

National Fish and Wildlife Foundation

Coral Reef Conservation Fund 2013 - Submit Final Programmatic Report (New Metrics)

Grantee Organization: Conservation International Foundation

Project Title: Building Networks for Coral Conservation in New Guinea

**Project Period** 8/01/2013 - 3/31/2015**Project Location** Milne Bay, Papua New Guinea's largest maritime province includes 32% of the country's coral reefs.**Description** Focal communities include Nuakata Iabam-Pahilele Islands, Wialoki Island, and Engineer Island Group.**(from Proposal)****Project****Summary (from****Proposal)**

Strengthen and establish a successful coral reef conservation area covering 140,000 square hectares and test a low-cost model for a self-propagating community-based conservation network for the Papua New Guinea region.

**Summary of****Accomplishments**

CI accomplished the majority of our project objectives. We trained community monitors and engagement team members increasing the number of people with skills on Community-Managed Marine Areas from 10 FTEs to 20 plus. The number of people reached with conservation messages increased from 1000 to 2500 plus through seven outreach patrols. Resource violations decreased where three sub-clans remained active in the NIPA CMMA and decreased significantly in the Wialoki CMMA. The CMMA network expanded and the area of effective management and community-based enforcement increased from 277,366 to 320,000 acres by adding Wialoki, Ware islands, and the Engineer Islands. A management plan and environmental law were established in the NIPA CMMA. A community-based management plan for Wialoki was drafted while a preliminary plan for Ware was drafted and a plan is under development for Dawson. Activity increased primarily in Wialoki, Ware, and active NIPA families on conservation outreach, patrols, and biological monitoring. CI completed a community-based biological monitoring manual, 14 ecological factsheets and prepared a draft video profiling success of the Wialoki Community. Through funding raised from USAID, CI started the development of community storytelling videos to help communities discover the history of their resources and develop action plans. Finally we are working actively with the nationwide Marine Management Learning Training Network to develop the Spreading the Reach Toolkit.

**Lessons Learned**

CI learned a number of lessons that are helping to strengthen our conservation approaches. Communities need to learn, apply and resolve misunderstandings and issues in their own time. In some cases this is best left to communities to work through while in others we can help clarify any misinterpretations. It is important to give the community time to reflect and resolve any issues before initiating any additional work and to focus on sub-clans that are continuing with project activities. The project also learned about the power of historical story telling and video documentation as tools to promote community-based management in our local communities. Messaging from stories and videos that track the history of marine resources, highlighting any changes that have been observed and the reasons they could have occurred, are powerful motivational tools. These stories and actions that communities can take themselves in addressing such changes and threats empowers them to explore their own management options, particularly if declines in fisheries have been experienced. This is reinforced when combined with examples of success and instruction on how to go about management actions, as collated in the Spreading the Reach toolkit. Finally, it has been very useful to community understanding to ground the Spreading the Reach materials in our ongoing work with communities, providing meaningful local context and examples and to supplement these with information on contemporary issues.



## Activities and Outcomes

Funding Strategy: Capacity, Outreach, Incentives

Activity / Outcome: Coral - Building institutional capacity - # FTE with sufficient training

Description: Enter the number of staff or full-time equivalents with sufficient training and skills engaged in conservation activities

Required: Recommended

# FTE with sufficient training - Current: 10.00

# FTE with sufficient training - Grant Completion: 20.00

Notes: Our goal was to increase the number of Full Time Equivalents (FTEs) with sufficient training in community-based marine management from 10 to 20. We accomplished this goal by training and mentoring community-based monitors and village engagement team members in Wialoki, Ware, and the Engineer group of islands. This training was provided through over seven outreach patrols each between 10 days and two weeks. As a result of these community outreach visits, approximately 30 new individuals are working on the establishment and management of Community-based Marine Management Areas (CMMAs). Each of these people works only part time, so our new full time equivalents is 10.

