

Darwin Initiative Main Annual Report

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Darwin Initiative Project Information

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Project title	Strengthening fisheries resource co-management in PiSiSi MPA, Simeulue Island
Country/ies	Indonesia
Lead partner	Fauna & Flora International
Project partner(s)	Aceh Marine Fisheries Agency (DKP) Panglima Laot / Sea Commander Syiah Kuala University
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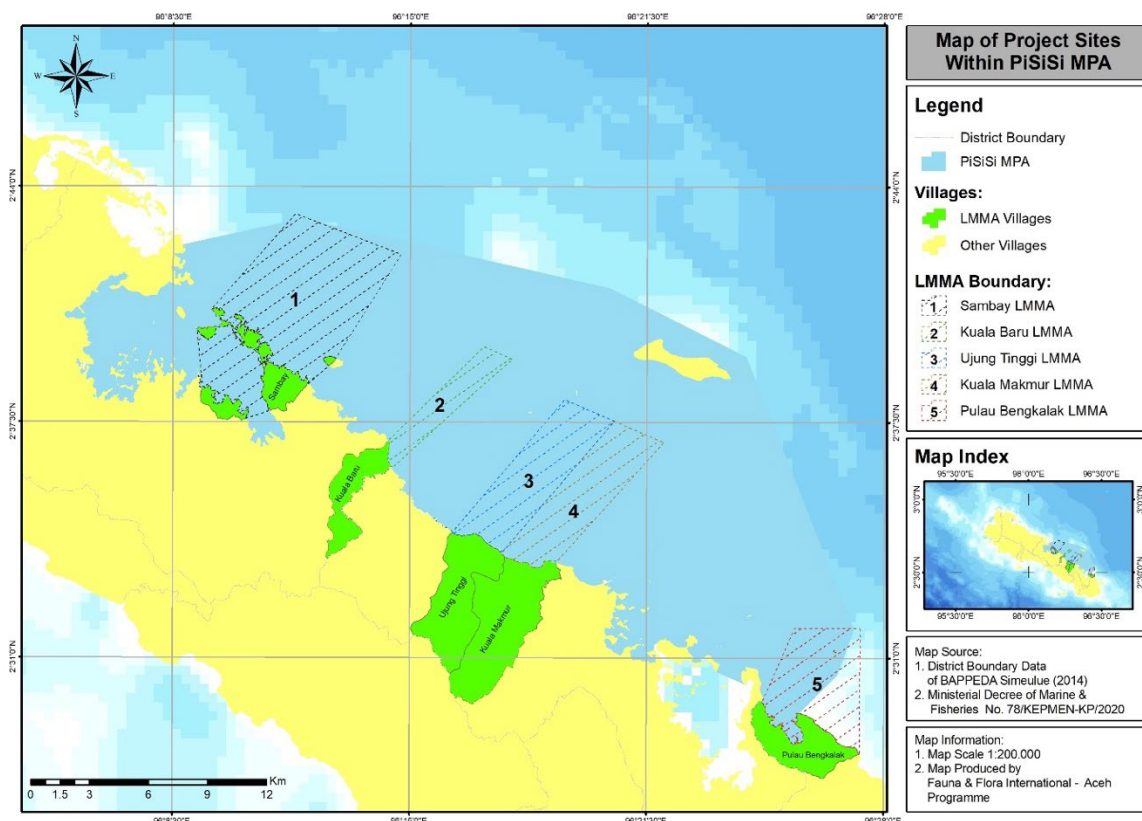
1. Project summary

In 2018, the Aceh government reserved four marine protected areas (MPAs) in Simeulue for the designation process by central government, namely; Pulau Pinang, Pulau Siumat and Pulau Simanaha (PiSiSi); Pulau Simeulue Cut; Simeulue Barat; and Pulau Batu Berlayar. For this project agreement, FFI is focusing on the PiSiSi MPA which covers 5 out of 26 villages.

Surveys indicate that over 65% of global coral genera occur in PiSiSi MPA, with 162 recorded reef fish species including threatened sharks and groupers. This biodiversity provides vital marine resources to more than twenty communities with traditional fishing grounds within the MPA. However, MPA compliance is low, and long-term illegal and destructive fishing undermines management, with compressor fishing dominant.

Key stakeholders who play an important role in collective action for environmental improvement, sustainable fisheries, fisheries management, and alleviating poverty include Panglima Laot, fishers, fish traders in five communities (Pulau Bengkalak, Kuala Makmur, Ujung Tinggi, Kuala Baru, Sambay). These stakeholders play a significant role in sustainable fisheries management that would ultimately contribute to poverty eradication through added value of improved fisheries products.

FFI has been working in PiSiSi MPA more than five years and has analysed environmental issues, poverty, markets, community-based fisheries management practices, and options for improvement obtained through a participatory process in MPA design. The primary poverty driver for Simeulue fishing communities is thought to be environmental degradation, unsustainable fishing, and low value of fish commodities. Catches have declined due to destructive fishing in the MPA, and associated livelihoods are hampered by inequitable relationships, thin margins, high transport costs, low market literacy and weak quality control.



2. Project stakeholders/ partners

Through the support from the Darwin Initiative Project, stakeholder involvement was identified to be one of the strategies in managing conservation areas. For MPAs in remote areas such as PiSiSi, stakeholder involvement is more focused on local stakeholders. Many stakeholders' have interests based on the responsibilities of their respective institutions, however there is no formal collaboration between the parties and the MPA management body. Apart from the fact that the management body is relatively new and challenges that often occur with government staff restructuring, the existing management body had lost focus when it comes to partner engagement strategies, both formal and informal.

The government has given a mandate to the MPA management body to involve the community in managing PiSiSi MPA. In Year 3, the Darwin project provided the opportunity for community activities to be included as part of the PiSiSi MPA management measures. The project facilitated the MPA management body meeting with Panglima Laot from five LMMAs on 2 October 2021. This was the first meeting after the formation of the MPA management body, where both parties discussed opportunities for cooperation by formalising existing activities at community level such as: community-based monitoring surveillance; LMMA-based fisheries management; public awareness support; and data and information development. The next priorities are to prepare the required documents, consult with the authorities at the provincial level, and then discuss and sign the cooperation agreement. Since the initial period of this project, fishermen organised by Panglima Laot in five locations have played an active role in monitoring surveillance activities. Fish traders are also involved in fisheries management by providing input on catch sizes according to market standards in five LMMAs. Fish traders also agreed to size control for the octopus fishery and are committed not to trade sizes below 300 grams/individual.

This project has also facilitated virtual reporting between representatives of five LMMAs with the MPA management body and the surveillance authorities in the province to respond to violations of compressor fishing practices in PiSiSi MPA, including within LMMAs. The lack of surveillance resources and limited staff within the MPA management body are considerations for the surveillance authority to provide full support in areas prone to destructive fishing, such as PiSiSi MPA. In Year 3,

supervision and patrol support for law enforcement was also supported by the surveillance authorities such as the Lampulo PSDKP, Simeulue Police Station and the Indonesian Navy, demonstrating the strong partnerships needed to improve and maintain compliance at the project site.

