before the closure than after and in TMR rivers they were significantly greater after (Fig 2, Table 4). The mean carapace width of female mud crabs in open rivers significantly increased from November 2018 to February 2019 (Fig 2 Table 4). There were no significant trends in size for the 2020 to 2021 closure. This is likely due to the reduced number of crabs caught compared to the former closure, more specifically the open rivers of the former (Table 4). However, there was an increase in the mean size of males and a decrease in the mean size of females.The mixed results from the size assessment highlight that a sample size of greater than 50 crabs in each assessment unit is required to accurately reveal trends in mean size of this mud crab population. However, from the sample sizes obtained from the first closure, has revealed that mud crab size, particularly in males, increases through the enforcement of TMR's, which may also be supported by the latter TMR's results, despite being an insignificant trend. There is also evidence of displaced fishing effort, indicated by a decrease in male mud crab size in open rivers during the TMR.

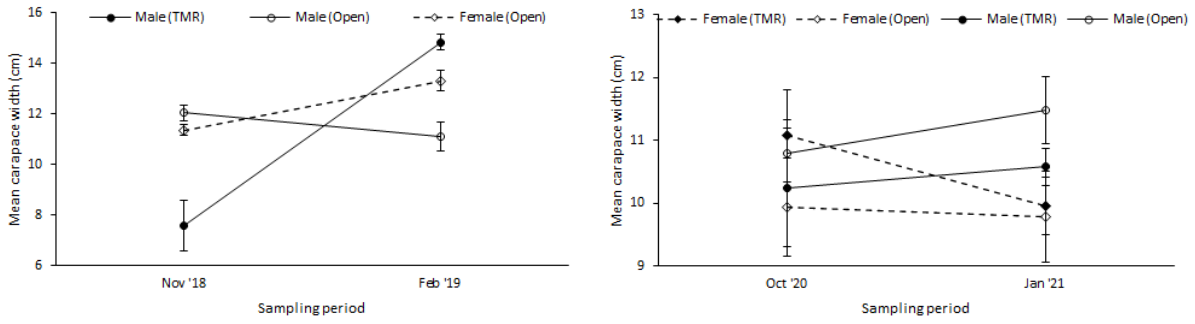


Figure 2. The mean carapace width (cm) of male and female crabs captured within TMR and open rivers before the closure in November 2018 and after in February 2019. There were insufficient female crabs captured in closed rivers in both sampling periods, so this data has been omitted. Error bars represent standard error.

- **CPUE**

CPUE was calculated using effort as each pot deployed, however the time that pots were in the water was also recorded for the 2020/21 closure. The CPUE calculated in this way was compared against the time they spent in the water, through visualisation on a scatter plot (CPUE=y & time=x). It was evident that there is no relationship between these variables from this data.

In the 2018/19 surveys, the CPUE of male crabs was the same between zones in November and February (Table 4, Fig. 3). The CPUE of female crabs was significantly greater in open

rivers than TMR during the November sampling period, and in the open rivers was greater in November than February. In the 2020/21 TMR, there was a significant increase in abundance of male crabs in TMR rivers from October to January, and in January, there were significantly more in TMR rivers than open.

Table 4. Crab gender, before and after temporary mangrove reserve closures.

Closure	Gender	Group	Comparison	Stat	df	p-value	sig
2018 - 2019	Male	November	O-TMR	W = 30	-	9.6E-04	***
		February	O-TMR	t = 4.5	28	1.2E-04	***
		Open	N-F	W = 214	-	0.0468	*
		TMR rivers	N-F	W = 80	-	4.4E-04	***
	Female	November	O-TMR	N/A	N/A	N/A	N/A
		February	O-TMR	N/A	N/A	N/A	N/A
		Open	N-F	t = 4.5	40	5.9E-05	***
		TMR rivers	N-F	N/A	N/A	N/A	N/A
2020 - 2021	Male	October	O-TMR	t = -0.53	24	0.60	NS
		January	O-TMR	t = -1.6	38	0.12	NS
		Open	O-J	t = 0.90	33	0.37	NS
		TMR rivers	O-J	t = 0.44	29	0.66	NS
	Female	October	O-TMR	t = 1.0	13	0.31	NS
		January	O-TMR	t = 0.20	16	0.84	NS
		Open	O-J	t = -0.14	13	0.89	NS
		TMR rivers	O-J	t = -1.4	16	0.19	NS

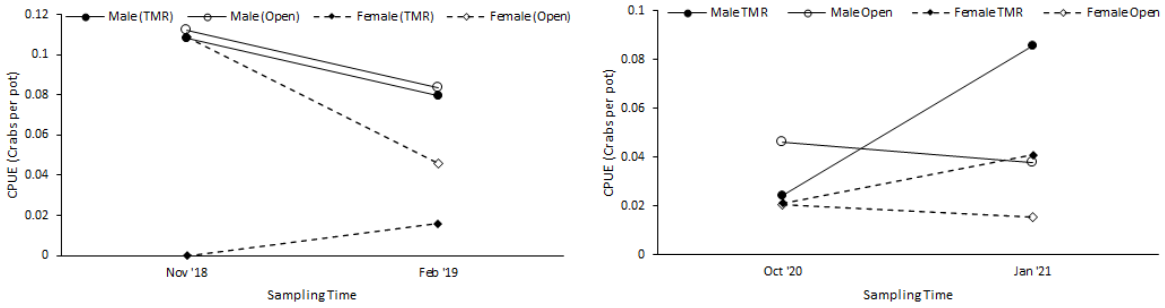


Fig. 3. A comparison of CPUE (number of crabs per trap) for males and females over two sampling periods from fishery independent data.

The results here indicate that there is negligible impact of the TMR on females, as their abundance is more likely tied to their migration, and have less site fidelity to rivers. Meanwhile males are highly territorial and will remain in rivers with the best habitat and food availability. The results indicate this, with a substantial increase in their abundance in the latter closure in TMR's only. Combined with the size results, an effect may be apparent, where females are independent of the TMR, but the males are significantly affected, not only increasing in size but abundance too. However, the conflicting results between the first and second TMR's indicate that either 1) that more data is required to clarify the relationship; 2) there are confounding factors impacting the results, such as season, calendar year or the size of the TMR ('18-'19 = 3 rivers, '20-'21 = 13 rivers).

• Population structure

In the 2018-2019 closure, the sex ratio was significantly different between zones before the closure and after, with more males in TMR rivers compared to the open rivers in both sampling times (Table 5 & 6). The sex ratio in open rivers significantly shifted to more males from approximately even before the closure. In the 2020/21 period, the only trend close to being significant was temporally in TMR rivers, with a slight decrease in females in January compared

to October. The significant results in the former closure sampled independent of fishers, is likely a result of larger sample size of crabs, due to the professional fishers used in sampling. Nevertheless, there was a significant trend in the open rivers, suggesting that females decreased from November to February, relative to males, indicating migration. This may be the cause of the discrepancy of CPUE in open to closed rivers, as they are professional crab fishermen with a financial interest in gaining greater catch compared to objective marine scientists. The professional fishers were not used for the TMR rivers, as they would have had to relinquish their catch.

Table 5. The sex ratio and maturity ratio found in each of the sampling units from the fishery independent and dependant data. * The open river sampling from the '18 - '19 closure was supplemented with sampling using the local fishers, to increase the sample sizes.

Sampling period	River status	No. pots	No. crabs	CPUE (total)	Sex ratio (M:F)	Juvenile to Adult ratio
Nov 2018 (before closure)	Open*	285	66	0.232	1.1:1	1:6
	TMR rivers	74	8	0.108	8:0	1:0.3
Feb 2019 (after closure)	Open*	239	31	0.130	1.8:1	1:5
	TMR rivers	126	12	0.095	5:1	0:12
Oct 2020 (before closure)	Open	390	26	0.067	1:0.44	1:1.2
	TMR rivers	329	15	0.046	1:0.86	1:2
Jan 2021 (after closure)	Open	451	24	0.053	1:0.41	1:1.4
	TMR rivers	269	34	0.126	1:0.48	1:1

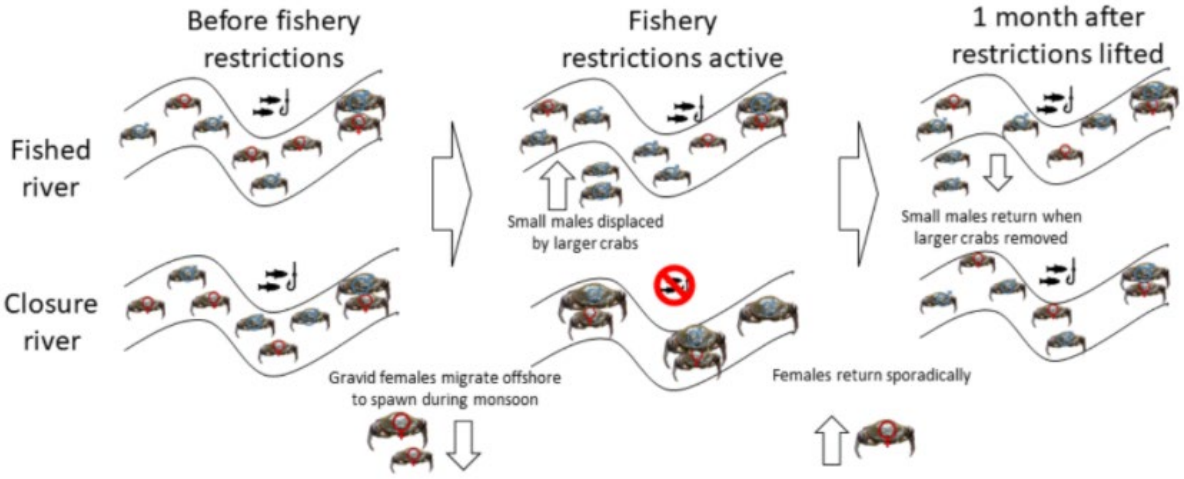
Table 6. The output for statistical analysis of the sex ratios using a chi squared test for associations, for each of the 2018/19 and 2020/21 closures.