Funding Strategy: Capacity, Outreach, Incentives

Activity / Outcome: Coral - Outreach/ Education/ Technical Assistance - # people reached

Description: Enter the number of people reached by outreach, training, or technical assistance activities

Required: Recommended

# people reached - Current: 1000.00

# people reached - Grant Completion: 2500.00

Notes: As CI worked to expand the CMMA and Spreading the Reach of Community-based Marine Management approach to new communities, we provided outreach and mentoring to three new island areas: Wialoki, Ware, and the Engineer group. Through seven patrols carried out during the course of the project we provided villages in these areas with outreach and mentoring on the benefits of marine management for their food security and local environment and instruction on how they may go about marine management steps. These outreach patrols reached at least 1,500 new people bringing the total number of people that have received direct outreach on marine management to approximately 2,500.

Funding Strategy: Capacity, Outreach, Incentives

Activity / Outcome: Coral - Enforcement / Compliance with existing regs - # of violations per unit effort

Description: Enter the number of of violations per unit effort of enforcement

Required: Recommended

# of violations per unit effort - Current: 6

# of violations per unit effort - Grant Completion: 2

Notes: During the project period, CI and our partner communities significantly reduced illegal fishing within the CMMA areas. In the NIPA area as reviewed in the report, a community dispute limited CMMA activity in part of the CMMA. However, in approximately one quarter to one third of the CMMA (covering over 60,000 hectares), local communities remained active and helped to limit illegal activity through community outreach. In the Wialoki area, poaching was reduced to very low levels (if occurring at all) as the community put their no take regulations into place. This was accomplished mostly through community outreach through traditional social networks. We are basing our estimates of the numbers of violations on community feedback. During recent community visits, community members indicate that local fishers are complying with the new regulations.

Funding Strategy: Capacity, Outreach, Incentives

Activity / Outcome: Coral - Enforcement / Compliance with existing regs - Miles with enforcement presence

Description: Enter the number of miles with a minimum level of enforcement presence

Required: Recommended

Miles with enforcement presence - Current: 355.00

Miles with enforcement presence - Grant Completion: 500.00

Notes: As a result of the expanding CMMA network, the overall area with active enforcement expanded significantly. Our target was to expand the number of square miles with enforcement presence from 355 to 540. Due to the dispute in the NIPA area, the area with active enforcement presence fell slightly short of the target, with approximately 500 miles under enforcement rather than the targeted 540 miles. We anticipate this area to continue to grow and exceed the target in coming months as more and more communities in the Engineer Group create CMMAs and as the Ware community starts to actively manage their CMMA.

Funding Strategy: Habitat Management

Activity / Outcome: Coral - improved management practices - Acres under improved management

Description: Enter the number of acres under improved management

Required: Recommended

Acres under improved management - Current: 227336.00

Acres under improved management - Grant Completion: 320000

Notes: As a result of the expanding CMMA network, the overall area under improved management grew significantly. Our target was to expand from 227,336 to 345,947 acres under community-based management. In terms of acres, the area under improved management increased from 277,336 to 320,000 hectares just short of our initial target of 345,947 hectares.

Funding Strategy: Habitat Management

Activity / Outcome: Coral - improved management practices - Miles under improved management

Description: Enter the number of miles under improved management

Required: Recommended

Miles under improved management - Current: 355.00

Miles under improved management - Grant Completion: 500.00

Notes: The same elements as mentioned under the acres under improved management apply to this outcome as well. However, under this outcome it is expressed in square miles. At the started of the grant, the project was focusing on the 355 square miles of the NIPA CMMA. The target was to expand the area under active management bringing another 185 square miles under management to a total of 540 square miles. As a result of the expanding CMMA network, the overall area under improved management grew significantly. However, due to the dispute in the NIPA area we felt slightly short of our target to bring a total of 500 miles under strengthened management rather than the targeted 540 miles. We do anticipate that this gap will be filled within the next six months to one year as additional communities in the Engineer group create CMMAs and the Ware community becomes more active with their CMMA.

