

<b>Project Period</b>	07/01/2012 - 02/28/2014
<b>Award Amount</b>	\$29,999.70
<b>Matching Contributions</b>	\$32,523.00
<b>Project Location Description (from Proposal)</b>	The project will be implemented in three MPAs within the Bird's Head Seascape, in West Papua, Indonesia—the Kaimana, Kofiau, and Ayau MPAs.
<b>Project Summary (from Proposal)</b>	Enable community fishers to implement lessons learned from previous training on community monitoring programs in the Bird's Head Seascape. Project will deliver the tools and capacity to protect and sustainably manage their marine resources.
<b>Summary of Accomplishments</b>	Conservation International (CI), in partnership with The Nature Conservancy (TNC), successfully implemented a pilot community fisheries monitoring program in three MPAs in Raja Ampat Regency within the Bird's Head Seascape—Teluk Mayalibit MPA, Kofiau MPA, and Ayau MPA. This pilot project was motivated by a “Sustainable Fisheries Management” training delivered by the US National Oceanic and Atmospheric Administration (NOAA). Targeted trainings on sustainable fisheries and fisheries monitoring increased government and community understanding of sustainable fisheries management and the importance of recording fisheries data to support adaptive management. Fisheries monitoring teams were formed with MPA Monitoring Officers, Community Monitoring Assistants, and community fishers from each of the three MPAs and regular data collection commenced. The project was integrated with the other programs from the government (MPA Enforcement, and fisheries regulation establishment) and other NGOs (Pride campaign for sustainable fisheries) in order to strengthen MPA management overall. At the of the pilot, community fishers presented the results and recommendations from the monitoring to the government of Raja Ampat, which agreed to adopt the program and work with community fishers to regularly monitor and co-manage local fisheries.
<b>Lessons Learned</b>	<ul style="list-style-type: none"> <li>• Community Fisheries Monitoring is valuable and motivating for local fishers: This pilot program was a process of trial and error and the methodologies are still being improved upon across all three sites. However, despite any changes to the methodology that need to be made, the participating monitoring officers and community fishers were overwhelmingly positive about continuing the program. It is still too early to have time series data to provide information on population trends for key fisheries in each MPA, but even in the meantime, the collection of baseline data served an important purpose. Local fishers, who reported in all site having the perception of stocks declining before this program, were empowered to collect their own data to understand the state of their fishery. The data collection and analysis gave them ownership and participatory role in the management of their fisheries.</li> <li>• Capacity building is an essential and valuable part of implementing community fisheries monitoring: Capacity development was woven into this program from start to finish, with trainings at each site on sustainable fisheries management, community fisheries monitoring, and data analysis and interpretation. These trainings were empowering for local communities who gained new knowledge and</li> </ul>

increased their awareness of sustainable fisheries. The trainings catalyzed support from communities and the government to participate in the program.

Conservation Activities	Conduct a two-day training on the fisheries monitoring protocol for five community fisheries monitoring officers in each of the target MPAs
Progress Measures	Other ((# of trained community fisheries monitoring officers))
Value at Grant Completion	74
Conservation Activities	Community Fisheries monitoring officers implement fisheries protocols for 12 months, collecting data from all community fishers in their villages
Progress Measures	Other ((# of months of data collected at each MPA))
Value at Grant Completion	10, 12, 7 months respectively
Conservation Outcome(s)	By the start of 2013, a community fisheries monitoring team with at least five local fishers has been established in each of the three pilot sites
Conservation Indicator Metric(s)	Other (Number of local fishers trained in fisheries protocol in each MPA)
Baseline Metric Value	0
Metric Value at Grant Completion	74 total across 4 MPAs (70 in the focal 3 MPAs)
Long-term Goal Metric Value	5 per MPA at 7 MPAs
Year in which Long Term Metric Value is Anticipated	2015
Conservation Outcome(s)	By the start of 2014, community fisheries monitoring teams in each site have collected a year's worth of fisheries data
Conservation Indicator Metric(s)	Other (# of local fishers trained in analyzing the fisheries data in each MPA)
Baseline Metric Value	0
Metric Value at Grant Completion	18 across 3 MPAs
Long-term Goal Metric Value	5 per MPA at 7 MPAs
Year in which Long Term Metric Value is Anticipated	2015