Closure	Group	Comparison	X2 Stat	df	p-value	sig
2018 - 2019	November	O-TMR	7.75	1	5.37E-03	**
	February	O-TMR	7.9	1	4.94E-03	**
	Open	N-F	5.18	1	0.02	*
	TMR rivers	N-F	1.6	1	0.21	NS
2020 - 2021	October	O-TMR	1.78	1	0.18	NS
	January	O-TMR	0.17	1	0.68	NS
	Open	O-J	0.03	1	0.86	NS
	TMR rivers	O-J	2.8	1	0.09	NS

The ratio of juveniles to adults was significantly different between zones before the closure (Table 7, Figure 4) with less adults and more juveniles in TMR rivers compared to open. The maturity ratio in TMR rivers significantly shifted to more adults than juveniles after the closure than before. No significant changes in the juvenile to adult ratios were observed in the 2020/21 closure. These results support the argument raised from the size assessment, where displaced fishing effort from TMR rivers into open areas results in an increase in juveniles before the closure in TMR's and after the closure there are far more adults. This is also an indicator that larger mature males are establishing territories and displacing juveniles in the protected rivers.

Table 7. The output for statistical analysis of the adult to juvenile ratios using a chi squared test for associations, for each of the 2018/19 and 2020/21 closures.

Closure	Group	Comparison	X^2 Stat	df	p-value	sig
2018 - 2019	November	O-TMR	136	1	2.20E-16	***
	February	O-TMR	2.31	1	0.13	NS
	Open	N-F	36	1	1.97E-09	***
	TMR rivers	N-F	0.42	1	0.52	NS
2020 - 2021	October	O-TMR	0.003	1	0.95	NS
	January	O-TMR	0.97	1	0.32	NS
	Open	O-J	0.75	1	0.39	NS
	TMR rivers	O-J	0.19	1	0.66	NS



3.2 Assessment of the mangrove transplantation in 2019 by Planet Indonesia

- **Analysis of the 2019 mangrove transplants**

The analysis of the 2019 transplanted mangrove plants showed a survivorship of 85% one year after the transplantation. The overall health score of these transplants was indicated as 2.95 (± 1.47 SD, Figure 5) on a scale where 1 means excellent health and 5 means the total degradation. The average tree height was measured at 74.61 cm (± 33.86 SD) and the average tree diameter was 5.01 cm (± 2.38 SD). The average canopy cover was calculated to be 19.16 % (± 21.36 SD).

- **Comparison of the mangrove biomass accumulation rate between 2015 and 2019 transplants**

In 2019, Planet Indonesia planted Rhizophora spp. exclusively. Hence, for the comparison of the biomass accumulation rates between the 2015 and 2019 transplanting attempts, only Rhizophora spp. were included. The indonesian government was involved in driving the 2015 transplantation of some of the aquaculture ponds. There was no significant difference in the mean biomass accumulation rate between the 2015 and 2019 transplanted aquaculture ponds (t-value = 1.0601, df = 108, p-value = 0.2915, Fig. 6).

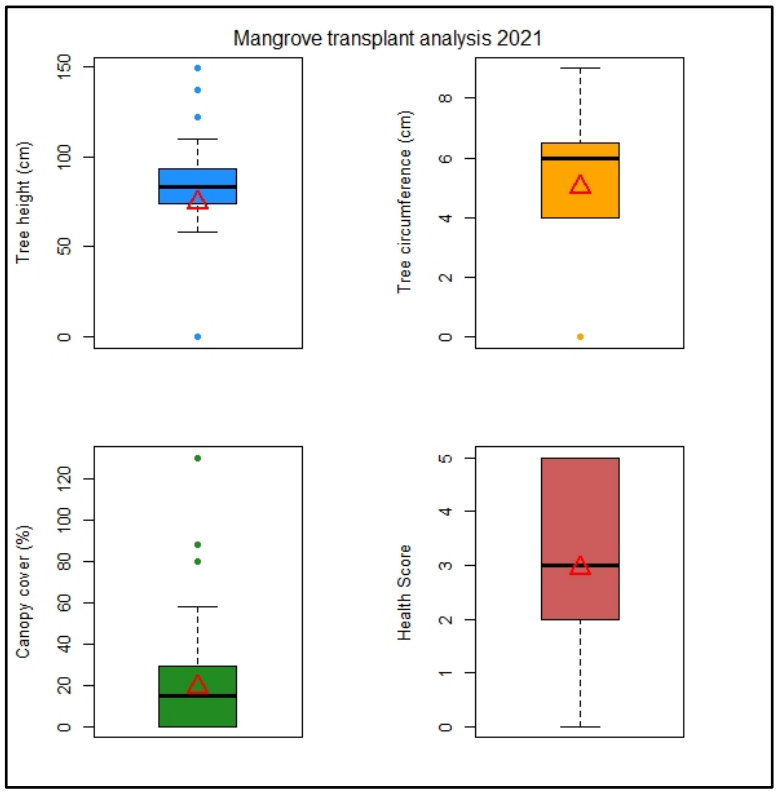


Figure 5. Mangrove transplant health analysis showing tree height, circumference, canopy cover, and health score

This result indicates that the insufficient mangrove recovery in aquaculture ponds was not due to the inefficiency of the 2015 transplanting attempt. It therefore supports the implications derived from the assessment of the effects of human activities on mangrove forests (Mangrove impacts draft manuscript). The loss in biomass resulting from the deforestation of the mangrove forests to create aquaculture ponds impacts the ecosystem on a long term. The mangroves in those areas recover at a much lower rate compared to naturally regenerating mangroves on cleared land. Due to the remaining restriction in the water flow, the mangrove recovery cannot be improved by transplantation. On this basis, it is mandatory to restore the natural hydrology within the aquaculture ponds. This would support the dispersal of the mangrove seeds and benefit the mangrove population growth overall.

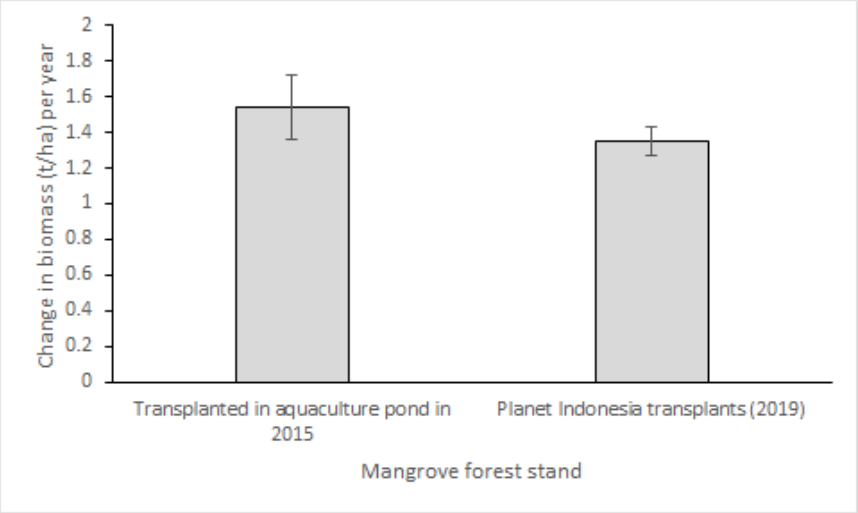


Figure 6. Comparison of the biomass accumulation rate of Rhizophora spp. between the previous mangrove transplantation attempt in 2015 and the following transplantation attempt by Planet Indonesia in 2019. Numbers in the bars represent the average increase in biomass (t/ha) per year including the associated standard error.

- **Biodiversity.**

Distance based measures of the density of biodiversity were measured throughout the study site including mammals, birds and reptiles. Boats were used to conduct transects along all rivers in the project site. Rivers were surveyed from 5:30 AM - 10:00 AM everyday for a four week period. Total species richness observed in this survey was 103 species, including 92 birds, 6 mammals and 5 reptiles (Figure 7). The estimated asymptotic species richness for this area is about 132 species (Simpson's diversity 27.7, Shannon's 40.6). The total species richness would likely be far greater if multiple survey methods were used and more taxa included in the analysis (e.g. fish, mangrove trees, invertebrates). The map below shows the hotspots of species richness across the project site, calculated using the number of species observed in 100m segments of the transects. In addition, rivers have been identified on an 'importance scale' based on the species richness, as well as the number of species they contain that are protected under P106 Indonesian law and categorised as vulnerable, near threatened, endangered, critically endangered or data deficient by the IUCN red list. There is a clear hotspot of diversity and importance for threatened and protected species in the centre of the study site. This location also coincides with where an abundance of proboscis monkeys and smooth otters are found.