3. Project progress

3.1 Progress in carrying out project Activities

Activity 0.1 Monitor fisheries catch data through surveys of fish landing sites and fish traders in LMMA communities (outcome level monitoring activity)

Data collection on fish catch through fish traders at five LMMAs in Year 3 has collected information of 5,739 fishing trips with an average Catch Per Unit Effort (CPUE) value of 5.3 kg/trip, which includes five main commodity categories such as octopus, groupers, giant trevally, parrotfish and snappers. CPUE in the DARWIN Year 3 period has increased compared to the Year 2 period, which was only 5.1 kg/trip [REDACTED]

Output 1: By 2022, five coastal communities are engaged in co-management of new LMMA areas within PiSiSi MPA

Activity 1.2 Deliver training and outreach in five target communities to socialise LMMA concept

FFI implemented outreach to five target communities to strengthen awareness of LMMA. Efforts were made to target the younger generation, fishermen and Panglima Laot institution managers with key messages of recognising Panglima Laot-based fisheries management and surrounding environmental problems. The communication media used included: direct and interactive meetings and posters. 30 meetings were held with quiz activities, trainings, interactive dialogue in five LMMAs involving 352 participants from eight schools, youth groups, service providers (financial institutions, marine and fisheries authority, expedition service), village government representatives and LMMA managers [REDACTED]

The key messages conveyed were: getting to know the surrounding environment, Panglima Laot-based fisheries management, the importance of rules, and introduction to LMMA tools (i.e., monitoring & surveillance, harvest control measures, and fishery data collection). Nine ongoing mentoring meetings (ref. **Activity 2.4**) were also used as outreach to women's groups and fish traders. A key message was, "Limit octopus catch sizes < 300 grams to maintain stock and better post-harvest handling". Four thematic posters were used, namely, "let's take care of the environment", "stop destructive fishing", "the sea is not a trash can" and "protect marine life" [REDACTED]

Activity 1.6 Support, with technical advice and data, the creation of LMMA action plans based on results of 1.4

The preparation of the Bengkalak Island LMMA Management Plan has yet to be implemented as fishermen are more focused on solving their main problem, which is compressor fishing. Of the five LMMAs involved in this project, one LMMA (Bengkalak Island) has social tensions that continue to be reported as their area is directly adjacent to the compressor fishing hot spot. Eight of the 14 violation cases in Year 3 also occurred within the Bengkalak Island LMMA. Tensions are expected to decrease following increased intensity of law enforcement patrols during Year 3 period. The preparation of the Bengkalak Island LMMA Management Plan is planned for Year 4.

Activity 1.7 Train and support community members to undertake SMART patrol activities, including both independently-led and collaborative patrols

Activities to report monitoring and surveillance results from five LMMAs communities were scheduled quarterly, with reports shared and presented by Panglima Laot to local government representatives (DKP Simeulue). In Year 3, only 3 quarterly reports were disseminated (75% of the target). The quarterly reports contain information such as: the number of fishermen conducting surveillance monitoring; fishing trips/patrol trips; in-kind contributions; findings and points of violation; and fishery production. All information was obtained from fisheries log book records, the Panglima Laot patrol data sheets, and community-based monitoring and surveillance reports [REDACTED]

Panglima Laot-led patrols (formerly known as routine patrols) are carried out based on an agreed schedule or incidentally according to community reports. In Year 3, six Panglima Laot patrols were carried out in five LMMAs (60% of the planned 10 patrols). Due to the previous conflict between Air Pinang fishers and compressor fishers, the Panglima Laot in five LMMAs decided to reduce the number of patrols to prevent conflict escalation in the field. All Panglima Laot patrols in Year 3 were also accompanied by surveillance authorities (police and the Simeulue Marine and Fisheries Agency/ DKP Simeulue). During this period, Panglima Laot prioritised a formal report approach to the surveillance authority, where seven of the 14 alleged violations (**Table 1**) were reported in writing to the surveillance authorities in Simeulue and Banda Aceh.

Table 1. Monitoring and Surveillance in Year 3

No	LMMA	Fishers	Fishing trip	Surveillance time (hours)	In-kind contribution (Rp)	Violation	Coverage area (Ha)
1	Kuala Baru	38	2806	24,258.92	149,378,000	0	39,184.07
2	Kuala Makmur	46	2502	25,564.25	133,045,000	2	
3	Pulau Bengkalak	42	1659	14,994.50	81,075,000	8	
4	Sambay	35	3140	28,398.23	126,617,000	3	
5	Ujung Tinggi	28	2629	24,207.42	90,146,000	1	
Total		189	12,736	117,423	580,261,000	14	

In Year 3, 166 people and 24 vessels from five LMMAs participated in the Panglima Laot patrol activities. A total of nine motorboats were examined, two of which committed compressor fishing violations at the Bengkalak Island LMMA. Panglima Laot patrols during this period contributed to the monitoring of PiSiSi MPA with a coverage area of 18% of the total MPA (8,026.75 ha) (**Table 2**).

Table 2. Panglima Laot Patrols in Year 3

LMMA Routine Patrol	Patrol (Times)	Area of Patrol (Ha)	Patrol Participants	Patrol boats (unit)	Violations
Kuala Makmur	1	1,661.95	38	4	None
Ujung Tinggi	1	1,139.64	30	5	None
Sambay	2	2,874.48	48	8	None
Kuala Baru	1	1,943.22	30	3	None
Pulau Bengkalak	1	407.46	20	4	2 unit compressor

In addition to the Panglima Laot patrols, monitoring and surveillance (formerly known as voluntary patrols) are daily activities of the community in five LMMAs that are integrated with fishing trips. In Year 3, 12,736 trips have been carried out and involved 189 people. Through this activity, the community has contributed to the supervision of PiSiSi MPA with a coverage area of 87% (39,184.07 ha) (**Table 1**).

Activity 1.8 Facilitate the participation of government and enforcement agency personnel in LMMA co-management patrols which also involve communities

In Year 3, the joint patrol led by the surveillance authority was carried out four times involving 27 participants. The surveillance authorities leading this activity consists of the police, Navy, DKP Simeulue, and the surveillance unit under MMaF. This activity also involved Panglima Laot and the members of the Community-based Monitoring and Surveillance Groups (*Pokmaswas*¹). Four fishing boats were inspected with no violations detected during this activity. Based on the area, joint patrols have contributed to the surveillance of PiSiSi MPA with a coverage area of 15% (6,582.01 ha) (**Table 3**) and [REDACTED]

¹ Pokmaswas are community members who form groups to monitor and supervise marine and fishery resources; they are appointed, confirmed/determined by the government. The government can facilitate Pokmaswas members and Panglima Laot in administrative development activities, technical development, and personnel development.

Table 3. Joint Patrols in Year 3

No	Date	Involved parties	Patrol results	Participants	Patrol boat	Times	Coverage area (Ha)
1	09-Oct-21	PSDKP, Pokmaswas	No Violation	5 people	1 Unit	2 hours	363.26
2	08-Nov-21	DKP Simeulue, Police, Pokmaswas	No Violation	9 people	1 Unit	12 hours	1,790.18
3	12-Nov-21	PSDKP, Pokmaswas	No Violation	4 people	1 Unit	3 hours	560.8
4	23-Mar-22	DKP Simeulue, Navy, Pokmaswas	No Violation	9 people	1 Unit	8 hours	3,867.77

When all community monitoring and surveillance activities in five LMMAs are accumulated; Panglima Laot and joint patrols (Activities 1.7 and 1.8), the total surveillance activity at PiSiSi MPA in Year 3 was 17,182 trips, and 14 violations, contributing to the supervision of PiSiSi MPA with a coverage area of 88% (39,288.89 ha). This demonstrates a significant decrease in violations (87%) compared to Year 2, which was 111 violations, while the coverage area of surveillance remains the same. When compared to Year 1 community monitoring and surveillance activities in three LMMAs (Kuala Makmur, Kuala Baru and Ujung Tinggi), the total surveillance/patrol activities were 1,356 trips, finding 44 violations, while the contribution to PiSiSi MPA supervision at that time was 57% (25,465.28 ha).

Activity 1.9 Support, with facilitation and knowledge of good practice, committees to conduct and oversee LMMMA management actions as defined in action plans

This project has facilitated the preparation of fisheries management plans in five groups and supported the application of good practice in fisheries data collection involving fishermen in five communities. The action plans carried out in Year 3 in five LMMAs includes the implementation of monitoring & surveillance, routine patrols, fish catch data recording, regular community meetings, joint cooperation with government agencies, reporting of work results to the public, and capacity building. One objective of the management plans is to secure fisher livelihoods and promote surveillance monitoring activities as an activity to protect fish resources. The contribution of surveillance monitoring from five LMMAs is presented in **Table 1** above.