Funding Strategy: Planning, Research, Monitoring

Activity / Outcome: Coral - Management or Governance Planning - # plan activities implemented

Description: Enter the number of management plan activities being implemented

Required: Recommended

# plan activities implemented - Current: 10

# plan activities implemented - Grant Completion: 30

Notes: As outlined in the report, coral reef conservation activity increased primarily in Wialoki, Ware, and active NIPA families on conservation outreach, patrols, and biological monitoring. The number of activities being implemented increased from 10 before the project to over 30 primarily with Wialoki, Ware, and the active NIPA families carrying out their ongoing conservation outreach, patrolling, and biological monitoring with the support of CI staff, village engagement team members, and community monitors.

Funding Strategy: Planning, Research, Monitoring

Activity / Outcome: Coral - Tool development for decision-making - # tools developed

Description: Enter the number of tools developed

Required: Recommended

# tools developed - Current: 1.00

# tools developed - Grant Completion: 5.00

Notes: In terms of tools to support conservation, our goal was to increase the number of tools to support conservation developed from one to four. CI successfully met this goal by completing the community-based biological monitoring manual, a folder containing 14 factsheets providing guidance on ecological considerations for establishing effective CMMAs, and a draft video short profiling the views and successful approaches of the Wialoki Community. As previously mentioned, CI also developed a new tool—participatory video and community storytelling to help communities discover the history of their resources and develop their own community action plans to address resource declines. The refinement and piloting of this tool is now being funded by USAID.

Funding Strategy: Planning, Research, Monitoring

Activity / Outcome: Coral - Management or Governance Planning - # plans developed

Description: Enter the number of plans developed that had input from multiple stakeholders

Required: Recommended

# plans developed - Current: 1.00

# plans developed - Grant Completion: 3.00

Notes: With additional conservation actions in Wialoki and Ware Islands the number of conservation plans increased. Our goal was to increase the number of plans from one to three, which we met. Initially, there was one management plan and environmental law established in the NIPA CMMA, which increased to: 1) an additional management plan for Wialoki; 2) and draft environment law for the Bwanabwana LLG; 3) a preliminary plan for Ware, and; 4) another plan under development at Dawson.

The following pages contain the uploaded documents, in the order shown below, as provided by the grantee:

- Photos - Jpeg
- Other Documents
- Other Documents
- Other Documents
- Other Documents
- Final Report Narrative - Marine
- Other Documents
- Other Documents
- Other Documents
- Other Documents

The following uploads do not have the same headers and footers as the previous sections of this document in order to preserve the integrity of the actual files uploaded.



# NFWF

## 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 online final programmatic report task as instructed. **Please note** that this narrative will be made available on NFWF's Grants Library and therefore should provide brief context for the need of your project and should not contain unexplained terms or acronyms.

### 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. This can be duplicative to the summary provided in the reporting 'field' or you can provide more detail here.

With the support of NFWF, CI made major progress on our efforts to advance community-based marine management in Milne Bay Papua New Guinea (PNG). This included continued support to Nuakata and Iabam-Pahilele (NIPA) communities, with a focus on specific clans/families, for implementation and monitoring of their Community-Marine Management Areas (CMMA). CI also worked in collaboration with community leaders in Wialoki, Ware, and the Engineer Group of islands in order to advance expansion of the CMMA network to these islands. Additionally, CI advanced its systematic approach to reach additional remote communities of Milne Bay with management messages and advice, i.e. the Spreading the Reach of Community-based Marine Management initiative (STR). Key accomplishments included: the development of an easy to use manual on CMMA monitoring skills designed in the local context and several ongoing training and management sessions with community members on key skills. As a result, the number of fishing violations in the 92,000 hectare NIPA CMMA has continued to remain low especially in areas managed by the most active clans. Trainers from NIPA also used the community-based marine monitoring manual to teach community monitors in Wialoki and Ware Island how to conduct biological monitoring. The President of the Local Level Government (LLG) in the Engineer Islands has encouraged local communities to take marine management actions and establish CMMAs. Once formally established, these CMMAs will cover over 50,000 hectares. In the Wialoki-Nataule islands, one CMMA has already been formally established covering 3,500 hectares of marine territory with several no-take zones. On Ware Island, community members are now working to zone a CMMA in their fringing reef area, the protection of which is critical to protecting their nearshore fisheries and reducing storm impacts to their economically important seaweed farms. This CMMA will likely cover over 5,000 hectares of marine territory.