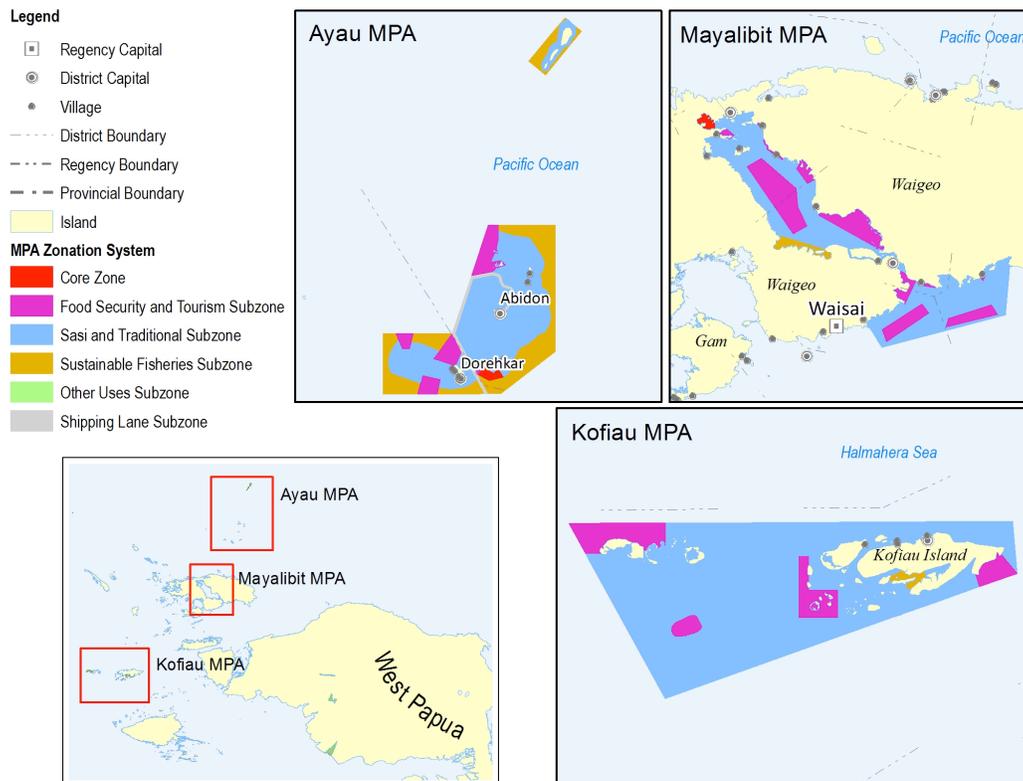
## Final Programmatic Report Narrative

**Instructions:** Save this document on your computer and complete the narrative in the format provided. The final narrative should not exceed ten (10) pages; do not delete the text provided below. Once complete, upload this document into the on-line final programmatic report task as instructed.

### 1. Summary of Accomplishments

(In four to five sentences, provide a brief summary of the project’s key accomplishments and outcomes that were observed or measured.)

Conservation International (CI), in partnership with The Nature Conservancy (TNC), successfully implemented a pilot community fisheries monitoring program in three MPAs in Raja Ampat Regency within the Bird’s Head Seascape—Teluk Mayalibit MPA<sup>1</sup>, Kofiau MPA, and Ayau MPA. This pilot project was motivated by a “Sustainable Fisheries Management” training delivered by the US National Oceanic and Atmospheric Administration (NOAA). Targeted trainings on sustainable fisheries and fisheries monitoring increased government and community understanding of sustainable fisheries management and the importance of recording fisheries data to support adaptive management. Fisheries monitoring teams were formed with MPA Monitoring Officers, Community Monitoring Assistants, and community fishers from each of the three MPAs and regular data collection commenced. The project was integrated with the other programs from the government (MPA Enforcement, and fisheries regulation establishment) and other NGOs (Pride campaign for sustainable fisheries) in order to strengthen MPA management overall. At the of the pilot, community fishers presented the results and recommendations from the monitoring to the government of Raja Ampat, which agreed to adopt the program and work with community fishers to regularly monitor and co-manage local fisheries.



**Figure 1: Maps of the three pilot MPAs sites**

<sup>1</sup> With the permission of NFWF, CI substituted the Kaimana MPA with the Teluk Mayalibit MPA since the original proposal, but before project implementation. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the National Fish and Wildlife Foundation. Mention of trade names or commercial products does not constitute their endorsement by the National Fish and Wildlife Foundation.