Output 2: Fishers, market actors and supporting organisations have improved understanding of the fisheries market system and collaborate to create equitable relationships within it

Activity 2.3 Organise and support exposure visits for fishers and traders to mainland seafood markets

The exposure visit to Medan (city in mainland Sumatra) was conducted on 11–15 January 2022 with representatives from three LMMAs (Bengkalak Island, Kuala Makmur, Kuala Baru). Representatives from the remaining two LMMAs (Sambay and Ujung Tinggi) could not participate as they were not able to leave their businesses; in communication with representatives of these two LMMAs it was suggested to include representatives from another LMMMA that is not target of Darwin project, namely Air Pinang. A total of eight participants took part in the exposure visit, consisting of four LMMMA representatives and four representatives from outside LMMMA. Participants included six traders, and one representative each from the Marine and Fisheries Service of Simeulue Regency, and Panglima Laot [REDACTED]

Exposure visits took place with five fisheries companies in Medan as follows:

- i. **PT. Toba Surimi Industries**, the participants learned about: 1. Fish size grading system (size A >500 gram, size B 300 – 490 gram; and (not buying) size C < 300 gram); 2. Hygiene standards; 3. Cold handling standard; 4. Packing standard; and 5. Transportation standard.
- ii. **PT. Medan Tropical Canning and Frozen Industries**, the participants learned about: 1. Processing frozen giant octopus; 2. Supply of raw material for export standard giant octopus; 3. Purpose of export and domestic marketing; 4. Presentation of general condition of octopus and grouper fisheries in Simeulue Regency by participants.
- iii. **PT. Anugerah Alam Industries**, delivered materials on: 1. PT. AAI seafood products exported to Southeast Asia, including dry, fresh, frozen, cephalopod, and octopus ink; 2. Transportation services for fish exports to Southeast Asia that can be used for products from Simeulue Regency.

- iv. **PT. Karya Agung Lestari Jaya**, participants learned about: 1. Company standard criteria for octopus, specifically: that the octopus should be fresh, odorless, proper skin/flesh color, the water content so that production ratio doesn't decrease and texture doesn't change, storage media hygiene, cold chain maintainence.
- v. **CV. Golden Sea Fresh**, participants learned about: 1. Implementation of a quality assurance system and safety of fishery products for export; 2. Company target market and supply chain.

The importance of exposure for local market actors in Simeulue, fish processing unit and its agent, to create opportunities for cooperation, maintain product quality, share knowledge and improve fair trade.

Activity 2.4 Provide training in quality control, cold chain maintenance & financial management, and provide on-going mentoring to trainees

At T0 (2019) the project used 1,200 as the total number of individuals from fisher households in five LMMAs who would participate in the project, based on official 2018 data showing an average of four people per household, with 300 target households, including fisher and fish traders.

In Year 3, 112 individuals of the fisher households from five LMMA received quality control, cold chain maintenance (post-harvest handling) training consisting of 53 participants (79% male, 20% female) [REDACTED] financial management training for 17 individuals (100% female), bookkeeping training for 11 individuals (91% male and 9% female) and nine ongoing mentoring sessions for 77 individuals (72% male and 27% female). Year 3 achievements from this output reached 112 individuals (37%), the overall achievement since the beginning of the project has reached 366 individuals from 300 fisher households [REDACTED]

Activity 2.5 Hold quarterly monitoring meetings with market actors

In the third year, due to the pandemic, the quarterly monitoring meeting was only held once in five LMMAs in March 2022. 112 people participated from five LMMAs: Kuala Baru (13), Kuala Makmur (19), Bengkalak Island (27), Sambay (30), and Ujung Tinggi (23). This meeting was dominated by men (92.86%) while women were only 7.14%. This lower percentage of women was due to limited time due to caring duties, fishing preparation support, and work to bring income or food for the family. Regular meetings were held in each village between 11–21 March 2022. These meetings suggested little change to market barriers, namely: fishing capital for buying fish; declining fleet conditions; existence of destructive fisheries, although this has decreased [REDACTED]

Activity 2.6 Hold an annual progress evaluation workshop

The annual meeting involved fishermen, Panglima Laot representatives, and fish buyers in the village (collector 1), fish buyers in Sinabang (collector 2), and representatives of the district government. The meeting was attended by 26 participants, 81% male and 19% female. The third annual meeting was held on 14 September 2021. The annual meeting had two agenda items:

1. Octopus and grouper market system in five LMMAs

The market channel in Sambay and Kuala Baru has changed, primarily with the increase in the number of level 1 collector (1 additional collector each LMMA). Overall, the market system at five LMMAs still has four main obstacles: fishing capital, declining fleet conditions, lack of ice and reduced catch levels.

2. Octopus and grouper action plans at five LMMAs

Based on the evaluation, participants agreed to add an action plan to implement harvest controls by optimising the capture, and the buying and selling of octopus >300 grams. Other agreed measures included: product quality improvement through the implementation of post-harvest handling standards, financial management and bookkeeping to address the capital constraints [REDACTED]

Output 3: By 2022, coral reef fish biomass within the MPA has increased compared to 2018 baseline, with ecological data made accessible through the PiSiSi Atlas of Coastal Resources

Activity 3.1 Undertake coral reef fish assemblage surveys in new LMMA areas

The biomass of herbivore fish groups in the five LMMAs decreased by 75%, from 467.1 kg/ha in 2018 to 117.8 kg/ha in 2021. The decrease in biomass also occurred for target fish groups by 49%, from 257.3 kg/ha in 2018 to 130.6 kg/ha in 2021. The decline in biomass of herbivore fish groups indicates high levels of exploitation. This condition is in accordance with observations of catches in Air Pinang Village that show the level of exploitation of herbivore fish, especially parrot fish, which in 2020 increased by 160% (2,098.5 kg) compared to 2018 (806.5 kg).

While the abundance of individual fish shows a significant increase in numbers, the herbivore fish group increased by 88% from 3,374.0 ind/ha to 6,340.7 ind/ha in 2021. The target fish group also increased by 91% from 4,010.0 ind/ha to 7,673.3 ind/ha. The high abundance of herbivore fish and target fish in 2021 was dominated by juvenile fish size class (0-10 cm) of 73.5% abundance of all fish. These results indicate that the condition of the five LMMAs coral reef fishery is undergoing a recovery phase which requires time for juvenile fish to grow and develop

This is because coral reef fish generally have a slow growth rate, similar to the results from the fisheries stock assessment for leopard coral grouper (*Plectropomus leopardus*) and white edge lyretail (*Variola albimarginata*) in Simeulue waters, where the results of the study show the growth rate of leopard coral grouper in a year only increased by 0.31 cm, while white edge lyretail increased by 0.49 cm

Sixteen 16 species within the MPA fall in the IUCN Red List; three species are categorised as “**Endangered**” which are black teatfish (*Holothuria nobilis*), sand fish (*Holothuria scabra*) and prickly redfish (*Thelenota ananas*); ten species are categorised as “**Vulnerable**” including whitetip reef shark (*Triaenodon obesus*), deep-water redfish (*Actinopyga echinites*), and white teatfish (*Holothuria fuscogilva*). Finally, three species fall in the “**Near Threatened**” category, including chevron butterflyfish (*Chaetodon trifascialis*), Bower’s parrotfish (*Chlorurus bowersi*), yellow-tail parrotfish (*Scarus hypselopterus*)

Activity 3.2 Fish stock assessment (previously SPAG surveys, see Year 2 change request)

A fisheries stock assessment was undertaken to assess the current condition of fishery utilisation, based on fisheries studies for the two main target species of fisheries in Simeulue (*Plectropomus leopardus* and *Variola albimarginata*) that show an over exploited status with the Spawning Potential Ratio (SPR) value of both species less than 20%. The reproductive biology assessment of *Variola louti* within Year 3 could not be carried out due to the lack of catches; the minimum sample for this assessment is 100 samples/month, while *Variola louti* data only recorded a monthly average of 44 samples.