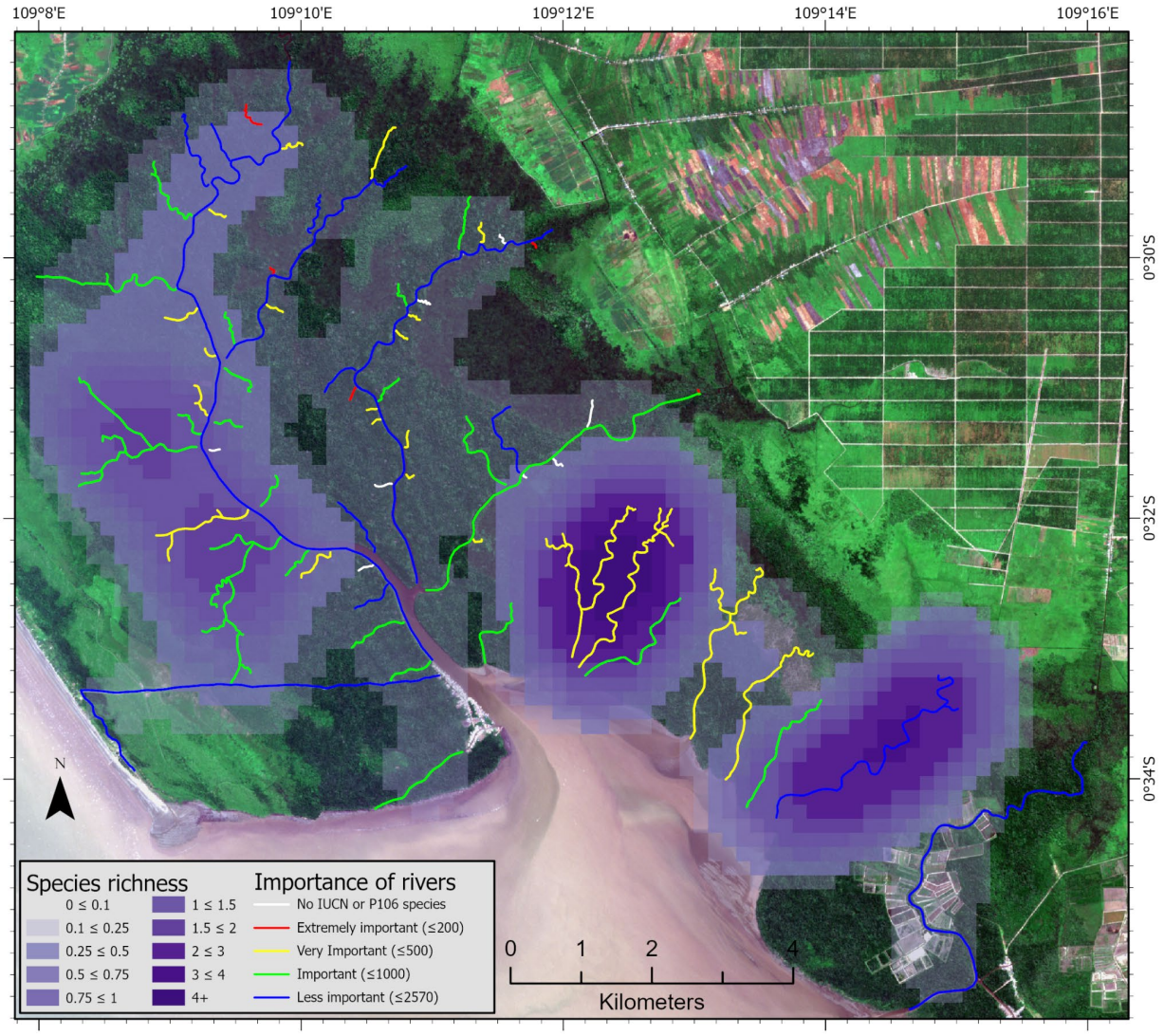


Figure 7. Species richness kernel density across the study site, with kernels being the number of species in 100m segments of river transects. Values are in species per hectare, for a cell size of 200m2 and search radius of 1000m. This density analysis does not account for areas without search effort, thus species densities are lower for areas with less survey effort, or farther from rivers, which should be accounted for in interpretation. Overlaid is the relative importance of rivers to threatened and protected fauna and biodiversity. Note that the extremely important rivers are often very small, indicating they may have a similar density of important species and diversity as some of the very important rivers, but due to their short length, the result is exacerbated.

• Community health.

The People- Health -Environment (PHE) approach aims to improve community health through health advocacy and improve access to basic services (see Mayhew et al., 2020). The PHE approach is intended to remove the barrier of poor health that often limits community engagement in marine conservation (see Singleton et al., 2019). During our initial surveys, community members stated that they had poor access to health related information and services due to the remoteness of their villages. This prompted us to use the 'Population-Health-Environment' approach to develop community health ambassadors to extend government health information and services within their communities. By 2020, 42 local women have been trained to extend their government public health information across more than 230 households across the project sites. Compared to before project implementation (baseline), households stated a 31% increase in access to family planning information and 22% increase in access to contraception for women. Access to such family planning information and services can prevent pregnancy-related health risks for women associated with close birth spacings,

reduce maternal and child mortality, and allow parents to invest more in each child. It also allows women and girls to pursue more educational and income-generating opportunities

- **Education and Literacy**

There is a lack of access to education in Sungai Nibung, three year-long literacy courses were made available to women and youth. Similar to PHE, the conservation tool education services were intended to remove barriers and create the enabling conditions that engage resource users in natural resource management. Since the beginning of the project, a total of 443 students (38% men and 62% women) participated in our multi-stage 'Literacy Program'. Among this, 265 students completed the different stages of the literacy program and participated in the national exam. Nearly 70% of students passed the government exams and received their certificates enabling them to seek formal employment and/or continue higher education.

- **Livelihood improvement**

The CC approach provides training, startup capital and access to a village savings and loan programme to improve economic resilience and secure livelihoods. In order to incentivise participation in the sustainable management of fishery resources through TMRs, villagers were provided livelihood development support through access to an equitable loans and savings program, access to quality basic education, and access to healthcare information and services. By 2020, the village savings and loans program generated more than GBP£ in savings that was accessible as loans to more than 600 Conservation Cooperative members to diversify and/or strengthen their existing livelihoods. Between 2017 and 2020, nearly GBP£ worth of loans were disbursed among Conservation Cooperative members.

● Contribution to Darwin Initiative Programme Objectives

a. Contribution to Global Goals for Sustainable Development (SDGs)

Planet Indonesia was selected as one of the winners of the United Nations Development Program Equator Prize in 2017. This prize is awarded to organizations who have innovative models for catalysing nature-based solutions to reach the UNDP global sustainable development goals. Our current work is strongly linked with current Global Goals for Sustainable Development:

- No poverty: our communal business approach (e.g. Small micro-enterprises) provides entrepreneurship, training and business investments to low-income communities living in tandem with biologically important ecosystems.

The human well-being outcome of this NbS project was aimed at 'reducing socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries'. Socio-economic inequalities stemmed from poor access to equitable financial capital, access to health services and basic education, as well as declining stocks of mud crabs that small-scale fishermen depend on for livelihoods.

- Good Health and Wellbeing: Our family planning and women's hygiene program empowers women and families to live happy healthier lives that are rooted in sustainable resource management.

During our initial surveys, community members stated that they had poor access to health related information and services due to the remoteness of their villages. This prompted us to use the 'Population-Health-Environment' approach to develop community health ambassadors to extend government health information and services within their communities. By 2020, 42 local women have been trained to extend their government public health information across more than 230 households across the project sites. Compared to before project implementation (baseline), households stated a 31% increase in access to family planning information and 22% increase in access to contraception for women. Access to such family

planning information and services can prevent pregnancy-related health risks for women associated with close birth spacings, reduce maternal and child mortality, and allow parents to invest more in each child. It also allows women and girls to pursue more educational and income-generating opportunities

- Gender Equality: Our program reaches nearly 3000 households currently and over 65% of our total beneficiaries are women. From revitalizing traditional art to empowering women farmers, gender equality is at the heart of our model. In 2015 we won an award through the UN Women's Project Inspire competition for combining conservation and gender inclusion work.

Of 699 individuals enrolled in the program 39.5% or 276 are women. During the project period a total of 144 loans were taken out from CCs with 31 % of them taken out from women. However, despite total enrollment for women being slightly less than half, program services were particularly geared towards targeting women. For example, the intervention provided part-time jobs for 43 health ambassadors across the project site. In addition, by Year 3, a total of 43 women have been trained as HAs in 4 villages in the project site. HAs carry out monthly visits to households in their communities to provide information about upcoming government health campaigns and collect data on key indicators used by government public health agencies to measure status of community health. In total, trained HAs visit 235 households each month.Before household visits were carried out by HAs, a survey was carried out to understand the access to family planning information in the target community. Survey results showed that 84% of community households never received any information related to family planning from health workers. Evaluation results from Year 3 show that there has been a 31% increase in households who have received information about family planning. Similarly, in terms of access to contraceptives by women, baseline figures show that around 49% of women had access to contraceptives. At the end of Year 3, this figure increased to 71% (an increase of 22% compared to baseline).

Miller et al (2020) further verified these results with community members identifying improved access to healthcare and education as an outcome of the project. Results from the study revealed that these outcomes were particularly impactful for women and youth, which were the intended beneficiaries of these services.

- Climate Action: We work closely to provide community-based services to communities in 3 sectors (business, education, and health) in exchange for protecting and restoring ecosystems. Our work is centred on both climate change mitigation and adaptation through catalysing fair and equitable development for rural communities.

Our project directly addressed climate change mitigation and adaptation. By improving community-led management of mangroves, fisheries, and coastal resources we mitigated carbon emissions through reduced and avoided deforestation. Our social-economic services are directly designed to create resiliency for rural communities, allowing them to have the social and economic tools to adapt to climate variability.

- Life below water: Our mangrove reserves program creates incentives for communities to more sustainably manage mangrove forests through restoring crab, shrimp, and estuary fisheries which are the lifeline and main livelihood for coastal communities.

Before-after assessments of catch per unit effort (CPUE) between 'Control' and 'Treatment' sites showed a significant increase in crab harvests. Particularly, we found that in rivers that were temporarily closed to fishing showed a 13% increase in individuals per trap compared to before closure. More importantly, rivers under temporary closures yielded a 29% increase in average weight of crabs compared to rivers that were never closed to fishing. Furthemore, evaluations revealed that fish biomass improved by an average of 35-50%, while average monthly incomes of fishermen increased from USD$ before temporary closures to nearly USD$ from rivers managed through temporary river closures and community-led patrols.

b. Project support to the Conventions or Treaties (e.g. CBD, Nagoya Protocol, ITPGRFA, CITES, Ramsar, CMS, UNFCCC)

- To address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Our program embraced a "bottom-up" approach, we provided community-based services in three sectors (business, education, and healthcare) in exchange for the protection and restoration of ecosystems. At the end of Year 3 (March 2021), there were 7 CCs with a total of 699 CC members, which includes 140 fishermen from the partner communities.9 target villages to help communities overcome poverty while engaging in new conservation initiatives and creating the first Locally Managed Marine Area, directly addressing Aichi targets relating to increased awareness and positive incentives for biodiversity conservation (See Annex 4).