## 2. Project Activities & Outcomes

### Activities

(Describe the primary activities conducted during this grant and explain any discrepancies between the activities conducted from those that were proposed.)

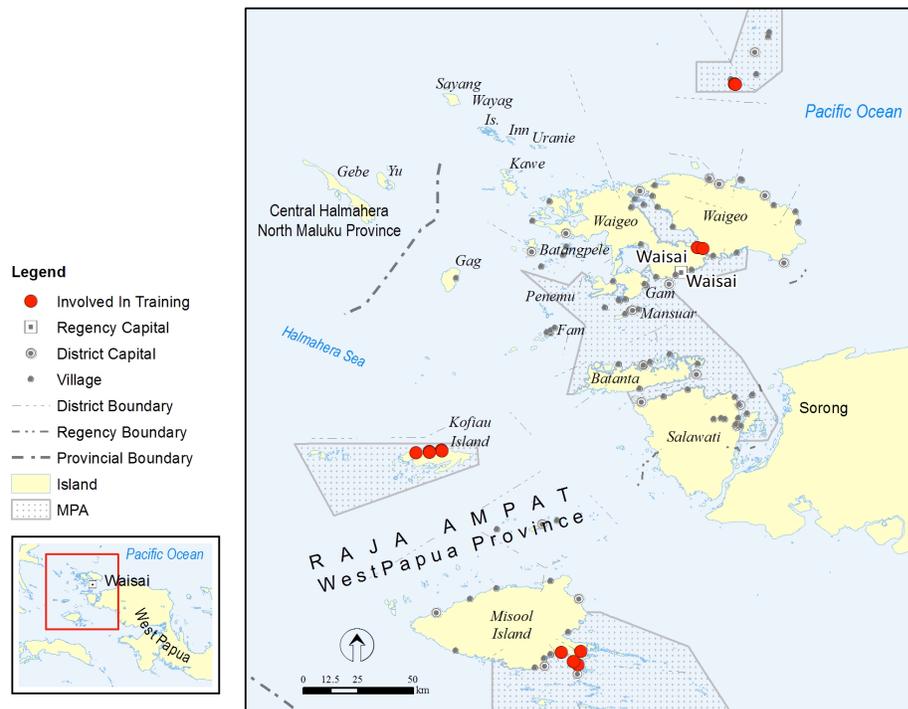
Project activities were conducted in parallel at three MPAs in Raja Ampat within the Bird's Head Seascape—Teluk Mayalibit, Kofiau, and Ayau MPAs. Described below are the original proposed activities (in italics) and the progress made towards each across the three sites.

During implementation the first two proposed activities, listed below, were conducted in combination to maximize efficiency.

***Proposed Activity 1:** Conduct a three-day field training on Sustainable Fisheries in each of the three target MPAs for 20 local community fishers, local tenurial rights holders, and officials from the Department of Marine Affairs and Fisheries. This training will be adapted from the comprehensive NOAA-led Sustainable Fisheries training and will be taught by the NOAA-trained BHS mentor team.*

***Proposed Activity 2:** Conduct a two-day workshop/training for five community fisheries monitoring officers in each of the target MPAs, to refine the fisheries monitoring protocol for that MPA/fishery and train the officers in the implementation of the protocol. The protocol will document catch composition and size demographics, catch-per-unit effort, bycatch, and gear types.*

CI and TNC worked across all three sites to ensure that local community fishers were trained in the principles of sustainable fisheries and that a select group of motivated community fishers were trained in the fisheries monitoring protocol.



**Figure 2: Map of participating villages in trainings**

CI and TNC led the following trainings as part of the project:

### Teluk Mayalibit

- A sustainable fisheries and community fisheries monitoring training in Warsambin village, Teluk Mayalibit, Raja Ampat, May 2 – 3, 2013. There were 16 participants in the training including community fishers from Warsambin village, Teluk Mayalibit District government officer, Teluk Mayalibit MPA officer, and staff from the Raja Ampat Department of Marine Affairs and Fisheries.
- A community fisheries monitoring training in Lopintol village, Teluk Mayalibit, Raja Ampat, June 13-14, 2013. There were 15 participants in the trainings including community fishers and fish buyers.