In addition, 77% of fisheries utilisation for the *Plectropomus leopardus* is below the length maturity size (Lm: 44.74cm), as well as the *Variola albimarginata* where 47% of the utilisation of this species is still below the length maturity size (Lm: 29.24 cm)

This study produced recommendations for fisheries improvement through harvest control at the LMMA level, including:

- Size regulation by limiting fishing (*Plectropomus leopardus* and *Variola albimarginata*) that have not yet reached its gonad maturity stage (utilisation is less than 10%)
- Reducing fishing effort by not targeting *Plectropomus leopardus* and *Variola albimarginata*
- Arrangement of closure of fishery utilisation sites/spaces to provide opportunities for species (leopard coral grouper & white edge lyretail) to breed without pressure from fishing activities

Activity 3.4 Upload (annually) data to the ‘PiSiSi Atlas of Coastal Resources’ online database

The 'PiSiSi MPA of Coastal Resources' Atlas was completed in the online version; the online database can be accessed on the MPA management body official website (see below). The Darwin

Project provided support for building an online spatial database in the form of Google My Maps which can be accessed at the following [link](#). This platform was built to collect spatial data and information on water conservation areas in Aceh and LMMA, such as: MPA & LMMA boundaries, status of biodiversity (coral reef cover, abundance of coral recruitment, biomass and abundance of reef fish), social conditions (number of population and number of fishing households), and regular monitoring activities, surveillance and law enforcement patrols in the area (number of trips, area of supervision, contribution to the PiSiSi MPA area, and parties involved).

Activity 3.5 Present, train, and support use of the database with key resource governors and data users

The [Official website of MPA management body](#) has been active since 14 February 2022. Training in data base use is planned for three months. The training has been implemented for one month and will continue for another two months. One MPA management body staff member has received training to further develop the website, maintain and display spatial data and information. The training will continue for the next three months and will be presented and officially published to stakeholders and public.

Output 4: Marine resource governance actors in Simeulue and Aceh are empowered and motivated to co-manage LMMA and MPA networks in line with policy commitments

Activity 4.4 Establish the MPA management body and facilitate initial meeting and workplan creation with support from a provincial-level Governor's decree

We submitted a change request on 9 December 2021 to implement this activity in Year 4. FFI has been working intensively with the provincial government's MPA management body to strengthen MPA governance in PiSiSi and wider Aceh. However, the MPA managers have rescheduled finalisation of the management plan of PiSiSi MPA to May 2022. To mitigate or minimise the impacts of this change, FFI has already worked with the MPA management body to identify the key steps for finalising PiSiSi MPA management plan. FFI has been advocating for the project site to remain a government priority, despite the impacts of the pandemic and the Simeulue legal case on MPA management.

Activity 4.5 Secure commitment for at least one further LMMA programme to be rolled out in Aceh through activities of the MPA management body

With the official establishment of the MPA management body, the body has the task and function of facilitating the management of conservation areas based on local wisdom. In Aceh, LMMA is a tool attached to the traditional Panglima Laot institution. The MPA management body has adopted the in-kind financial contribution of seven Panglima Laot within PiSiSi MPA as an EVIKA² assessment indicator in 2021 and is also projected as input for next year's management performance assessment. The MPA management body's commitment to adopting Community Based Monitoring Surveillance, fisheries data collection, and fisheries utilisation control from the seven LMMAs into the PiSiSi MPA management plan was agreed in June 2021 [REDACTED]. The existing activities are also supported by FFI through the Darwin project as stated in the FFI Annual Work Plan with the Aceh Maritime Affairs and Fisheries Service. Furthermore, commitments to the LMMA programme will be encouraged to be launched after the establishment of the PiSiSi MPA management plan.

3.2 Progress towards project Outputs

Output 1: By 2022, five coastal communities are engaged in co-management of new LMMA areas within PiSiSi MPA

Five coastal communities contributed to the management of PiSiSi MPA through community-based monitoring & surveillance (CBMS), fish catch monitoring, harvest control, community empowerment and fish market access. Five coastal communities contributed to 10 out of the 24 EVIKA indicators. Sharing of contributions for the evaluation of EVIKA was done between the five communities with the

² EVIKA is a guideline and tool for assessing the effectiveness of conservation area management and improving management quality, performance quality, and quality planning.

MPA management body through resource sharing, data sharing and planning since 2021. In 2019 (T0/Baseline), the five participating LMMAs had not engaged in the management of PiSiSi MPA at all.

Panglima Laot and the MPA management body will formalise the co-management mechanism through a cooperative agreement. The MPA management body is a new institution that is currently building its capacity to manage conservation areas. In 2022 there are plans to follow up on the commitment from stakeholders into a joint stakeholder agreement for the management of PiSiSi MPA

Output 2: Fishers, market actors and supporting organisations have improved understanding of the fisheries market system and collaborate to create equitable relationships within it

Knowledge of market actors continue to improve compared to the baseline condition. At the start of the project, 15 participating actors only had knowledge of market chain one level above them and had no understanding of product quality standards. Currently, market actors are more: aware that market prices are also determined by the quality of fish, starting from the fisherman's level; familiar with the market network to the fish processing unit; accustomed to implementing strict controls in the cold chain of fish handling. This ability is obtained through ongoing mentoring activities, participatory market mapping, post-harvest handling training, and most recently the exposure visits to Medan.

This project has also provided space for vulnerable groups from market actors, fishermen and women to have equal opportunities to gain knowledge, learn about market opportunities and systems at the village, municipality, and supplier levels in the mainland. They have also tackled market problems together such as avoiding unfair price competition, screening, and socialising undersized catch sizes. Based on the identification results from baseline data, currently there are one fish trader and 53 fishers who still need extra support to have access to an adequate market system to run their business, as well as fair market access support. This number decreased by 11 fish traders and 401 fishers when compared to T0.

Output 3: By 2022, coral reef fish biomass within the MPA has increased compared to 2018 baseline, with ecological data made accessible through the PiSiSi Atlas of Coastal Resources

Through the coral reef fish survey that was repeated in Year 3 (2021), overall coral reef fish biomass decreased compared to the 2018 baseline. The decrease in herbivorous and carnivorous fish biomass is very possible because the increase in herbivorous fish biomass in 2018 for the first time has triggered the opening of the herbivorous fish market (eg, parrotfish, surgeonfish) in Simeulue. The exploitation of productive carnivorous fish (eg, grouper, snapper) has recently increased, data show that fish biomass and fish length > 30 cm have decreased. However, the survey results showed that there was a recovery with the finding of high fish abundance in LMMAs/PiSiSi. The baseline and replicated ecological data have been uploaded and updated through the Atlas on the MPA management body official website, which is currently still in the development stage. The interactive Atlas containing the PiSiSi Atlas of Coastal Resources data can be accessed by government work units, scientific institutions, village committees, and other stakeholders on this [page](#).

Output 4: Marine resource governance actors in Simeulue and Aceh are empowered and motivated to co-manage LMMAs and MPA networks in line with policy commitments

Five communities in the newly active LMMAs have shown high motivation in co-managing fish resources in PiSiSi MPA. Two other LMMAs (Air Pinang and Pulau Siumat) have also developed a spirit of co-management which has been demonstrated through the agreement on management area boundaries, catch sizes, open-closure (abstinence days). The LMMAs community initiatives that contribute to the performance of the PiSiSi MPA management have motivated the MPA management body to implement a conservation management partnership policy through a joint work plan or a two-party cooperation agreement.

In Year 1, FFI encouraged establishment of this LMMAs network in Simeulue per district authority decree no 532/813/2019 regarding community groups for PiSiSi MPA monitoring and surveillance. Five of the nine groups formed were supported by the Darwin project. In the last two years, the Government of Simeulue has provided incentive support for their contribution to assisting the

government in PiSiSi MPA monitoring and surveillance. In 2022, DKP Simeulue proposed adding one community group. This policy commitment will expand LMMAs Networks in Simeulue (particularly around the PiSiSi MPA).