- To reduce the direct pressures on biodiversity and promote sustainable use

It is imperative that community-led solutions be engaged that combine sustainable development with conservation. Our mangrove reserves program has created incentives for communities to more sustainably manage mangrove forests through restoring fish habitat and crab, shrimp, and estuary fisheries - the main livelihood for these coastal communities. We incentivized community adoption of temporary mangrove reserves (TMRS), mangrove and shrimp pond reforestation. This directly addresses Aichi target's relating to the legal sustainable management of fished stocks and arresting and reversing the rates of mangrove habitat clearing and degradation to enhance ecosystem resilience, adaptation to climate change, coastal erosion and carbon stocks.

- To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

This grant enabled us to assist progressing implementation of our Temporary Mangrove Closure model in 1 village, and expand to 4 neighboring villages. Once communities became familiar with the model, we moved into a greater design for a Locally Managed Marine Area (LMMA). This will be managed locally with oversight from the Department of Forestry and Fisheries (Dinas Kehutanan and Dinas Perikanan), helping to meet Aichi targets relating to the increased protection and effective management of at least 10% of marine areas at a landscape scale.

- Enhance the benefits to all from biodiversity and ecosystem services

Our community-based services (business, education and healthcare) targeted gender inclusion and reduced inequalities. We aim that 60% of our beneficiaries for our business services were women. Our business services, healthcare and literacy program primarily targets women and youth, and are described in detail below. We created 43 part time jobs filled by women as health ambassadors and our healthcare program (family planning and women's hygiene/sanitation program) reached women in 235 households. Our work is centered on catalyzing fair and equitable development for rural communities helping to achieve Aichi targets relating to addressing health, sustainable livelihoods and gender imbalance and inclusion in solving these biodiversity issues.

- Enhance implementation through participatory planning, knowledge management and capacity building

Our program ensured the communities we worked with owned every step of the planning, implementation, and managing of initiatives. Our conservation compact approach is a bi-lateral relationship between our organization and a village covering all aspects of financial planning, management and transparency of small micro-enterprises and cooperatives. See comments below outlining benefits in these areas. This incorporates Aichi targets of 'integrating local development and poverty reduction strategies and planning processes' into solving biodiversity issues.

c. Project support to poverty alleviation

At the end of the project a total of 699 individuals are enrolled in our Conservation Cooperatives receiving direct benefits. Total assets in CCs have grown to Rp 611.427.075. A total of 144 loans have been taken out during the project period totaling Rupiah. Miller et al (2020) conducted a participatory impact assessment with the village of Sungai Nibung, and community partners identified a variety of positive outcomes from increased income and improved access to healthcare to reduced illegal logging and improved fish stocks. Data presented earlier further sheds light on the positive impacts of TMRs on fishermen harvest rates, directly translating into improved income for local community members.

During the project period in 2020 we also conducted additional surveys to better understand the impacts of covid-19 and how we could deliver a conditional cash transfer (CCT) to help provide aid to CC members. We conducted a survey both before and after the CCT. In the pre-CCT survey, respondents were asked how they expect to spend the emergency relief funds, to which majority of respondents stated they will spend the money on meeting basic needs and creating savings in their Conservation Cooperatives (CCs). While asked how they used their funds in the post-CCT survey, results show that a relatively larger portion of women had spent their money on meeting household basic needs compared to when the CCT administered. Post-CCT results also highlight that while women did not invest in any business, they were likely to increase their spending on children's education. This is also true for men as in reality their expenditure on children's education expenditure increased.

Our M&E results also reveal that the project had larger impacts on well-being that went beyond material benefits. Results show improved access to healthcare, improved knowledge on the benefits of family planning services, increased education levels (see Miller et al 2020), as well as improved collaborative management over resource use and protection.

The main beneficiaries for this project were coastal community members in the district of Kubu Raya. Livelihoods varied from fishermen to farmers across each village.

d. Gender equality

Of 699 individuals enrolled in the program 39.5% or 276 are women. During the project period a total of 144 loans were taken out from CCs with 31 % of them taken out from women. However, despite total enrollment for women being less than half, program services were particularly geared towards targeting women. For example, the intervention provided part-time jobs for 43 health ambassadors across the project site. In addition, by Year 3, a total of 43 women have been trained as HAs in 4 villages in the project site. HAs carry out monthly visits to households in their communities to provide information about upcoming government health campaigns and collect data on key indicators used by government public health agencies to measure status of community health. In total, trained HAs visit 235 households each month.

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Miller et al (2020) further verified these results with community members identifying improved access to healthcare and education as an outcome of the project. Results from the study revealed that these outcomes were particularly impactful for women and youth, which were the intended beneficiaries of these services.

e. Programme indicators

The bottom up design of the project saw that the biodiversity management structures were driven by the local communities, with only advice, support and guidance provided from the

project. A local marine management plan was formally accepted for the study site comprising 10,746 ha of sustainable use zoning included across 6 villages.. Permanent no-take zones were created in four of the villages, comprising a total of 724 hectares, ranging from 35 to 340 ha.

Participatory. Our program model hinges on participatory processes. We believe in putting communities 'back behind the wheel' in determining their own social-ecological trajectories. Therefore, communities are directly involved in program design, implementation, evaluation, and adaptation. This can be seen in the overall design of our program described in the report introduction, the updates towards progress under each output which are community-led and owned, and even in our evaluation protocols which focus on participatory approaches to identify changes.

Our participatory impact revealed that community members were reporting improved levels of household income. In our fisheries monitoring data, we have seen a 29% increase in harvest rates, and associated income, across the project period. Data revealed 0.49 CPUE before and 0.95 CPUE after. Comparing this data to income while average monthly incomes of fishermen increased from USD$ before temporary closures to nearly USD$. This can be attributed to the overall increase in CPUE as well as quality of the crabs harvested.

f. Transfer of knowledge

Our project did not result in any formal degrees. However our project did generate several important results that have been used to inform decision-making processes. This includes publications, reports, and workshops that included village partners, government stakeholders, among others. Workshops ranged from sustainable fisheries management, to non-timber forest products, to village forest management unit capacity development. True to the Planet Indonesia model we invest heavily in transferring knowledge and skills to partners, and view our role as a facilitator versus a project implementer.

g. Capacity building

- Novia Sagita Country Director, spoke at an international workshop hosted by Blue Ventures on methods, lessons learned, and techniques to catalyze community-led mangrove conservation
- Adam Miller, Executive Director, spoke at two high-level panels through the Monaco Blue Initiative on the importance of community-led conservation for the future of our planet's oceans.
- Abrar Ahmad, Program Strategy and Development Officer, spoke at an international workshop hosted by Blue Ventures on the importance of community-led fisheries management, with a focus on mudcrabs.
- Oceanwise and YPI Training, Oceanwise training to YPI staff on environmental monitoring methods:
    - Shoreline Video Assessment Method (SVAM). This is used to rapidly assess the condition and diversity of shoreline vegetation, and in this instance was used for mangroves, but can be relevant to any shoreline type.
    - Fisheries independent monitoring of the mud crab population for size and CPUE using traps, according to a Before-After-Control-Impact experimental design.
    - Mangrove tree health and size monitoring, according to a random sample of the transplanted trees.
- YPI to multiple partners (village government, village forest management unit, CCs, department of fisheries, department of natural resources, department of health department of forestry) - we hosted a wide variety of training, workshops, and participatory evaluations throughout the project period. These specific details can be found under each output and in the supporting evidence. Planet Indonesia invests heavily in improving the capacity of local stakeholders. This is a central value to the organization as we view our role as a facilitator of a process rather than project implementer.

4 Sustainability and Legacy

At Planet Indonesia we view working with communities as a long-term commitment and we aim to make our projects self-sustaining well into the future. From a literacy and education standpoint, completion of our literacy-training and education programs is in and of itself, sustainable. Graduates of these programs have cultivated skillsets that will enhance their access to income-earning opportunities for the rest of their lives. From a healthcare standpoint, continued access to basic healthcare and family planning resources is also sustainable in nature. Planet Indonesia will continue to provide access to family planning and healthcare for people currently accessing these benefits and will conduct future FGDs to assess ongoing needs.

From a business and finance standpoint, our field staff meet with community beneficiaries monthly to open the safety deposit box together and monitor the growth and change in the Village Savings & Loans (VSL). VSLs consist of a variety of income sources from fishermen to farmers and can be used as members see fit in their community; so far members have taken out small loans to start new private businesses or for fishing activities. The CC model itself is intended to support independent self-reliant communities. As CCs become more mature, our role transitions more and more towards a facilitator.

From an environmental standpoint, the ultimate goal of this project was reached - create a Locally Managed Marine Area (LMMA) from the current TMR zones. We used the TMR system to introduce community-based fisheries management to each of the partnership villages, so that the formalization of a LMMA with management standards already in place is quite feasible. This model worked as the LMMA was signed into place. In addition, during the project period we successfully secured tenure for the village of Mangkalang, this tenure is provided through Indonesia's social forestry (community forest) scheme and returns management to the village for the next 25 years.

5 g. Lessons learned

5.1 Removing Barriers

Our program results revealed that social and economic services are essential to removing barriers to community-led marine conservation. These services reduce hardships that are often limiting factors - inhibiting participation. Therefore, by focusing on barriers, and removing said barriers, we have learned our intervention style results in systems change as it addresses the underlying drivers of a defunct system versus the symptoms.