Throughout the project period, CI completed factsheets and initial video outreach materials to support the STR initiative, as well as conducted seven community outreach patrols to train and mentor community-members on management steps. CI organized community leaders in Ware, Wialoki, Nuakata and Iabam-Pahilele and Tubetube islands to support development of management actions using key messages from the STR outreach materials. Team members are now actively working to complete the full set of STR outreach materials. Concurrently, CI is implementing a community-based video storytelling initiative that empowers community members to document their history and the evolving condition of their natural resources, particularly how resource conditions have changed and what management action plans have been developed to address these changes. These videos are being developed by the communities themselves and will be shared with other communities to encourage learning and cross-sharing on how to undertake similar management programs. CI is very pleased with the growing enthusiasm for marine management expressed by local community partners and is eager to continue supporting the expansion of effective management practices, tools, and resources to additional at-risk communities.

### 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.

We have summarized our primary activities by Objective.

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**Objective One: Strengthen the effectiveness of the existing Nuakata Iabam-Pahilele (NIPA) Community Marine Managed Area (CMMA) covering 92,000 hectares including 10,000 hectares of no-take area**

The ultimate target outcome for this objective was to continue to build capacity with community partners for successful long-term implementation of the NIPA CMMA. Primary indicators of success included reducing the number of unsustainable fishing incidents each month to negligible levels, increasing community satisfaction with management, and increasing population levels and catch of target fish over time. CI has worked extensively on capacity building with the NIPA CMMA community members, through which they have gained considerable capacity in biological monitoring, established a local environmental law, and conducted outreach/monitoring training with nearby communities.

During the first part of the project period, an internal family issue impacted the community and obliged CI to step back from proactive work with the community as an adaptive management strategy until this issue was internally resolved. Resource management in PNG is based on decisions made by clans, family, and community members. In this circumstance, a clan member that recently returned to the community after being away for many years began to challenge his clan's decisions on CMMA management based on misconception of the initiative. Without becoming directly involved in the dispute, CI invited the clan member to our office to discuss his concerns. After these discussions he affirmed his support for the project to the point of being an advocate.

During the conflict resolution process it was important for CI to maintain a level of objectivity to demonstrate to the community that we understand and respect customary resource management decisions, and are available and ready to support them with mentoring and technical assistance. Conflict resolution is an integral part of sustainable management, thus it was essential for the community to learn from and address the situation at a local level. CI needed to see how the community would work through this issue as an indicator of their level of ownership of this objective. The majority of community members that interact with CI have shown their commitment to continue to engage in self-sustainable management of their resources. During the project period three sub-clan groups continued to maintain active sustainable ecosystem management over their marine resources. While these clans do not cover the entire NIPA CMMA area, they do control a large territory within the CMMA and have continued to maintain their management activities. Additionally the community is now engaging with CI on a natural resource management video story telling project as described below under Objective three. Likewise, resource monitors from the NIPA communities have continued monitoring efforts both in focal parts of the NIPA CMMA and in supporting other communities included Ware, Wialoki, and the Engineer Group to learn how to undertake resource monitoring.

CI has also achieved valuable progress on a major activity proposed under this objective—the development of a community-based manual on key CMMA management skills designed in the local context. We have completed a module to support community based marine monitoring and have used this manual to support trainers from NIPA to teach community monitors in Wialoki, Ware Island, the Engineer Group, on how to conduct biological monitoring.

Another series of modules have also been produced based on our experience working with communities in Milne Bay over the past several years. These modules provide guidance on a biological and ecosystem approach to marine and inshore management. These have been printed along with a folder for distribution as resource material of the STR initiative to this year to maximize its impact. These materials have been used during our outreach patrols to mentor communities on how to undertake management in consideration with the ecological needs of priority species as a way to help ensure these species remain abundant and continue to provide ecosystem and community benefits.