### Kofiau

- A discussion and training session for 3 Kofiau Community Monitoring Assistants on field data entry was held in Sorong on February 27 – 28, 2013.
- A sustainable fisheries training was conducted at the TNC Kofiau Field Station, April 8 – 10, 2013. There were 33 participants at the training, including 29 participants from 5 villages in Kofiau MPA and 4 participants from Southeast Misool MPA.

### Ayau

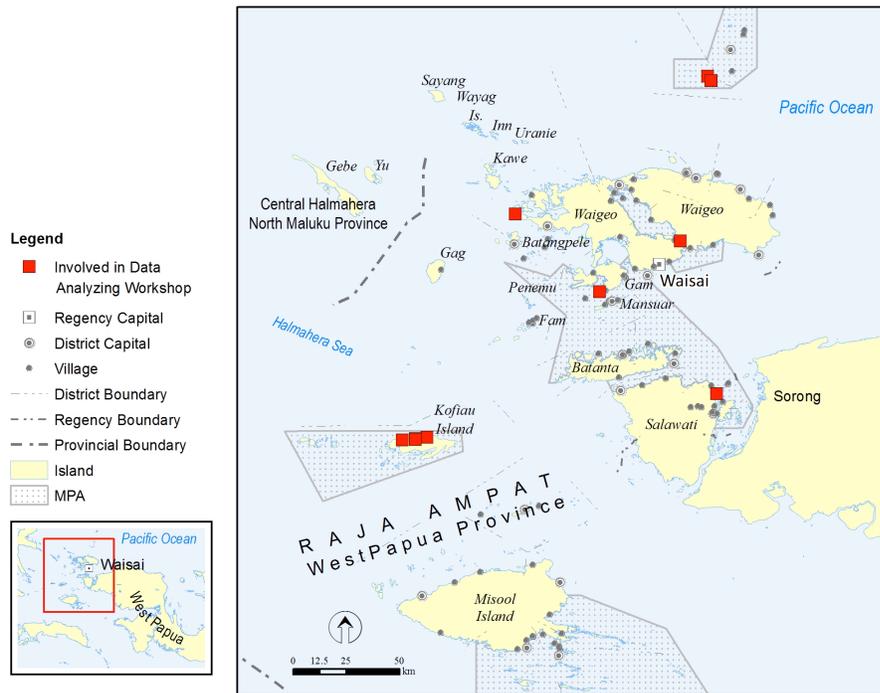
- A sustainable fisheries training and community fisheries monitoring training was held at the Ayau MPA office, March 21 – 22, 2013. There were 10 participants in the training from 3 villages in Ayau, Raja Ampat.

***Proposed Activity 3: Community Fisheries monitoring officers implement fisheries protocols for 12 months, collecting data from all community fishers in their villages.***

The start date for data collection and implementation of the community fisheries monitoring protocol varied depending on the training schedule described above. Some groups required more training than others before being sufficiently comfortable with the protocol, which led to a delay in protocol implementation in Teluk Mayalibit and Ayau MPAs. In total, community fishers collected data for 7 months in Teluk Mayalibit, 12 months in Kofiau, and 10 months in Ayau. Additional constraints that limited the number of months of data collection included rough weather conditions during data collection as well as religious activities such as the Christmas season and social community activities that interfered with the monitoring schedule.

***Proposed Activity 4: Conduct a three-day data analysis workshop in each of the target MPAs with the community fisheries monitoring officers who collected the data.***

- A workshop on monitoring and local patrol data management and analysis was conducted in Deer Village, Kofiau, Raja Ampat, October 1 – 5, 2013. This workshop was attended by 8 Community Monitoring Assistants and 2 MPA Monitoring officers.
- A fisheries data management and analysis training was held at the Teluk Mayalibit MPA Office, in Teluk Mayalibit, Raja Ampat, November 26 – 29, 2013. To make sure the class was effective, it was limited to 8 participants, 3 from Ayau MPA, 3 from Teluk Mayalibit MPA and 2 additional MPA monitoring staff from nearby Dampier Strait MPA and Kawe MPA.