3.3 Progress towards the project Outcome

Outcome: By 2022, members of five coastal communities (1,200 people) and relevant stakeholders are empowered to sustainably co-manage PiSiSi MPAs with associated improvements in coral reef ecosystem health

1. *Indicator 0.1. The use of compressor fishing and other destructive fishing methods is reduced in PiSiSi MPA year on year throughout the project period, compared with 2017 baseline of 0.4 incidents detected per patrol.*

Through monitoring surveillance activities, routine patrols, joint patrols as well as law enforcement by the fisheries crime control authority, totalling 17,182 trips have reduced fishing with compressors and destructive fishing methods in the third year. The incidence of violations detected was 26 violations so the ratio of violations at PiSiSi MPA was 0.002 incidents per patrol. When compared to 2017 data, there was a significant decrease in violations, indicating that the collaborative patrol approach carried out at PiSiSi MPA was effective, accepted and supported by stakeholders.

2. *Indicator 0.2. By 2022, there is at least 10% increase in income for fisher households in 5 LMMA communities (total 1,200 people, of whom 50% female) (milestone target of 5% by end of year 2)*

Income for fisher households in five LMMA have not yet been measured in Year 3. This is planned to during the Participatory Impact Assessment (PIA) process in Year 4 (June 2022).

3. *Indicator 0.3 By 2022, at least 85% of target groups report improvements in locally defined non-monetary dimensions of well-being*

Locally defined non-monetary dimensions of well-being will be assessed through PIA and KAP survey to be implemented in June 2022. Non-monetary dimensions include emotional/collective action, social environment, and relationships, career/job, intellectual/knowledge, spiritual/belief.

4. *Indicator 0.4 By 2022, c. 11,000ha of LMMAs is newly under organised co-management by communities and government representatives (tentative target based on area of 5 existing LMMAs in PiSiSi; exact target will result from community consultations)*

Based on the facilitation of demarcation of five LMMAs, socialisation and demarcation agreements between LMMAs that border each other were carried out in the previous year giving the total area of new LMMA 13,239.08 ha. This target exceeds the target area of 11,000ha, set at the beginning of the project and has been carried out through a participatory process. Fishermen in each LMMA have carried out independent monitoring and surveillance together with representatives of local government and law enforcement.

5. *Indicator 0.5. By 2022, fish biomass across the MPA increases relative to 2018 baseline including no decrease in abundance, variety or fish size (2018 data is currently under analysis; baseline to be finalise before project starts)*

Results of monitoring coral reefs in 2021, show that the pressure on habitat and reef fish in five LMMAs is lower when compared to other locations that are also in PiSiSi MPA. Coral cover conditions in 2021 from 12 survey locations in the PiSiSi MPA area showed an average decline of 7.8% from 37.2% (baseline 2018) to 29.4%. However, the percentage of coral cover in five LMMAs decreased by 7% (baseline 41.4%) which was smaller than the seven other survey sites of around 8% (baseline 33.7%). A significant comparison occurred in the increasing abundance of herbivore and target fish, where five LMMA increased up to 90% with a total abundance of 14,014 ind/ha (baseline 2018, 7,384 ind/ha). Meanwhile, seven other locations in the PiSiSi MPA area only experienced an increase of 1%, or 9,230 ind/ha (baseline 2018, 9,137 ind/ha).

This project also contributed to the mitigation of the impact of threats to coral reef fisheries in PiSiSi MPA. Although the biomass of coral reef fish in PiSiSi MPA has decreased from 786.1 kg/ha (2018) to

231.6 kg/ha (2021), the abundance of reef fish in PiSiSi MPA has increased from the previous year, from 8,406.9 ind/ha (2018) to 11,223.6 ind/ha (2021). Meanwhile outside the PiSiSi MPA, biomass and abundance decreased from 318.7 kg to 157.2 kg/ha and the same with population abundance from 5,814.2 ind/ha to 5,595.8 ind/ha [REDACTED]

3.4 Monitoring of assumptions

Important Assumptions

Assumption 1: The observed decrease in compressor fishing in previously designated LMMAs, following an increase in community and government patrolling, is repeated in the five LMMAs included in this project.

Comments: The monitoring surveillance, routine patrol, joint patrol and law enforcement in five new LMMAs by the local community and the government are still anticipated to decrease compressor fishing, and this is now supported by new evidence significant decline in compressor fisheries and destructive fishing practices in Year 3. The collaborative patrol approach involving communities and government inclusively at PiSiSi MPA has shown to be effective.

Assumption 2: The coral reef ecosystems of PiSiSi MPA are not affected by a mass mortality bleaching event, typhoon or other unforeseeable natural stressor.

Comments: Still appropriate. There were no mass mortality bleaching, typhoon or other unforeseeable natural stressors that affected the coral reef ecosystems of PiSiSi MPA in Year 3. Now, the condition of the coral reef ecosystems of PiSiSi MPA is affected by destructive fishing practices in the past.

Assumption 3: Catch per unit effort for fishers does not decline significantly over project period due to external factors.

Comments: No significant decrease in fishing trips in Year 3, and no other external factors affecting catch per unit effort have been identified.

Assumption 4: Through this and other initiatives, 40-50% of communities dependent on MPA resources will be engaged in conservation activities through LMMAs. We assume that the remaining 50% do not change from their existing behaviour so as to compromise the overall health of the MPA.

Comments: Five communities supported by Darwin project and two communities supported by Arcadia co-funding are actively involved in conservation activities. Four further villages (Ganting, Tanjung Raya, Luan Balu and Buluhadek) also expressed their interest to be actively involved in conservation activities and requested for assistance from the government and NGOs. Compressor violations in Year 3 decreased by 0.006 incidents (80.6%) compared to compressor violations in Year 2 which was 0.008 incidents. Based on information from community leaders in Teluk Dalam sub-district, there were four compressor fleet units in Teluk Dalam that currently no longer operating. In addition, information from the Panglima Laot Air Pinang reported three people from Anao Village are no longer using compressors.

Assumption 5: Seafood traders/ companies appreciate that supporting responsible fishers to improve product quality will improve their own bottom line and are willing to increase unit purchase price accordingly.

Comments: There is no appreciation from traders, however the fish price increase received by fish traders is also accepted by all fishermen based on market demand.

Assumption 6: Fishers are willing and able to put new knowledge gained through training and mentoring into practice.

Comments: Still appropriate. The fishers and traders are still willing to learn how to maintain fish quality and participate in related trainings. In Year 3 representatives from fishers and traders also met directly with their main supplier in North Sumatera and improved their knowledge on the importance of maintaining product quality as well as maintaining the image of local products as per requirement of the company and global market (end consumer).

Assumption 7: Project activities are not further disrupted or delayed by the COVID pandemic in Year 3, and the current limited activities are able to continue for the remainder of Year 2 in line with government restrictions in Aceh.

Comment: The pandemic situation is gradually easing, activities are now able to resume with accompanying health protocols.

Assumption 8: Relevant government authorities are able to remain engaged with the project, despite reallocation of resources towards addressing the COVID pandemic.

Comment: Still appropriate, the government implements health protocols in their work environment, while field visits are limited by vaccination requirements.

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

This project has contributed to promoting community involvement in securing biodiversity in five LMMAs from destructive fishing activities. This security has an impact on ecosystem recovery, shown by an increase in the abundance of herbivore fish and target fish in five LMMAs. There was an increase in the number of coral reef fish species from 63 species in 2018 to 65 species in 2021 [REDACTED]. This project has also contributed to MPA determination and MPA management performance by contributing 10 of 24 EVIKA indicators, including: reducing threats, implementing surveillance monitoring, fishery data collection, harvest control for coral reef fisheries management, community empowerment, and MPA management partnerships.

The PiSiSi MPA was established in 2020, and the new MPA management body was established in 2021, and the PiSiSi MPA was formally formed and managed by the government. The activities of the existing seven communities around PiSiSi, for three years for the new LMMA and five years for the other two LMMA communities supported by the Arcadia project, were able to reduce the impact/rate of pressure on coral reef ecosystems.