5.2 Reducing short-term costs

We have learned that social and economic services can also be essential to reducing short-term costs, or opportunity costs, of conservation initiatives. These services can help build resiliency and provide a level of socio-economic maneuverability to community partners which is essential to overcoming short-term costs of conservation initiatives.

5.3 Simple easy to adopt management measures

We learned that TMRs are an essential building block to long-term marine conservation. They introduce management strategies to communities that are easy to adopt. Community members often spoke of gear restrictions, sex restrictions, as management strategies put foward by the government to improve the long-term viability of coastal mudcrab and fish populations. However, these strategies are difficult to enforce, require high-levels of community buy-in, and, perhaps most importantly, have huge short-term costs for local fishers who are already struggling with the hardships of rural poverty. TMRs were noted to harness the short-term power of fisheries resources, and introduced community members to the idea of collaborative community-led management. They were easy to understand, and easier (but still difficult) to enforce compared to a gear restriction which would require monitoring of every individual's gear throughout the project site on a daily basis. TMRs could be enforced with community agreements and diligent patrols.

5.4 Listening matters

In order to build trust and create positive relationships, we have learned that listening and remaining adaptive to new opportunities and challenges that communities face is extremely important. For example, we pivoted in 2020 to provide additional covid-19 support for community partners, leveraging our health teams to improve surveillance, and even administering a large conditional cash transfer to families impacted by the pandemic.

h. Monitoring and evaluation

No major changes occurred during the project period. However, our team did request one change request to the logical framework. This was to revise indicators related to mangrove plantings. Due to field challenges, in particular, the areas needed restoration efforts required more seedlings than previously predicted, the total hectare target of restoration area was decreased while the number of seedlings remained the same. The second change requested was to our health indicator. Our health team was extremely robust and developed a larger-scale project that we thought was originally possible. Therefore, we revised indicators to better capture the impact created by this intervention.

During the project period two individuals from LTS did conduct a MTR of the project. Our team accompanied them in the field and worked closely. The MTR provided extremely useful and valuable insights, particularly in how we could improve gender mainstreaming in the project. They also helped us better understand how to revise the log frame to capture impact on the ground, particularly related to our health intervention.

i. Actions taken in response to annual report reviews

We have attempted to include more data and evidence in this report compared to previous reviews. In this report the additional supporting data and documents can be found in the attached files. We have also attempted to better explain the role of gender and how activities were gender mainstreamed throughout the project period. Finally, we have attempted to add clarity on how social-economic-environmental program interventions interact, and the causal pathways between such activities and associated outputs and outcomes.

● Darwin identity

Technical knowledge generated as a result of this Darwin Initiative project has been compiled into peer reviewed scientific publications, of which one has been published and a further 3 are in the works. The published paper is "*Using a participatory impact assessment framework to evaluate a community-led mangrove and fisheries conservation approach in West Kalimantan, Indonesia*". Other papers outline the lessons learned from an assessment of the impacts to the mangrove forest and the recommended restoration, an assessment of the TMR system to manage a mud crab fishery and an overview of the project model as a conservation tool. The last paper is a summarised version of our IUCN Nature Based Solution that is also in the works. NBS is a self assessment framework that explores conservation solutions for challenges facing economically challenged communities, including food security, climate change, water security, human health, disaster risk, social and economic development.

● Impact of COVID-19 on project delivery

The social and economic effects of Covid-19 have affected men and women differently in coastal communities supported by this project in Kubu Raya, West Kalimantan, Indonesia. As partner communities are predominantly composed of small-scale fishermen households, women are at a higher risk of loss of livelihoods as they depend on functioning fisheries supply-chains to engage in work that allows them to earn a livelihood. Similarly children in the community were harder hit as families are pressed to continuously re-allocate financial resources to meet most urgent competing needs. As community members were unable to overcome the economic and social costs of the COVID-19 pandemic, there was the clear risk of some community members to unsustainably exploit their surrounding natural resources and resort to destructive fishing practices.

As this would have had deleterious effects on the progress we achieved, in June of 2020 we carried out a conditional cash transfer (CCT) based on emergency funds gathered with support from donors. As a supplementary activity, CCTs were used to improve economic stability of coastal community households negatively affected by Covid-19 with the aim to mitigate opportunities that lead to loss of mangroves and overfishing. Key activities related to the CCT initiative included renewing previous conservation commitments towards sustainable fisheries and mangrove conservation in return for direct cash transfers and boosting the existing capital of VSL funds of Conservation Cooperatives to increase their financial stability. Evaluation of the CCT revealed that while households used funds for multiple reasons, CCT funds were primarily used to meet basic household needs (48%) (e.g. food, house repairs, etc.), followed by savings in CC (20%), and after children's education (17%).

The CCTs were implemented in each partner village by following strict Covid-19 mitigation protocols. These included requirement to wear a mask during the program, social distancing measures while waiting in queues, and hand sanitising and body temperature check at the entrance of the location where CCT funds were disbursed. These measures were continued during regular project activities as well.

Activities under Output 4 were specifically targeted to improve the economic resiliency of partner communities through the development of a community-led low-burden loan and savings program. As more villagers join and save in their cooperative and/or borrow and return loans with a small interest, it creates a locally-led safety net of funds that can be used by the community during external shocks.

Our operations have adapted rapidly to the COVID- 19 Pandemic. Although we relied upon virtual meetings with our partners overseas, we have implemented virtual approaches more broadly for our within country operations also. We have also generated new ways of working such as conducting online workshops in the development and remote deployment of simple but effective monitoring and evaluation tools for assessing ecosystem health and similar approaches. We have also improved our data sharing, analysis and reporting processes so that these are now all largely cloud based for access by partners across the globe. These measures and more have greatly improved our efficiencies and we intend on maintaining and continuing to refine these processes into the future.

● Finance and administration

a. Project expenditure

Project spend (indicative) since last annual report	2020/21 Gran (£)	2020/21 Total actua Darwin Costs (£)	Varian ce %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL				

Staff employed (Name and position)	Cost (£)
Adam Miller : Executive Director ; Project Reporting and Management	
Novia Sagita : Country Director Indonesia ; Project Management and Coordinatior	
Miftah Zam Achid : Division Manager Community Services ; Project Management	
Adrian/ M. Ihsan : Project Manager ; Business Services	
Riansyah / Hendra Budaya Hadikusuma : Project Officer ; Fisheries	
Putri Damatashia L.P : Project Officer ; Business Services	
Rita Saodah : Project Manager ; Literacy Services	
Eko Fitriani : Project Officer ; Literacy Services	
Fitria Widiarsih : Project Manager ; WASH and Health	
Mizan : Project Officer ; Fisheries	
Melia Ramadhanty : Accounting and Administration ; Financial Management	
Burhannuddin : Administration ; Financial Management and Assistance	
Ben Fitzpatrick: Director, Project reporting and management	
Andrew Davenport: Research Scientist, Tech Manager, Data analysis, Reporting	
Liz Quike: Research Officer, Data processing, reporting	
Athena Tzivanopolous: Research Officer, Data processing, reporting	
Katharina Fannai: Research Officer, Data processing, reporting	
TOTAL	

Capital items – description	Capital items – cost (£)
NA	
TOTAL	

Other items – description	Other items – cost (£)
Internal Meeting Expenses (Monitoring and Evaluation data) for final year project report	
Administrasi Bank Fees for Quartal 1	
Administrasi Bank Fees for Quartal 2	
Administrasi Bank Fees for Quartal 3	
Administrasi Bank Fees for Quartal 4	
TOTAL	

b. Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
Full Circle Foundation	
TOTAL	

Source of funding for additional work after project lifetime	Total (£)
TOTAL	

c. Value for Money

Our project M&E results reveal that we have met all major outcome targets, on time, and with the allocated budget. First and foremost we have created Borneo's first Locally Managed Marine Area, the major outcome of this project. We also were able to remain agile during the Covid-19 pandemic, and deliver on project outputs and outcomes in the logical framework. This demonstrates that we have sought out and achieved the desired quality of results at the lowest price.

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

Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your Stage 2 application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Achieving Sustainable mangrove fisheries through the Fair, equitable and sustainable development of low-income coastal communities of West Kalimantan, Indonesia.			
Outcome: Reduced socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries.	0.1. Locally Managed Marine Area (LMMA) created by the end of the project covering 15,000 ha of mangrove forest and coastal fisheries. (baseline = 0 ; Year 3 = 1 LMMA formed) 0.2. Increased mud crab harvest rates (25-50%) as a result of TMR system using a before-after-control-treatment analysis (baseline = established in year 1 of project ; year 3 = 25-50% average increase in harvest rates for fishermen utilizing TMRs) 0.3. > 85% Loan repayment rates for community members who have taken a loan from Cooperative by the end of year 3 0.4 >75% of individuals who received a loan report in year 3 it successfully led to improved income by the end of the project 0.5. >80% of seedlings survive in reforestation plots (year 3 = 80% of 35,000 seedlings have survived) 0.5 15% reduction in mangrove deforestation across the site by the end of year 3 (baseline = established in year	0.1 LMMA report and agreement created and certified by the department of fisheries Mud crab data collected from field teams to calculate harvest rate from TMR zones and adjacent areas fished 0.2. Results of acquisition and retention rate in 3 programs: Cooperatives/SMEs, literacy program, and women's healthcare. 0.3. Records quantifying graduation rate from literacy program 0.4 Results of final evaluation FGDs and impact assessments to understand the use and successfulness of loans 0.4.1.Conservation Cooperative reports on the amount of funds in community-owned savings/loans program 0.4.2. Annual data reports will be compiled with a preliminary summary 0.5 Spatial data collected from Global Forest Watch and CIFOR	● local communities are open to new resource management plans in the face of decreasing fisheries and income ● local communities are open to reforestation efforts on degraded mangrove habitats. ● local women, youth and men are open to business, literacy health care and conservation programs ● no natural disasters such as storms, droughts or climate change related stochastic events impact on or destroy coastal areas (e.g. tsunami, etc)