**Figure 3: Map of participating villages in data analysis workshop**

**Proposed Activity 5:** *Develop and print handout/booklet with key results and management recommendations and present results in a one-day workshop with community leaders, the fisheries department, and other relevant stakeholders.*

The community fishers who participated in the program and analyzed the data held a Community Fisheries Monitoring Result Workshop in the capital city Waisai, Raja Ampat on December 16, 2013. At the workshop the community fishers presented the results of their analysis and fisheries management recommendations to staff from the Raja Ampat Department of Marine Affairs and Fisheries. Rather than print a handout/booklet, which most community fishers would be unable to read do to high illiteracy rates, the community fishers decided to prepare detailed presentations (Appendices 1-3) which they delivered directly to the government and community leaders.

### Outcomes

(Describe progress towards achieving the project outcomes as proposed. Briefly explain any discrepancies between your results compared to what was anticipated)

**Outcome 1:** *By the start of 2013, a community fisheries monitoring team with at least five local fishers has been established in each of the three pilot sites—Teluk Mayalibit, Kofiau, and Ayau MPAs—and has been trained and equipped to gather critical fisheries data to quantify total catch and effort for one locally important fishery in their MPA.*

As described above, CI and TNC led extensive trainings on sustainable fisheries and community fisheries monitoring in each of the three pilots sites, leading to the establishment of local community fisheries monitoring teams at each site by February 2013. The trainings included staff from the Raja Ampat MPA Network Management Authority, MPA monitoring staff from Teluk Mayalibit and Ayau, community monitoring assistants from Kofiau, and community fishers from all three sites.

The Raja Ampat MPA Network Management Authority, which has management authority over each of the three pilot sites (as well as the other MPAs in the network), had two dedicated MPA Monitoring officers in each of Teluk Mayalibit and Ayau MPAs. These MPA Monitoring Officers were community members from villages in those MPAs. Their main responsibility was to enforce illegal or destructive fishing and MPA zoning rules. After attending the trainings led by CI and TNC, the Raja Ampat MPA Network Management Authority acknowledged the importance of collecting fisheries data and committed those four staff to working directly with community fishers to collect critical fisheries catch data. In Kofiau, where there were no government MPA Monitoring Officers, TNC trained Community Monitoring Assistances instead. The MPA Monitoring Officers and Community Monitoring Assistants were highly motivated after that training to expand fisheries data collection. They were equipped with laptops and cameras to use for data and evidence collection and entry.

Most remarkably was the transformation in the community fishers. Before the training, many local fishers resisted any form of data collection because they were suspicious the data would be used in some way to financially disadvantage them. After the training, local fishers understood the value they could get out of the information being collected and agreed to participate in data collection. At the training, participating community fishers were equipped with a logbook, a water resistant note, and a pack of stationary, which they then used to actively write down their fishing history. The MPA monitoring officers then regularly collected the log books and copied the data into the database.

In Teluk Mayalibit the communities decided to focus the pilot on monitoring the Indian Mackerel fishery. In Kofiau and Ayau, they focused on mixed reef and pelagic fish fisheries.

***Outcome 2:*** *By the start of 2014, the community fisheries monitoring teams in each of the three pilot sites—Teluk Mayalibit, Kofiau, and Ayau MPAs—have collected a year’s worth of fisheries data for one locally important fishery in each MPA and presented initial results and management recommendations to the local communities and to the Department of Marine Affairs and Fisheries.*

At the close of the grant, the community fisheries monitoring teams had collected community data for 7 months in Teluk Mayalibit, 12 months in Kofiau, and 10 months in Ayau. While the teams did not collect a full year’s worth of data at two of the sites, due to constraints discussed above, community fisheries monitoring is still ongoing at all three MPAs. The Raja Ampat MPA Network Management Authority and the Raja Ampat Department of Fisheries has taken on responsibility for supporting community fisheries monitoring moving forward. This government adoption of the program and acknowledgement of the importance of community participation is a major accomplishment and will allow for program sustainability long-term.

The community fishers who participated in the program participated in a training to learn how to analyze the data and generate results and recommendations. A community Fisheries Monitoring Result Workshop held in Waisai, Raja Ampat on December 16, 2013, at which the community fishers presented the results of their analysis and fisheries management recommendations to staff from the Raja Ampat Department of Marine Affairs and Fisheries.