The PiSiSi MPA is also an important habitat for 16 species of reef fish listed on the IUCN red list [REDACTED]. Five communities over the years have contributed to direct observations of key species such as marine mammals, sharks, turtles and manta rays.

FFI has been working in PiSiSi MPA more than five years and has analysed environmental issues, poverty, markets, community-based fisheries management practices, and options for improvement obtained through a participatory process in MPA design. The primary poverty drivers for Simeulue fishing communities are understood to be environmental degradation, unsustainable fishing and low value of fish commodities. Catches have declined due to destructive fishing in the MPA, and associated livelihoods are hampered by inequitable relationships, thin margins, high transport costs, low market literacy and weak quality control.

Sustainable practices are supported by improved governance where the seven Pangima Laot improve harvest control, determine fishing locations, encourage fair use of resources, and improve the quality of fishery products by improving post-harvest handling. To increase market literacy, local market actors have been connected to the supplier level in the mainland / North Sumatra.

4. Project support to the Conventions, Treaties or Agreement

Article 8(a) by supporting the establishment of marine protected areas in order to preserve biodiversity:

FFI is working with stakeholders to finalise and implement LMMA management plans and overarching zonation schemes which will ensure the effectiveness of PiSiSi MPA as a tool to protect coral reef biodiversity, with stakeholder support at both local and provincial level.

Article 8(c) in promoting management practices that conserve and enable sustainable use of biodiversity: FFI is promoting sustainable biodiversity management practices by connecting with diverse decision-makers, from village-level Panglima Laot to national ministerial bodies, this exemplified by the locally-led patrol programme now operating within the MPA, government involvement in management actions, and the engagement of fishers in new sustainability initiatives such as octopus fishery management planning.

Article 8(e) by promoting development, in particular by improving community knowledge of fisheries markets and supply chains whilst identifying opportunities to add product value.

The project has brought together market actors in new collaborations (e.g. post-harvest training involving Simeulue fishers and Sumatra-based fish market actors) which will work to improve supply chain equitability and income from fisheries supply chains during the remainder of the project, although this element of the project has been particularly affected by Covid-19 restrictions on travel and meetings (as described in year 2 change requests).

Article 10(c), by supporting customary use of marine resources by five communities with traditional rights to fishing grounds within the LMMAs.

FFI's key local partner is the Panglima Laot, the historic traditional institution for local fisheries management in Aceh. The project LMMA and community support approach is specifically designed to support these traditional bodies, and in Year 2 significant progress has been made towards re-invigorating traditional management activities, as shown by the growing participation and spatial coverage of LMMA patrols.

Article 13 (b) is also supported by this project, through the information, education and communication resources produced under Output 1, 'Cooperate, as appropriate, with other States and international organisations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity'.

Materials produced under Output 1 (currently in progress) will be applicable for use elsewhere in Simeulue and across Aceh's MPA network. The materials produced will be delivered to school and fisher's communities in PiSiSi MPA, once such activities are feasible within current restrictions, to support education and public awareness programmes.

5. Project support to poverty reduction

The project aims to engage 1,200 people from five communities who have been affected by destructive fishing, which is a key driver of poverty (through loss of marine resources and small-scale fisheries livelihoods) at the project site. The project has assisted beneficiaries in decreasing the impact of destructive fishing through strengthening the knowledge base related to biodiversity conservation/sustainable use, poverty reduction, market transformation and empowerment of local institutional leaders (Panglima Laot) to conduct inclusive fisheries management.

Indirect impact for poverty alleviation has come through improved ecosystem services, increased awareness about the value of fisheries resources, improved community governance on fisheries, and market transformation. This process has an impact on improving the practice of handling fishery products, and the introduction of a good chain and market system is intended to provide added value for fishery products that are accepted by fishermen as a form of fair trade on product quality. The current product quality has improved, but the market still needs to be reassured that the quality here has potential to meet high standards for a long period of time.

Notable achievements this year:

1. Compressor usage violations decreased significantly in Year 3, with a ratio of 0.002 incidents per patrol or 1 violation occurred in 660 patrols. This value decreased compared to Year 2 of 0.008 incidents per patrol or 1 violation occurred in 128 patrols. This figure is the value of the ratio of violations of all community-based surveillance activities and law enforcement patrols in the area.
2. In kind contribution to MPA management effectiveness (taken from the EVIKA indicator) EVIKA indicators 10 of which are on MPA process criteria (supervision, outreach, partnerships, monitoring of regional resources), MPA output criteria (controlled use, threats, level of compliance, knowledge community, data and information) and MPA outcome criteria (conservation target conditions and community participation).

6. Consideration of gender equality issues

The roles of men and women in the PMSD aspect are the same where women who play a very strong role in the management of fisher household finances are considered as one option in preparing fishers capital to eliminate capital dependence on collectors 1. The number of women participating in ongoing financial management mentoring totalled 17 people. The project supports gender equity by providing support to a woman fish trader who is a single parent. The project also provides equal opportunities for men and women to participate. In every training activity, women are given the opportunity to be involved. In financial management mentoring all participants are women. The direct impact is that the women traders have an extensive market network, are connected to the fish processing unit in Medan, have high self-confidence, are independent and have a well-developed business.

7. Monitoring and evaluation

Outcome: By 2022, members of five coastal communities (1,200 people) and relevant stakeholders are empowered to sustainably co-manage PiSiSi MPAs with associated improvements in coral reef ecosystem health

This project has contributed to social change in five communities, through employing an inclusive approach to the management of MPA and providing support for the management body recently established by the government. Initially there were only two LMMAs supported through the Arcadia project. Through the identification of knowledge, attitudes, and practices; the formation of committees; the community involvement in participatory planning and zoning; strengthening traditional institutions; and training and outreach to communities and young people in schools; and through monitoring and patrols led directly by the community in five LMMAs, the Darwin project has made significant contributions to the performance of PiSiSi MPA management. The PiSiSi MPA is the only area in Aceh that implements daily supervision led directly by the community.

Indicator 0.1 *The use of compressor fishing and other destructive fishing methods is reduced in PiSiSi MPA year on year throughout the project period, compared with 2017 baseline of 0.4 incidents detected per patrol.*

- The reduction of the use of compressor fishing and other destructive fishing is measured by collecting patrols data from Year 1 to Year 3, from voluntary, routine and collaborative patrols. All data is compiled by FFI and is used to measure this indicator through yearly comparisons of detection rates for illegal and destructive fishing.

Indicator 0.2 *By 2022, there is at least 10% increase in income for fisher households in 5 LMMA communities (total 1,200 people, of whom 50% female) (milestone target of 5% by end of year 2)*

- The income of local populations was assessed in Year 1 through initial PMSD data collection/workshops and fish price data from traders. These metrics are being tracked for the remaining project duration and complemented with end of project Participatory Impact Assessment. FFI will also conduct a KAP survey within Year 4 to measure fisher household income.

Indicator 0.3 By 2022, at least 85% of target groups report improvements in locally defined non-monetary dimensions of well-being

- This will also be measured through KAP survey data collection in Year 4, repeating the surveys conducted in Year 1, and will be triangulated with end of project Participatory Impact Assessment.

Indicator 0.4 By 2022, c. 11,000ha of LMMAs is newly under organised co-management by communities and Government representatives (tentative target based on area of 5 existing LMMAs in PiSiSi; exact target will result from community consultations)

- Socialisation and demarcation agreements between LMMAs that border each other were carried out using a participatory process in the previous year, bringing the total area of new LMMA to 13,239.08 ha. This target exceeds the target area of 11,000ha set at the beginning of the. Fishermen in each LMMA have carried out independent monitoring and surveillance together with representatives of local government and law enforcement.

Indicator 0.5 By 2022, fish biomass across the MPA increases relative to 2018 baseline including no decrease in abundance, variety or fish size (2018 data is currently under analysis; baseline to be finalised).

- The increase in biomass, abundance and variety or fish size was measured through a coral reef survey conducted in Year-3, the condition of biodiversity was compared to the baseline survey conducted in 2018.