	1 ; year 3 = 15% reduction from baseline) 0.6 30% increase in the number of women who are reporting access to contraceptives by year 3 (baseline = 51% of respondents indicated they had no access or did not know where to access contraceptives; Year 3 = 66.3% have access)	Borneo Atlas to monitor disturbance and deforestation rates over the project period 0.6 Result of participatory impact assessments conducted in participating villages	
Outputs: **1**. Mangrove forests are protected in SD's temporary mangrove reserve (TMR) system	1.1 15,000 ha of mangrove forest to be protected under the TMR system 1.2 3 Forest patrol units have been established and are active in improving community-led law enforcement of TMR (baseline = 0; year 3 = 3 patrol units) 1,3 18 people employed in patrol units across the landscape (baseline = 0; Year 1 = 10; Year 2 = 18; Year 3 = 18)	1.1. GIS spatial mapping of target zones before, during and after zoning and areas rehabilitated will be completed. 1.2. Enrolment rates in forest patrol units 1.3 Records of all patrols. Records of visitation within reserves recording number of people, what activities they are undertaking in the reserve. Installation of infrastructure such as signage and markers. Data include names of personnel, time, location, photo data and other supplementary evidence. 1.4 Minutes from community meetings defining reserve boundaries before and after each implementation. 1.5 results of biodiversity assessments undertaken at TMR sites and revegetation plots including list of species, their abundance and biomass, mangrove canopy cover, density and health. Crab and Demersal fish assemblage data including species, abundance, biomass, assemblage composition and related indices. 1.6 Records of incidental sightings from fishers, patrol rangers, public, project	●no stochastic events destroy mangrove forests ● -government does not give land rights away to logging / pulp companies ●community patrol units are honest and fair in local law enforcement ●Most fishers abide by the closure with little to no infringements.

		related personnel from predefined datasheets.	
2. Participating villages implement TMR system to improve community-led management of mangroves and associated fisheries	2.1 6 TMRs designed through a participatory process with community members and successfully implemented (baseline = 0 ; year 1 = 2 ; year 2 = 4; year 3 = 6) 2.2 6 villages by the end of year 3 actively participating in TMR system	2.1 GIS and maps of TMR spatial design 2.2 Community agreement documents outlining participation and regulation 2.3 Patrol records during TMRs	●outside fisherman do not enter area during closure destroying population (note: role of patrol teams to protect area during closure) ●after area is opened, there is not an influx of fishermen from other areas causing harvest rates to decrease because of overfishing
3. Degraded forest patches and shrimp ponds enhanced and restored with mangrove plantings	3.1. 5 ha of degraded lands will have been replanted at a density of 250 individual mangroves per hectare by year three 3.2. 5 ha of degraded forest patches actively protected, restored and replanted to a density of at a density of 250 individual mangroves per hectare by year three 3.3. At least 3 ha of active aquaculture ponds will receive supplemental planting with 10 fishers or more participating with an increase to 250 individual mangroves per hectare by the end of year three 3.4. a total of 35,000 mangrove seedlings planted with 5000 in the first year, 10,000 in the second year and 20,000 in the final 3.5. Survival rate of 80% or higher for 35,000 seedlings planted (to be measured in Year 3 = 80% survival rate)	3.1 and 3.2 Drone and/or ground-based GIS spatial mapping of reforestation zone with estimates of %canopy cover, trees per hectare, tree health surveys prior to replanting and management interventions and again in December 2020 nearing the end of the project period. 3.3 Total number of seedlings planted and seedling survival rate by plot surveys will be counted and total change in canopy cover calculated, and the effort needed to achieve each hectare of rehabilitated areas. 3.4 Number of fishers who allow enhancement plantings on shrimp aquaculture ponds will be collated together with metrics on the total area of their ponds, the amount of area replanted with mangroves and the effort needed to achieve each hectare of rehabilitated areas. 3.5 Abundance and species diversity assessment of the biodiversity at multiple revegetation plots and	● communities are open to reforestation on degraded lands ● communities allow for enhancement plantings on aquaculture ponds/areas ● stochastic environmental events do not destroy reforestation areas / increase seedling mortality

		nearby control plots measured before, during and at the end of the project will be measured using visual surveys in quadrats and along transects.	
4. Small micro- enterprises (SMEs) are established to economically empower local fisherman while engaging them in the TMR system	4.1 600 fishermen will be enrolled in the program through Small Micro-enterprises (SMES) / Cooperatives (rate of 200 beneficiaries added per year) 4.2 Funds in the savings/loans program increases by 25% each year for the first three years (e.g. community contribution to community-run safety fund)	Several redundant methods will be deployed to produce relevant verifiable data as described below: 4.1 Collection of baseline data pre and post intervention quantifying each fishers' business activity including income from fish sales, effort for catching fish and costs associated with fishing. 4.2 Fisher surveys measuring the impact of the TMC including their opinion of the impact of the TMC on their business. 4.3 Enrolment and retainment rate in communal business group. 4.4 Amount of funds in savings/loans program measured on monthly basis By 31st of March 2021 a report will be compiled summarizing this monitoring and evaluation undertaken.	● communities are open to temporary mangrove reserves system ● communities are active in business group and open to new financial management methods
5. Literacy program continues running to improve capacity and job market access for women and youth. Only women/children whose household joins the TMR system have access to this service, creating strong incentives for adopting new rss mngt	5.1 Each year for three years, 200 women/children enrol in literacy program and receive access to this program and; 5.2 60% or more graduate (600 people during the project)	5.1 Enrolment rate in program by women (% and age) and youth (% and age) 5.2 Scores on pre and post-test provided to participants before, mid, and after year-long course 5.3 Individuals (%) that graduate and receive gov't certified certificate 5.4 Results from household surveys used to verify benefits of the program.	● those enrolled in literacy program remain active in attending sessions ● local tutors are impactful and effective ● community members remain motivated about the prospects of graduating from program to receive government certified certificate to increase placement in local work force

6. Reducing Inequalities: Family Planning and Health Sanitation program established to improve access for women/youth	6.1 130 Health ambassadors recruited and trained by the end of year 3 6.2 800 households reached quarterly by 130 health ambassadors by end of year 3 6.3 30% increase in community members who have received information about voluntary family planning services and contraceptives by year 3 (baseline = 16% of community members have received information on VFP and contraceptives; Year 3 = 20.8% have received information) 6.4 30% increase in the number of women who are reporting access to contraceptives by year 3 (baseline = 51% of respondents indicated they had no access or did not know where to access contraceptives; Year 3 = 66.3% have access)	6.1 rate in program by women (age class) 6.2 number of women health ambassadors who will locally lead program 6.3 pre and post test data results from program to show increase in knowledge on reproductive health 6.4 Monthly and quarterly health reports from Health Ambassador visitations 6.4 Long-term monitoring of health indicators (family size, contraceptive use, age of first birth, desired age of first birth, etc.) through Planet Indonesia's yearly impact survey	● local women acknowledge and are open to new reproductive healthcare services ● health ambassadors are active in motivating community members ● contraceptives are used correctly

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)

Activity 1.1. Initial community socialization and hearing in 4 target villages
Activity 1.2 Data and knowledge sharing, bringing previous program beneficiaries to share experience with TMR in new village
Activity 1.3 Mangrove forest mapping with communities, building zones for temporary closures
Activity 1.4 Community assessment and patrol unit recruitment
Activity 1.5 Patrol unit training and data model set up for recording visitation, incidental sightings and infrastructure
Activity 1.6 Temporary Mangrove Reserve (TMR) closing
Activity 1.7 Patrol unit patrolling
Activity 1.8 TMR opening
Activity 1.9 Evaluation and Data Sharing of TMR Closure 1
Activity 1.10 TMR Closing II
Activity 1.11 Patrol unit patrolling
Activity 1.12 TMR Opening

Activity 1.13 Evaluation and Data Sharing of TMR Closure 2
Activity 1.14 Mangrove forest mapping and ecosystem assessments after closures focusing protected and on rehabilitated areas and adjacent control sites
Activity 1.15 Final Report and Data Compilation

Activity 2.1 Community Socialization and Knowledge sharing of previous program in new target villages
Activity 2.2 Baseline fish assemblage surveys - fisheries independent baited underwater video assessments inside and outside TMC pre and post each of two closure periods
Activity 2.3 Community Data Collectors Training
Activity 2.4 Community Data Collectors Trial Run (Monitoring and Evaluation for Landing Sites)
Activity 2.5 Community Data Collectors Evaluation and Training
Activity 2.6 Community Data Collectors Implementation (year long with sampling scheme)
Activity 2.7 Intensive Data Collection on CPUE pre and post each of two closure periods
Activity 2.8 Final Report and Data Compilation

Activity 3.1 Beneficiary Identification
Activity 3.2 Land, mangroves and biodiversity surveys
Activity 3.3 Nursery and Seedling Collection
Activity 3.4 Planting I
Activity 3.5 Evaluation
Activity 3.6 Planting II
Activity 3.7 Mangrove Survival Rate Evaluation and biodiversity surveys
Activity 3.8 Final Report and Data Compilation

Activity 4.1 Beneficiary Identification and Community Hearing
Activity 4.2 Baseline Data Collection : Mon/Ev Household Survey I
Activity 4.3 SME Training I: Background and Administration
Activity 4.4 SME Training II: Financial and Group Management
Activity 4.5 SME Training III: Entrepreneurship and New Business Expansion
Activity 4.6 SME Training IV: Targeted Incubator and Market Access
Activity 4.7 Monthly Follow-up and data tracking (membership, savings/loans)
Activity 4.8 Mon/Ev Household Survey II
Activity 4.9 Final Report and Data Compilation