**Objective Two: Mentor neighboring communities in Wialoki and the Engineer Islands to create a resilient network of CMMAs that covers 50,000 hectares including 5,000 hectares of no-take area incorporating resiliency principles and sustainable fisheries management**

The project has successfully supported the ongoing expansion of conservation from the NIPA CMMA into surrounding communities. This was the most successful aspect of the project overall. The project activities supported our target outcome of establishing a resilient CMMA network that includes the Wialoki, the Engineer Group, Ware Islands and more recently Dawson Island.

CI's main approach was to undertake community outreach patrols to the islands where the CMMA network is being extended. These field 'patrols' include CI staff and community engagement team members from nearby communities.

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During the project, CI completed seven outreach patrols of 5-10 days each. Through this peer-to-peer learning model and with the support of CI staff, highly active community members initially from NIPA and later Wialoki helped to mentor neighboring communities in key CMMA skills and lessons. Below we report on our activities and progress by island group as the areas for expansion of the CMMA network is large with three main groupings of islands.

#### *Wialoki-Nataule Islands:*

A CMMA was established in Wialoki-Nataule islands covering over 3,500 hectares of marine territory with several no-take zones. Wialoki-Nataule clan members actively managed their no-take areas preventing poaching through community outreach and periodic patrolling. They also restored giant clams in several zones helping to strengthen populations of these cultural and biologically important species. Since the establishment of the clam restoration zones there are clear indications that the clams are resettling and reestablishing themselves. This has returned several species that have not been present in significant numbers in the area for many years. This success was formally recognized by the Government of PNG and reported in the fifth report to the Convention on Biological Diversity as an indication of increase in species status.

#### *Engineer and Ware Islands:*

CI supported the Engineer Group of Islands and Ware island which are to the West and South of Wialoki Island to make significant progress toward CMMA establishment included support for community meetings with clan elders and support to Ware Island community members on the formation of CMMA management committees and management rules and regulations, which will later be incorporated into their formal CMMA Management Plan. Once formally established, these CMMAs in the Engineer islands will cover over 50,000 hectares and the CMMA in Ware covers over 5,000 hectares. In Ware, the first community-based marine resource monitoring program was established by the newly trained resource monitors with assistance and guidance from the three Wialoki CMMA trainers. The Wialoki CMMA managers were trained by the NIPA CMMA monitors thus helping to expand the peer-to-peer training approach. This is very important as it creates stronger links between neighboring community members in sharing their lessons and in supporting one another in learning how to carry out important management activities.

The Division of Fisheries and Marine Resources introduced seaweed farming to Ware in the last quarter of 2014 and 44 individual farms were established. Similar well-managed seaweed farms have been shown to provide significant alternative income for community members in other parts of PNG and Indonesia, thus enabling them to protect more of their coral reef areas and fisheries. In the short period since establishment of these farms the community noted recruitment of small fish within the seaweed farming areas. Encouraged both by improved alternative income from seaweed and the growth of local near-shore fisheries, the community decided that they need to better protect their fringing reefs. Through outreach provided by CI, the community members had become more aware of the natural defense provided by healthy outer reef for their near shore areas. This is especially important as storms and storm surge have been more severe in recent years and are expected to grow in severity due to climate change. As a result, the community is now actively establishing improved management practices, with the ultimate goal of CMMA areas on their fringing reef. These areas will help to restore the fringing reefs and thus provide strengthened natural defense against storm surge to protect the seaweed farms, the nursery areas, and their inshore corals and fisheries. CI also organized and implemented a sea turtle tagging and monitoring training for locals on nearby turtle rookery islands owned by the Ware Islanders. A follow up tagging (which is time sensitive) was scheduled but cancelled due to dangerous weather conditions.

During the course of the project, seven Community Coral Reef Monitoring events were carried out, including in Wialoki and in Ware Islands with support of the CI marine biologist and community development officer. This monitoring focused on the marine resources that are most important to the local community and the coral reef environment.