The work plan is shared with partners and M&E is carried out in accordance with the agreement.

8. Lessons learnt

Some of the lessons learned that can be used for future project implementation include:

- a) The SPAG's study should be carried out after the completion of the stock assessment study for the target species. The results of the stock assessment study will provide recommendations for more specific information about the spawning season, gonad maturity size, and location.
- b) Recommendations for the study of coral reefs in conservation areas are not enough to only assess coral health and the number of fish but must pay attention to ecosystem resilience factors such as the size of corals, fish, coral recruits and physical parameters of resilience. Coral reef studies with a resilience approach will provide more detailed information to assist managers in making zoning designs and adaptive management to the impacts of climate change.
- c) Market parameters such as prices and quotas (amount of production) are measured periodically. This will be helpful in measuring market changes, especially to see the effect of demand on production and production on demand. Market studies are more specifically needed to support the assessment of market changes. Change assessment studies at the beginning and at the end of the project are designed prior to project implementation.
- d) Community based monitoring surveillance (CBMS) has had a positive impact in efforts to preserve the sea from various sources of threats that can disrupt and damage the sustainability of fish resources. Currently CBMS has contributed to providing periodic information to the government and has been proven to be able to reduce the level of violations that occur in the area. This condition shows that community involvement in monitoring is very important to build good synergy with the government in responding to problems. The CBMS mechanism has been proven to provide effectiveness in terms of human resources, time and budget, previously identified as problems at the government level. To carry out effective and optimal supervision, the CBMS mechanism must be adopted in an integrated monitoring system carried out by the government and law enforcement officers.

FFI will also share lessons learned in the form of best practice community-based monitoring and surveillance through books and visual videos.

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

1. It is suggested that the lead organisation continues to review the Covid-19 and fisher conflict situations in-country in terms of how they are likely to continue to affect project activities and progress during Year 3.

The effects of Covid-19 continued to be felt through July 2021. Due to restrictions in outreach activities at schools, we continued to experience delays, so were only able to carry out these activities at the end of Year 3. Outreach to the community continued using regular (limited) face-to-face meetings. The quality control training (2.4) previously implemented virtually will need to be organised again in Year 4. Most participants of the virtual training requested face-to-face training to optimise the impact of the training. Based on the results of the exposure visit (2.3), companies in North Sumatra have committed to provide training to their market chain in Simeulue (5 LMMA). However, due to the wide spread of the Covid-19 pandemic that had a national impact, the company representatives unilaterally cancelled the trip to Simeulue. The quality control training continued to be held by inviting trainers from the Fisheries Training and Extension Unit (BPPP Medan) under MMaF who were willing to travel to Simeulue.

Fisher conflicts were gradually resolved. The intensity and time interval of the patrols led by Panglima Laot were conducted with full consideration and agreement on the schedule from the community. The conflict only affected the intensity of patrol activities by Panglima Laot and did not affect the project as a whole in Year 3. However, in the Bengkalak Island LMMA, which is a neighbour to the village/hot spot for compressor fishing, social tension persists. Eight of the 14 violations in Year 3 occurred in the Bengkalak Island LMMA and resulted in delays to the main activity of completing the action plan. The number of violations created a stigma among fishers that they prioritise solving the main problem.

2. Further clarification on how the Darwin identity has been represented in project materials is also requested as this was not very clear from the response given for section 13 in the Year 2 report.

The Darwin identity was presented during an oral presentation at the International Coral Reef Symposium 2020 with presentations entitled "Status of Coral Reef Ecosystems in Simeulue Island MPAs, Aceh, Indonesia and Lessons Learned in PiSiSi MPA Management" and mentioned that the topic was part of the support from the Darwin Initiative and the Arcadia Fund [REDACTED]

3. Some of the provided project reports that summarised activities funded by Darwin did not mention the Darwin Initiative in the text.

All relevant communication materials (i.e., FFI presentation slides) recognise the Darwin Initiative's Identity, including the patrol reports. However, there are some shortcomings in other reports (Appendix 7 and 8). We have implemented several corrective measures in the Half Yearly report document, including the Community-based surveillance report and the activity banner on Output 2. We are aware of the shortcomings based on the Annual Report Year 2 review, and will update all documents produced from the Darwin project during the Year 1 to Year 2 period by mentioning Darwin's identity in the text.

4. An explanation for the budget variance of more than 10% (-14%) for the 'travel and subsistence' category is also requested

The underspent (-14%) for the "Travel and Subsistence" on the Y2 was due to the travel restriction during Covid-19 pandemic. In Year 3, the travel and subsistence category less than 10% has followed the guidelines provided by Darwin Initiative.

5. Continue to review assumptions and logframe in regard to the ongoing COVID-19 pandemic effects on the project and also the fisher conflict situation.

With regard to Covid-19, the project team has been able to adapt and consider trends and government policies, thus no revision was required on the assumption of the pandemic. Regarding the fisher conflict situation, Panglima Laot has adjusted by reducing routine patrols and preparing quick responses to anticipate potential conflicts in the field. Conditions are improving and all parties are starting to build communication to improve the situation and end the conflict - a win-win solution.

6. Provide further clarification on the recognition of the Darwin Identity in project materials (Next Annual Report)

We have ensured that all project materials during Year 3 have followed the guidelines for Darwin Identity including banners, modules, presentations, technical reports, posters, clothes, and presentation slides. More detailed information can be found in the Darwin Identity section

7. The completion of LMMA designation and zonation plans is slightly behind schedule with one LMMA still to be finished (activity 1.6).

As previously described, the social tensions at the Bengkalak Island LMMA resulted in the delay the completion of the LMMA designation and zoning plans. The LMMA designation and zoning plans are slightly behind schedule with one LMMA still to finish (1.6) particularly the sub-activity on the preparation of the Bengkalak Island LMMA Management Plan. FFI is committed to do these activities in Year 4.

8. Some activities for Output 2 have been further delayed by the Covid-19 pandemic (2.3), while others have been partially completed, either virtually (2.4), or in person (2.5) due to social restrictions. Other activities are mainly on track such as market mapping (Activity 2.2 – see Appendix 7) but it is not clear whether an annual workshop to evaluate progress was held (2.6).

Due to strict social restrictions that affected the schedule for financial management training, bookkeeping training, quarterly monitoring meetings, and quality control training which were postponed until the end of Year 2. The postponement caused the annual workshop to evaluate action plan progress of Year 2 to be held at the beginning of Year 3 and was reported in the Half Year Report Year 3.

9. The effects of the Covid-19 pandemic are thought to be challenging the assumptions in that social restrictions and economic losses are reducing the ability of communities to take part in some activities such as those related to the fisheries markets. The lead organisation will continue to assess the impacts of the pandemic on the project and its assumptions in Year 3.

FFI in Year 3 continues to monitor the pandemic status, always considered the ongoing situation and continues to reassess assumptions that were developed at the beginning of the project. There were no changes in the assumptions used in Year 3. The project was most severely affected by the pandemic in Year 2, therefore in Year 3 FFI proposed an extension to Year 4.

Project partners, especially DKP in Year 3 of the project, responded that changes were normal as a response to the COVID-19 pandemic situation. DKP partners still need FFI support for project finalisation and community assistance/empowerment, especially due to the impact of Covid-19. Moreover, the MPA management body has just been established and does not yet have a routine operational budget to assist communities around the area, including five LMMAs. Some delays were acceptable due to the Covid-19 pandemic situation. DKP Aceh has led communication with the MMAF to facilitate technical guidance for the community and Panglima Laot who are members of Pokmaswas to further improve the basic knowledge of the community to undertake community-based surveillance. Aceh DKP, together with conservation partners, is designing technical guidelines for community-based surveillance. The DKP Simeulue and law enforcement officers have conducted some direct communication to the compressor fishing hot spot villages regarding the laws and regulations in fisheries, including the legal impact on the perpetrators of destructive fishing.