Activity 5.1 Beneficiary Identification and Community Hearing
Activity 5.2 Tutor Identification and Training
Activity 5.3 Class sign-up for 4 levels (packet Illiterate, A, B, C)
Activity 5.4 Packet Illiterate, A, B, C – 1-year course

Activity 5.5 Packet A, B,C Evaluation : First/Mid/Final – 1 year course
Activity 5.6 Packet Illiterate, A, B, C – 2 year course
Activity 5.7 Packet A, B,C Evaluation : First/Mid/Final – 2 year course
Activity 5.8 Final report and Data Compilation

Activity 6.1 Beneficiary and Community Hearing
Activity 6.2 Coordination with local government clinic and Blue Ventures – Indonesia on Population – Health - Environment Model
Activity 6.3 Identification and Training of Local Health Ambassadors / Baseline Data Collection
Activity 6.4 Training I : Family Planning
Activity 6.5 Evaluation I
Activity 6.6 Training II: Sanitation and Hygiene
Activity 6.7 Evaluation II
Activity 6.8 Training III: Recap, WASH and Family Planning
Activity 6.9 Evaluation Final
Activity 6.10 Final Report and Data Compilation

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
Impact: Realizing sustainable mangrove fisheries through fair, equitable and sustainable development for low-income coastal communities in West Kalimantan, Indonesia.		Report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity e.g. steps towards sustainable use or equitable sharing of costs or benefits
Outcome: Reduced socio-economic inequalities in coastal communities through improving mangrove forest management and restoring coastal fisheries	0.1. The Locally Managed Marine Area (LMMA) created at the end of the project includes 15,000 ha of mangrove forest and coastal fisheries. (baseline = 0; Year 3 = 1 LMMA formed) 0.2. Increase in the harvest rate of mud crab (25-50%) as a result of the TMR system using a before-after-control-treatment analysis (baseline = set in year 1 of the project; year 3 = 25-50% increase in mean harvest rate for fishermen who use TMR) 0.3. > 85% Loan repayment rate for community members who have taken loans from the Cooperative until the end of the 3rd year 0.4> 75% of individuals who received loan reports in the 3rd year managed to increase income at the end of the project 0.5. > 80% of seedlings survive in reforestation plots (3rd year = 80% of 35,000 seedlings survive) 0.6 15% reduction in mangrove deforestation across the site by the end of year 3 (baseline = set at year 1; year 3 = 15% reduction from baseline) 0.7 30% increase in the number of women reporting access to contraception in year 3 (baseline = 51%	Report on progress towards achieving the project purpose, i.e. the sum of the outputs and assumptions

	of respondents indicated that they do not have access or do not know where to access contraception; Year 3 = 66.3% have access)	
Output 1. Mangrove forests are protected in SD's temporary mangrove reserve (TMR) system	1.1 15,000 ha of mangrove forest to be protected under the TMR system 1.2 3 Forest patrol units have been established and are active in improving community-led law enforcement of TMR (baseline = 0; year 3 = 3 patrol units) 1,3 18 people employed in patrol units across the landscape (baseline = 0; Year 1 = 10; Year 2 = 18; Year 3 = 18)	Report general progress and appropriateness of indicators, and reference where evidence is provided e.g. *Evidence provided in section 3.2 of report and Annex X*
Activity 1.1 Initial community socialization and hearing in 4 target villages		Initial hearings conducted in year 1 of the project. 6 villages and government agencies attended the initial meeting.
Activity 1.2. Data and knowledge sharing, bringing previous program beneficiaries to share experience with TMR in new village.		The village of Sungai Nibung shared their experiences with 5 other villages and government partners on the use of TMRs and their impacts
Activity 1.3 Mangrove forest mapping with communities, building zones for temporary closures		Conducted in all partnership villages throughout the project site. This activity was conducted prior to a village implementing closures.
Activity 1.4 Community assessment and patrol unit recruitment		SMART patrol team conducted FGDs and recruited members. This activity was rolling based on the year the village was onboarded.
Activity 1.5 Patrol unit training and data model set up for recording visitation, incidental sightings and infrastructure		SMART patrol trainings conducted
Activity 1.6 Temporary Mangrove Reserve (TMR) closing		A total of 6 TMRs happened during the project period
Activity 1.7 Patrol unit patrolling		Completed
Activity 1.8 TMR opening		Completed
Activity 1.9 Evaluation and Data Sharing of TMR Closure 1		As to our standards, we share all results and analysis of TMRs with community partners, to increase transparency and collaboratively evaluate results
Activity 1.10 TMR Closing II		A total of 6 TMRs happened during the project period, this was the second
Activity 1.11 Patrol unit patrolling		Completed as planned

Activity 1.12 TMR Opening		Completed as planned
Activity 1.13 Evaluation and Data Sharing of TMR Closure 2		Completed as planned
Activity 1.14 Mangrove forest mapping and ecosystem assessments after closures focusing protected and on rehabilitated areas and adjacent control sites		Completed as planned
Activity 1.15 Final Report and Data Compilation		See additional and supplementary materials for draft research article
Output 2. Participating villages implement the TMR system to improve community-led mangrove management and associated fisherie	2.1 6 TMR was designed through a participatory process with community members and successfully implemented (baseline = 0; year 1 = 2; year 2 = 4; year 3 = 6) 2.2 6 villages at the end of year 3 actively participate in the TMR system	Report general progress and appropriateness of indicator
Activity 2.1 Community Socialization and Knowledge sharing of previous program in new target villages		Conducted in tandem with initial hearings in year 1 of project
Activity 2.2 Baseline fish assemblage surveys - fisheries independent baited underwater video assessments inside and outside TMC pre and post each of two closure periods		Two independent fisheries data sets were collected during the project period.
Activity 2.3 Community Data Collectors Training		For dependent fisheries monitoring, data teams were identified and trained by planet indonesia's fisheries team
Activity 2.4 Community Data Collectors Trial Run (Monitoring and Evaluation for Landing Sites)		Completed as planned
Activity 2.5 Community Data Collectors Evaluation and Training		Completed as planned
Activity 2.6 Community Data Collectors Implementation (year long with sampling scheme)		Data was collected by community partners and YPI staff for 21 days prior and post closure for 6 TMRs during the project period
Activity 2.7 Intensive Data Collection on CPUE pre and post each of two closure periods		Completed as planned
Activity 2.8 Final Report and Data Compilation		Completed as planned
Output 3. Degraded forest and shrimp ponds are improved and restored with mangrove planting	5.5 5 ha of degraded land will be replanted with a density of 250 individual mangroves per hectare in the third year 5.6 5 ha patches of degraded forest are actively protected, restored and replanted at a density of 250	Report general progress and appropriateness of indicator

	individual mangroves per hectare in year three 5.7 At least 3 ha of active aquaculture ponds will receive additional planting with 10 or more participating fishermen with an increase to 250 individual mangroves per hectare by the end of year three 5.8 a total of 35,000 mangrove seedlings were planted with 5,000 in the first year, 10,000 in the second and 20,000 in the last year 5.9 80% survival rate or more for 35,000 seedlings planted (to be measured in Year 3 = 80% survival rate) 5.10 Biodiversity has increased within reforested mangrove areas, doubling the previously recorded abundance and diversity of invertebrate and vertebrate species	
Activity 3.1 Beneficiary Identification		YPI's team recruited and trained a dedicated group of individuals who helped with nursery management and plantings
Activity 3.2 Land, mangroves and biodiversity surveys		Completed as planned - restoration needs and hotspots were identified
Activity 3.3 Nursery and Seedling Collection		Completed as planned
Activity 3.4 Planting I		Completed as planned in year 2
Activity 3.5 Evaluation		Post planting monitoring conducted
Activity 3.6 Planting II		Completed as planned in year 2, note a 3rd planting was conducted in yaer 3

Activity 3.7 Mangrove Survival Rate Evaluation and biodiversity surveys		Completed as planned
Activity 3.8 Final Report and Data Compilation		Completed as planned
Output 4 Micro and small enterprises (SMEs) were established to economically empower local fishermen while involving them in the TMR system	4.1 600 fishermen will be enrolled in this program through Micro, Small and Medium Enterprises (UKM) / Cooperatives (number of beneficiaries 200 added per year) 4.2 Funds in the savings and loan program increase by 25% annually for the first three years (e.g. community contributions to community-managed safety funds)	Report general progress and appropriateness of indicator
Activity 4.1 Beneficiary Identification and Community Hearing		Conducted in tandem with project kick off meeting (similar to activities and outputs above and below)
Activity 4.2 Baseline Data Collection : Mon/Ev Household Survey I		Upon enrollment in program data was collected as planned
Activity 4.3 SME Training I: Background and Administration		Completed as planned, note this activity through 4.7 was rolling based on (1) when a village was onboarded, and (2) if new members wanted to enroll throughout the project period. Therefore, 4.3-4.7 were conducted on a rolling basis throughout the project period
Activity 4.4 SME Training II: Financial and Group Management		Completed as planned, note this activity through 4.7 was rolling based on (1) when a village was onboarded, and (2) if new members wanted to enroll throughout the project period. Therefore, 4.3-4.7 were conducted on a rolling basis throughout the project period
Activity 4.5 SME Training III: Entrepreneurship and New Business Expansion		Completed as planned, note this activity through 4.7 was rolling based on (1) when a village was onboarded, and (2) if new members wanted to enroll throughout the project period. Therefore, 4.3-4.7 were conducted on a rolling basis throughout the project period
Activity 4.6 SME Training IV: Targeted Incubator and Market Access		Completed as planned, note this activity through 4.7 was rolling based on (1) when a village was onboarded, and (2) if new members wanted to enroll throughout the project period. Therefore, 4.3-4.7 were conducted on a rolling basis throughout the project period
Activity 4.7 Monthly Follow-up and data tracking (membership, savings/loans)		Completed as planned, note this activity through 4.7 was rolling based on (1) when a village was onboarded, and (2) if new members wanted to enroll throughout the project period. Therefore, 4.3-4.7 were conducted on a rolling basis throughout the project period