#### *Dawson Island:*

On Dawson Island, CI worked with the local community to establishment biological surveys as an early step toward CMMA establishment. CI had already engaged the community in outreach and the community decided that it wanted to better understand the status of its marine resources as an important step towards an improved management system. CI also carried out gender assessments to better understand how women in the community can best be engaged in natural resource decision-making.

### *Progress on Policies Supporting Local Marine Management:*

CI participated in efforts to encourage the National Government to recognize Locally Managed Marine Areas as part of the national system of protected areas. In 2014, a national policy was enacted to recognize LMMAs as part of the national system providing they develop management plans.

Meetings were held with LLGs to discuss creating a standardized environmental law that will be universally applicable to newly established CMMAs across all participating community area. At present, the Maramatana LLG is the local level government for NIPA CMMAs and has already created an environmental law. The Bwanabwana LLG is the local level government for the newly participating community areas including Wialoki, Ware, the Engineer Islands and Dawson, which have not yet established an environmental law. Communities in Bwanabwana that are now engaging in the CMMA establishment process are learning from the experience of Maramatana. During regular community meetings and discussions, CI and stakeholders are also engaging directly with the Bwanabwana and Suau LLG Presidents to encourage and guide expansion of an environmental law. Although these leaders proactively support the initiatives of CI they have not yet progressed in moving the law forward.

### **Objective Three: Develop and test a low-cost model for expanding the reach of community-based coral reef conservation across the remainder of the vast province of Milne Bay.**

The main targeted outcome under this objective is to create and pilot a systematic approach to reach additional remote communities of Milne Bay with management messages, advice, and support through their established governance and planning mechanisms. As mentioned previously in the text, this model is referred to as Spreading the Reach of Community-based Marine Resource Management (STR).

During this project, CI collaborated with the Provincial Advisor of the Milne Bay Provincial Fisheries Division, under the Milne Bay Provincial Government (MBPG) to solidify their commitment and continued roll out of the STR campaign. CI has provided support to the MBPG to produce Milne Bay specific awareness materials for the campaign, including: 1) Working with the Provincial Fisheries Division Head to finalize outreach materials (fliers); 2) Producing a short video highlighting stories from the Wialoki community to be used in an STR training project. This video shares how the Wialoki Community-Managed Marine Area was developed to address community concerns with declines in key resources. It is intended to help other communities learn how to establish and manage their own CMMAs. The STR outreach and management support materials will reach each of Milne Bays coastal Local Level Governments, several of which are extremely remote. CI has maintained contact with the Suau and Louisiade LLG Presidents in response to concerns over how to best manage the local environment in the face of agro-industry development and international commercial shipping passage in their areas. The Governor has asked CI to construct a project and funding proposal for the next government budget (2016) to help support the Louisiade LLG in developing environmental management plans with communities. This funding proposal will include both development of environmental safeguards and elements of the STR campaign to help local communities strengthen management of their critical marine resources as a means to build resilience in the event of any impacts from shipping.

CI continues to work with the MBPG to facilitate adoption and integration of the STR program into their ongoing development programs, in part through the Learning and Training Network (LTN) approach and activities which are aligned with the Milne Bay Provincial Development Plan. Despite the challenges of creating and integrating a new program at the provincial government level, CI is making steady progress with ongoing support of the provincial government.

We have successfully utilized several of the STR approaches and management support materials in our engagement with new partner communities in Ware, Wialoki, the Engineer Group and Dawson to build understanding of the importance and benefits of marine resource management. As discussed above, communities in each of these areas are now pursuing establishment of management and monitoring plans as steps towards CMMAs.