10. Other comments on progress not covered elsewhere

The SPAGs research in Year 1 may be concluded as not optimally implemented, where the initial information (sourced from fishers) used as reference for the SPAGs survey in the PiSiSi MPA area had weak accuracy (due to poor data). Information from fishers (local knowledge) was only based on time and locations with high fishing intensity for important species (groupers and snappers) studied. The SPAGs study requires very large amount of time and money. Therefore, the Fish Stock Assessment (FSA) study is more relevant to implement at PiSiSi MPA. In addition to assessing the utilisation rates and population dynamics for important species, the FSA also produces more specific

spawning time and location information, based on data collection of 1 year (minimum). Several important recommendations were made through the FSA for key species of grouper and have been described in ***the Progress towards the project Outcome section***. Difficulties in holding face-to-face meetings led to some meetings being held online. Some activities had to be postponed due to Covid-19, leading to an extension of funding period, and will be carried out during the Year 4 project extension period.

11. Sustainability and legacy

While implementing LMMA development, FFI will create LMMA management plans integrated into customary law which will be respected as part of village constitutions. This strategy will enhance LMMA sustainability beyond the project by respecting and utilising traditional governance mechanisms.

To support sustainable implementation of LMMA action plans, training for communities and key stakeholders such as the Panglima Laot is included throughout the project. This will strengthen the capacity of duty bearers to co-manage LMMAs and continue the process, supported by the project's strong institutional framework at local and provincial level. Specifically, the formation of MPA management body for Aceh and a LMMA Networks Working Group on Simeulue will facilitate continuation of activities beyond the project by bringing together and incentivising actors and decision-makers. Both newly created groups will continue to function independently with the support and participation of local communities after project-end.

Systemic approaches to markets, avoiding project-funded subsidies and encouraging private sector investment will enable benefits of the PMSD component to continue beyond project-end. Reef fish populations in Simeulue will be safeguarded via long term, community-driven exclusion of destructive fishing, thus increasing the resilience of the reef ecosystem to future local and global stressors.

A locally led marine management approach, supported by traditional institutions, has helped maintain the integrity of the LMMA in Simeulue. Communities involved inclusively have a strong commitment to safeguarding their livelihood resources by measuring independently the impact so that it can be widely promoted to cover all villages around PiSiSi MPA or to other areas that have the same characteristics.

12. Darwin identity

In Year 3, FFI has made Darwin Identity clear in every activity material, such as banners, modules, presentations, technical reports, posters, clothes, and presentation slides. Two banners, one module, 21 presentations, 45 technical reports, four posters, and 20 shirts have been printed using the Darwin Initiative logo. In addition, lessons learned and achievements from the Darwin project have been and will be used to inform the next project (pipeline) and proposals submitted to NOAA, Waterloo Foundation, UNDP - Ocean Innovative Challenge.

13. Impact of COVID-19 on project delivery

The impact of Covid-19 on project delivery can be seen on several activities;

- The Covid-19 pandemic affected the training and outreach activities to 10 schools. In the project proposal, FFI was to use a training-of-trainers approach, particularly for teachers who will become coaches for their students. However, during this period, teachers and students are both re-adapting to the face-to-face learning process after two years of virtual learning and occasional face-to-face learning with restrictions.
- The quality control training conducted in Simeulue provided a moment where all local market actors and companies in North Sumatra met and improved market chain relationships. The wave of the omicron variant of the Covid-19 pandemic made company representatives hesitant to travel. However, the company did not rule out the opportunity to be directly connected to its market chain in Simeulue in the future, as was their commitment during the exposure visit.

- Currently, fish traders in Sinabang (capital city of Simeulue) act as an extension of the company to communicate with fishers and fish traders in five LMMAs to implement post-harvest handling based on market demand and needs.
- The training of trainers for teachers to conduct outreach activities planned for the 10 schools was diverted to provide training to eight interns for implementation. New activities will be undertaken at the end of Year 3 in eight schools with 20 sessions. Meanwhile, the face-to-face quality control training may still be conducted by presenting trainers from the Fisheries Training and Extension Unit (BPPP Medan) under MMaF.
- In Year 3, FFI's internal policy required all staff to work from home two times as three FFI staff were exposed to Covid-19, leading to the cancellation of face-to-face activities with partners.
- During this period, activities were implemented to health protocols such as limiting the number of participants, checking body temperature, and wearing masks. This situation lasted until December 2021; since January 2022 the government has begun to relax social restrictions.

14. Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year.

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

No safeguarding issues have been reported during the reporting year for this project. FFI's **Safeguarding Children and Adults at Risk Policy & Procedure** was developed in December 2014 and last updated in March 2018. The policy applies to Members of Council and its sub-committees, FFI employees, temporary staff provided through agencies, volunteers and interns, contractors, consultants, service providers and any third parties who carry out work on behalf of FFI, in partnership with FFI or in conjunction with FFI. The policy demonstrates the organisation's commitment to safeguarding children and adults at risk and to complying with the UN Convention on the Rights of the Child; confirms the arrangements and procedures in place to safeguard children and adults at risk, including FFI's code of conduct; and provides clear guidance on how to raise, and how FFI responds to, concerns and allegations regarding the maltreatment of children and adults at risk. The policy expressly states that FFI does not tolerate sexual exploitation and abuse of any kind.

FFI's **Anti-bullying and Anti-harassment Policy** was developed in March 2018. The policy applies to Members of Council and its sub-committees, FFI employees, temporary staff provided through agencies, volunteers and interns, contractors, consultants and any other third parties who carry out work on FFI's behalf. The stated purpose of the policy is to ensure a safe, welcoming and inclusive working environment, which is free from intimidation, threats, discrimination, bullying or harassment; to communicate clearly FFI's zero-tolerance of any form of bullying or harassment; to define the terms 'bullying' and 'harassment' and provide examples, so that there is a clear understanding of the types of conduct that are prohibited; to communicate the importance of reporting incidents of bullying and harassment; and to communicate the procedures in place to manage incidents of bullying and harassment. The policy expressly states that bullying or harassment of any kind against a person or group of people, whether persistent or an isolated incident, will not be tolerated under any circumstances.

FFI's **Whistleblowing Policy** was developed in June 2013 and last updated in December 2019. The policy applies to FFI employees. The stated purpose of the policy is to encourage employees to report suspected wrongdoing in the organisation as soon as possible, in the knowledge that their concerns will be taken seriously and investigated as appropriate, and that their confidentiality will be respected. It provides guidance on how to raise those concerns and aims to reassure employees that they can raise genuine concerns in good faith without fear of reprisals, even if they turn out to be mistaken.

FFI's partner due diligence procedures include checking whether any safeguarding concerns have arisen with the partner concerned and the Safeguarding Children and Adults at Risk Policy & Procedure forms part of contracts and agreements with third party contractors and sub-grantees. We are also currently researching LMS platforms (Learning Management Systems) which would enable online training in policies & procedures.

We monitor updates in Government and Charity Commission guidance and review our policies and procedures accordingly.

In terms of social safeguards, FFI has position papers on our approach to *Livelihoods and Governance*, *Free, Prior and Informed Consent*, [Gender in Conservation](#), *Displacement and Restrictions on Access to Resources and Conservation*, and *Rangers and Human Rights* (available on request). Our specialist Conservation, Livelihoods and Governance team supports regional FFI staff and partners to take a holistic, people-centred approach to biodiversity conservation, and ensure project activities are strongly aligned with these principles.

15. Project expenditure

Table 4. Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

Project spend (indicative) since last Annual Report	2021/22 Grant (£)	2021/22 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs	██████████	██████████	6%	
Consultancy costs	██████████	██████████	0%	
Overhead Costs	██████████	██████████	0%	
Travel and subsistence	██████████	██████████	-8%	
Operating Costs	██████████	██████████	-0%	
Capital items	██████████	██████████	-7%	
Monitoring & Evaluation (M&E)/Audit Cost	██████████	██████████		
Others	██████████	██████████	-5%	
TOTAL	109,480.96	109,480.74		