Activity 4.8 Mon/Ev Household Survey II		Completed as planned
Activity 4.9 Final Report and Data Compilation		Completed as planned
Output 5 Literacy program continues running to improve capacity and job market access for women and youth. Only women/children whose household joins the TMR system have access to this service, creating strong incentives for adopting new rss mngt.	5.1. Every year for three years, 200 women/children apply to literacy programs and receive access to these programs and; 5.2. 60% or more graduates (600 people during the project)	Report general progress and appropriateness of indicator
Activity 5.1 Beneficiary Identification and Community Hearing		Conducted in tandem with above and below outputs at initial project kick off meeting
Activity 5.2 Tutor Identification and Training		Tutors recruited and trained, note this activity was conducted on a rolling basis based on the month and year a village was onboarded.
Activity 5.3 Class sign-up for 4 levels (packet Illiterate, A, B, C)		Completed as planned
Activity 5.4 Packet Illiterate, A, B, C – 1-year course		Completed as planned, but please note this activity is dependent on the month and year a village was onboarded, and therefore happened in a stepwise process throughout the project period
Activity 5.5 Packet A, B,C Evaluation : First/Mid/Final – 1 year course		Completed as planned, but please note this activity is dependent on the month and year a village was onboarded, and therefore happened in a stepwise process throughout the project period
Activity 5.6 Packet Illiterate, A, B, C – 2 year course		Completed as planned, but please note this activity is dependent on the month and year a village was onboarded, and therefore happened in a stepwise process throughout the project period
Activity 5.7 Packet A, B,C Evaluation : First/Mid/Final – 2 year course		Completed as planned, but please note this activity is dependent on the month and year a village was onboarded, and therefore happened in a stepwise process throughout the project period
Activity 5.8 Final report and Data Compilation		Completed as planned
Output 6 Reducing Inequality: The Family Planning and Health Sanitation Program was established to increase access for women/adolescents	6.1 130 Health ambassadors recruited and trained at the end of year 3	Report general progress and appropriateness of indicator

	6.2 800 households reached quarterly by 130 health ambassadors by the end of year 3 6.3 An increase of 30% of community members who have received information about voluntary family planning services and contraception by year 3 (baseline = 16% of community members have received information about VFP and contraception; Year 3 = 20.8% have received information) 6.4 30% increase in the number of women reporting access to contraception in year 3 (baseline = 51% of respondents indicated that they do not have access or do not know where to access contraception; Year 3 = 66.3% have access)	
Activity 6.1 Beneficiary and Community Hearing		Completed as planned
Activity 6.2 Coordination with local government clinic and Blue Ventures – Indonesia on Population – Health - Environment Model		Population , health, environment training conducted with BV, YPI, and Indonesian government partners in year one of the project
Activity 6.3 Identification and Training of Local Health Ambassadors / Baseline Data Collection		Health ambassadors recruited and trained
Activity 6.4 Training I : Family Planning		Completed as planned - note this activity took two different forms. One, it resulted in a training specifically for health ambassadors. Secondly, it resulted in a training community wide training where YPI facilitated government officials to provide an open door training to all community members interested
Activity 6.5 Evaluation I		
Activity 6.6 Training II: Sanitation and Hygiene		Completed as planned - note this activity took two different forms. One, it resulted in a training specifically for health ambassadors. Secondly, it resulted in a training community wide training where YPI facilitated government officials to provide an open door training to all community members interested

Activity 6.7 Evaluation II	
Activity 6.8 Training III: Recap, WASH and Family Planning	Completed as planned - note this activity took two different forms. One, it resulted in a training specifically for health ambassadors. Secondly, it resulted in a training community wide training where YPI facilitated government officials to provide an open door training to all community members interested
Activity 6.9 Evaluation Final	
Activity 6.10 Final Report and Data Compilation	

Annex 3 Standard Measures

We use these figures as part of our evaluation of the wider impact of the Darwin Initiative programme. Projects are not evaluated according to quantity. That is – projects that report few standard measures are not seen as being of poorer quality than those projects which can report against multiple standard measures.

Please quantify and briefly describe all project standard measures using the coding and format of the Darwin Initiative Standard Measures. Download the updated list explaining standard measures from http://darwin.defra.gov.uk/resources/reporting/. If any sections are not relevant, please leave blank.

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis						
1b	Number of PhD qualifications obtained						
2	Number of Masters qualifications obtained						
3	Number of other qualifications obtained	185	Indonesian	M - 91 F - 94	High School Equivalency Examination (*kejar paket)*	Indonesian	
4a	Number of undergraduate students receiving training						
4b	Number of training weeks provided to undergraduate students						
4c	Number of postgraduate students receiving training (not 1-3 above)						
4d	Number of training weeks for postgraduate students						
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (e.g., not categories 1-4 above)						
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	1000	Indonesian	M- 521 F - 479	Financial bookkeeping; public health	Indonesian	

					outreach; basic education		
6b	Number of training weeks not leading to formal qualification						
7	Number of types of training materials produced for use by host country(s) (describe training materials)	9	Indonesian	N/A	SMART Patrols PHE and community health Community led mangrove and fisheries management Participatory fisheries mapping Fisheries monitoring (dependent) Mangrove planting guidelines CC training (3 courses)	Bahasa indonesia	
Research Measures		**Total**	**Nationality**	**Gender**	**Title**	**Language**	**Comments/ Weblink if available**

9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	1	Indonesian	NA	LMMA management document	Bahasa Indonesia	Participatory process?
10	Number of formal documents produced to assist work related to species identification, classification and recording.	1	INdonesian	Male	SMART patrol spp guide	Bahasa Indonesia	co-designed with staff to ID species in the field for SMART patrols
11a	Number of papers published or accepted for publication in peer reviewed journals	1	USA	Mle	PIA	English	https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/pan3.10133
11b	Number of papers published or accepted for publication elsewhere						
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country						
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country						
13a	Number of species reference collections established and handed over to host country(s)						
13b	Number of species reference collections enhanced and handed over to host country(s)						

Dissemination Measures	**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**

14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	2	Australian	Female and Male coed	**Sustainable Development Goals**	English	UWA Masters Students
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.						

Physical Measures		**Total**	**Comments**
20	Estimated value (£s) of physical assets handed over to host country(s)		
21	Number of permanent educational, training, research facilities or organisation established		
22	Number of permanent field plots established		Please describe

Financial Measures		**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work *(please note that the figure provided here should align with financial information provided in section 9.2)*						

Annex 4 Aichi Targets

Please note which of the Aichi targets your project has contributed to.

Please record only the **main targets** to which your project has contributed. It is recognised that most Darwin projects make a smaller contribution to many other targets in their work. You will not be evaluated more favourably if you tick multiple boxes.

	Aichi Target	**Tick if applicable to your project**
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	Yes
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	Yes
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	Yes
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	Yes
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	Yes
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	Yes
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	Yes
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	Yes
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	Yes
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	Yes
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	

14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	Yes
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	Yes
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	Yes
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	Yes
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	Yes
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

Annex 5 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (*) all publications and other material that you have included with this report

Type * **(e.g. journals, manual, CDs)**	**Detail** **(title, author, year)**	**Nationality of lead author**	**Nationality of institution of lead author**	**Gender of lead author**	**Publishers** **(name, city)**	**Available from** **(e.g. web link, contact address etc)**
Journal	Using a participatory impact assessment framework to evaluate a community-led fisheries and mangrove conservation approach in West Kalimantan, indonesia (Miller et al 2020)	USA	Indonesia	Male	British Ecological Society, People and Nature,	https://besjournals.onlinelibrary.wiley.com/doi/full/10.1002/pan3.10133
Journal	The impact of destructive and restorative anthropogenic activities on the health of a mangrove forest in the remote village of Sungai Nibung in West Kalimantan, Indonesia.	Australia	Australia	Male	Target Journal Marine Ecological Progress Series	In prep

Journal	Natural variability in mud crab populations in West Borneo, Indonesia; management implications for small-scale fisheries.	Australia	Australia	Female	Target Journal Marine Ecological Progress Series	In prep
Report	IUCN Nature Based Solutions Case study	Australia	Australia	Male	IUCN	In Prep

Annex 6 Darwin Contacts

To assist us with future evaluation work and feedback on your report, please provide details for the main project contacts below. If you are providing personal details on behalf of someone else, please ensure that they have agreed to sharing their information with us.

Please add new sections to the table if you are able to provide contact information for more people than there are sections below.

Please see our Privacy Notice on how contact details will be used and stored: https://www.gov.uk/government/groups/the-darwin-initiative#privacy-notice.

Ref No	4105
Project Title	Restoring Coastal Fisheries through Sustainable Development in Indonesia
Project Leader Details	
Name	Dr Ben Fitzpatrick
Role within Darwin Project	Project Leader
Address	
Phone	
Fax/Skype	
Email	
Partner 1	
Name	Adam Miller
Organisation	Planet Indonesia
Role within Darwin Project	Executive Director Planet Indonesia
Address	
Fax/Skype	
Email	
Partner 2 etc.	
Name	Novia Sagita
Organisation	Country Director, Yayasan Planet Indonesia
Role within Darwin Project	Country Director, Yayasan Planet Indonesia
Address	
Fax/Skype	
Email	

Annex 7 Supplementary material (optional but encouraged as evidence of project achievement)

6 Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
If you are submitting photos for publicity purposes, **do these meet the outlined requirements (see section 10)?**	
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.	
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	