Key Results included:

- In Teluk Mayalibit MPA, community fisheries monitoring showed that the peak season of Indian Mackerel was the month of October 2013 with a total catch of more than 35,000 fish that month. Average catch per boat per night of Indian Mackerel during September – November in 2013 was 43% higher than the same period in 2012. The community fishers and MPA monitoring officers attributed this increase to the fact that a new fisheries regulation had been established to reduce effort on spawning aggregations during the spawning season for the Indian Mackerel. The increase in catch followed the implementation of the new regulation. The data also showed that over 95% of fishers catching Indian Mackerel are local fishers from villages within the

MPA, which indicated effective enforcement of the MPA (which excludes entry to outside fishers) and highlights the importance of this fishery for the local economy and food security. (Appendix 1)

- In Kofiau MPA, community fisheries monitoring provided a clear baseline for mixed reef fisheries. Data indicated that hand line fishing is the predominant gear type. The mix of species and catch per unit effort remained relatively stable during the sample period, establishing a baseline, but not demonstrating any clear population trends. A quarter of their catch was grouper and another quarter was pelagic fishes such as mackerel. Monitoring did reveal that shark fishing has continued in the MPA, with sharks constituting 5% of all catch, despite a ban on all shark fishing in Raja Ampat. Monitoring also indicated that the vast majority of catch from Kofiau is still being caught by fishers originating outside of Raja Ampat. This information will be important for the MPA patrol teams as they continue to enforce the shark fishing ban and traditional fishing zones for local fishing use only. (Appendix 2)
- In Ayau MPA, community fisheries monitoring recorded that the majority of fishers in Ayau MPA use “ketinting” a small traditional boat with hand line. They catch reef and pelagic fishes such as snapper, parrot fish, and mackerel and sell it to first buyer as dried-salted fish. On average each fisher makes approximately Rp. 200,000 per month (USD \$20). Fisher in Ayau also catch and sell live fish such as grouper and napoleon wrasse. *Epinephelus fuscoguttatus* and *Plectropomus areolatus* are the most common species caught by local fishers. In a typical month, fishers from Ayau collectively sell up to 6 tons of live reef fish to a loading ship and make more than Rp. 90,000,000 (USD \$9,000) of profit. This data illustrated the economic importance of the live fish trade for local fishermen and the importance of managing it for sustainability. There is not yet enough data to show trends in Catch Per Unit Effort. (Appendix 3)

Key recommendations included:

- Fisheries monitoring should be continued to get time series data to evaluate fisheries condition annually. Time series data will allow for analysis of trend and will support adaptive management to ensure sustainability. Continued support from The Raja Ampat MPA Network Management Authority, the Raja Ampat Department of fisheries, and local communities will be necessary.
- Fisheries monitoring should be expanded to the three other MPAs in Raja Ampat.
- In addition to collecting critical fisheries data, the community fisheries monitoring can also serve as an opportunity for outreach and the dissemination and enforcement of fisheries policies or regulations.
- Stakeholders should be continually engaged in existing conservation and fisheries management efforts, because these efforts can have positive impacts on them.

## Unexpected Outcomes

(Provide any further information (such as unexpected outcomes) important for understanding project activities and outcome results.)

The community fisheries monitoring program resulted in the following unexpected but positive outcomes:

- As an extension of this project, community fishers and the MPA team in Teluk Mayalibit supported the establishment of two new village regulations for Indian Mackerel protection. Training and discussion conducted by this project at Mayalibit Bay increased understanding of the importance management for the Indian Mackerel to maintain sustainable stocks of the fishery. (Appendices 4-5).

- Catch data recording for this project ended up supporting the enforcement of fisheries and MPA regulations. For example, when the Ayau MPA Monitoring officers was collecting data for the live fish trade, they found an illegal trade permit to buy Napoleon Wrasse in Ayau. They report their finding to local patrol and Navy who then required the buyer to released 50 Napoleon Wrasse (aproximately 500 kg) back to the sea after it had been bought illegally.

### 3. Lessons Learned

Describe the key lessons learned from this project, such as the least and most effective conservation practices or notable aspects of the project's methods, monitoring, or results. How could other conservation organizations adapt similar strategies to build upon some of these key lessons about what worked best and what did not?

- **Community Fisheries Monitoring is valuable and motivating for local fishers:** This pilot program was a process of trial and error and the methodologies are still being improved upon across all three sites. However, despite any changes to the methodology that need to be made, the participating monitoring officers and community fishers were overwhelmingly positive about continuing the program. It is still too early to have time series data to provide information on population trends for key fisheries in each MPA, but even in the meantime, the collection of baseline data served an important purpose. Local fishers, who reported in all site having the perception of stocks declining before this program, were empowered to collect their own data to understand the state of their fishery. The data collection and analysis gave them ownership and participatory role in the management of their fisheries. In Teluk Mayalibit, the increase in catch caused greater commitment from communities for fisheries regulations protecting spawning stock.
- **Capacity building is an essential and valuable part of implementing community fisheries monitoring:** Capacity development was woven into this program from start to finish, with trainings at each site on sustainable fisheries management, community fisheries monitoring, and data analysis and interpretation. These trainings were empowering for local communities who gained new knowledge and increased their awareness of sustainable fisheries. The trainings catalyzed support from communities and the government to participate in the program. Originally, CI and TNC had budgeted to provide small stipends for participating fishers who kept comprehensive logbooks. However, after the trainings, fishers were motivated to participate voluntarily. CI and TNC did still provide small gifts for participation, such as hooks or cigarettes, but the program was able to be implemented on a voluntary basis. The data analysis training gave participants additional knowlede and enhanced their technical skills, such as Excel use for data enty, data qualty control and simple analysis. They learned how to use Power Point to present their results. During this training community members were given the skills, practice and courage manage to present their result to both the government and local communities.

### 4. Dissemination

Briefly identify any dissemination of project results and/or lessons learned to external audiences, such as the public or other conservation organizations. Specifically outline any management uptake and/or actions resulting from the project and describe the direct impacts of any capacity building activities.

- As reported above, the initial results from the community fisheries monitoring pilots were presented by the community members to the Raja Ampat Department of Fisheries and the Raja Ampat MPA Network Management Authority. Following the presentation, the government agreed to fully adopt the program and include it in the MPA managment strategy and workplan. Community fishers at all three MPAs also agreed to continue collecting fisheries data for annual analysis.
- Specifically in Teluk Mayalibit MPA, the project motivated two communities to develop targeted village fisheries regulations to strengthen protections of the Indian Mackerel spawning agreggations (Appendix 4-5).
- Two new collaborative initaitves also evolved out of the pilot in Teluk Mayalibit. During the pilot the MPA team and CI collaborated with RARE, which was leading a Pride Campaign Program for sustainable fisheries. This additional partnership helped generate strong community support for the program and for sustainable fisheries managment. This successful collaboration has lead to a follow-on project in Teluk Mayalibit as part of the Fish Forever Initiative. In addition a new collaboration has formed between CI the Raja Ampat government and the State University of Papua, which will be sending five papuan university students twice a year to intern in teluk mayalibit and work to strengthene the cpacaity of fisher collectives in the MPA.

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## 5. Project Documents

Include in your final programmatic report, via the Uploads section of this task, the following:

- 2-10 representative photos from the project. Photos need to have a minimum resolution of 300 dpi;
- Report publications, Power Point (or other) presentations, GIS data, brochures, videos, outreach tools, press releases, media coverage;
- Any project deliverables per the terms of your grant agreement.

The following documents have been uploaded to accompany this report:

- Appendix 1: Final Results and Recommendations Presentation Teluk Mayalibit MPA (*in Bahasa Indonesian*)
- Appendix 2: Final Results and Recommendations Presentation Kofiau MPA (*in Bahasa Indonesian*)
- Appendix 3: Final Results and Recommendations Presentation Ayau MPA (*in Bahasa Indonesian*)
- Appendix 4: Village Fisheries Regulation Warsambin Village, Teluk Mayalibit (*in Bahasa Indonesian*)
- Appendix 5: Village Fisheries Regulation Lopintol Village, Teluk Mayalibit (*in Bahasa Indonesian*)
- 10 project photos
- Video of data recording at a live fish trading ship (file too large to upload, but available upon request)

***POSTING OF FINAL REPORT:*** *This report and attached project documents may be shared by the Foundation and any Funding Source for the Project via their respective websites. In the event that the Recipient intends to claim that its final report or project documents contains material that does not have to be posted on such websites because it is protected from disclosure by statutory or regulatory provisions, the Recipient shall clearly mark all such potentially protected materials as “PROTECTED” and provide an explanation and complete citation to the statutory or regulatory source for such protection.*