This STR work was also leveraged to secure project and funding support from USAID to build upon this work and reach remote coastal communities of the province and across PNG through the PNG CLMA and Learning and Training Network for Community-based Management. The USAID-supported approach aims to utilize and share participatory videos that have been developed by the communities themselves. These videos empower communities to tell their own

stories in terms of the history of their marine resources, any changes they have observed, the reasons for the changes, any concerns that they have, and actions that they can take or are taking to address these concerns. In conjunction with the development of these community videos, CI is using STR materials to educate community members on the possible reasons for these observed changes in natural resources, and providing guided materials to identify actions they can take to restore and maintain their resources. We have found that when communities are empowered to tell their own stories with appropriate mentoring, the discovery and problem solving process is much stronger than when outreach is just facilitated by outside agencies. As a result, we feel this participatory video aspect of STR is an important complement to the approach of using low cost methods to support an ever-increasing number of communities in pursuing marine resource management.

## Outcomes

- Describe progress towards achieving the project outcomes as proposed and briefly explain any discrepancies between your results compared to what was anticipated.
- Provide any further information (such as unexpected outcomes) important for understanding project activities and outcome results.

CI proposed several target outcomes for this project. These included:

1. Successful implementation of a 92,000 hectare NIPA CMMA, including 10,000 hectares of no-take area. The primary indicators of success will be reduction of the number of illegal fishing incidents per unit of time to negligible levels, community satisfaction with management, and over time increase in population levels of target fish. These will be monitored respectively by the community biological monitoring team, the reports of fisherman operating legally and who patrol within the NIPA CMMA, and community meetings and consultations.
2. Community satisfaction with the status of the local environment and maintenance or improvements in catch of targeted marine species. This will be monitored through community consultations.
3. Development of a resilient CMMA network from NIPA to neighboring Wialoki and Engineer Group covering 140,000 hectares (15,000 of no-take area) that includes consideration of biodiversity conservation, climate change resilience, and fisheries sustainability. The primary indicator of success in the project period will be the establishment of the new CMMAs in Wialoki and the Engineer Group.
4. Improved capacity for local community members to teach and train adjacent communities in key CMMA design, management, and monitoring skills. This will help to create a foundation for sustainability. The indicators of success will include how confident and effective core community mentors are in teaching key management skills. This will be tracked through evaluation of their performance in practice and real world mentoring.
5. A systematic approach to reach the additional remote communities of Milne Bay with management messages, advice, and support through established governance and planning mechanisms. This will build a strong foundation for effective long-term community-based management of coral reefs and fisheries over all of Milne Bay. Communities that receive these key messages and work to apply them will be asked to inform the LTN Hub Coordinator about their progress. Initial indicators of success will include the number of messages shared, the number of local level government officers that are trained to share key messages, the number of community members from remote communities that make contact with the LTN Hub to ask questions and share progress.
6. Sharing of this process with other practitioners through the PNG Learning and Training Network. CI will report on progress of the initiative in at least three LTN working group meetings.

CI also established several target numerical outcomes. We've included these numerical outcomes below and then further expand upon them in the following section:

1. Increasing the number of Full Time Equivalents (FTEs) with sufficient training in community-based marine management from 10 to 20.
2. Increasing the number of people reached with conservation outreach and management support from 1000 to 2000.
3. Reducing the number of violations per month from six to two in select representative areas.
4. Expanding the number of miles with enforcement presence from 355 to 540.
5. Increasing the acres under management from 227,336 to 345,947.
6. Increasing the number of miles under improved management from 355 to 540.
7. Increasing the number of plan activities being implemented from 10 to 30.

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8. Increasing the number of tools to support conservation developed from one to four.
9. Increasing the number of conservation plans developed from one to three.

### *Accomplishments:*

CI achieved the majority of the project's target outcomes. Through outreach patrols and training of community monitors and village engagement team members, CI increased the number of FTEs from 10 to over 20. We successfully expanded the number of people reached with conservation messages from 1000 to over 2500. This was accomplished through our outreach patrols to expand the CMMA from the NIPA CMMA to a network including Wiakoki Island and the Engineer group, Ware and Dawson Islands, as well as through our STR outreach sessions. In the NIPA CMMA, the number of violations decreased in the area where three sub-clans remained very active in management, covering roughly a quarter of the NIPA CMMA. However, in the areas where communities were not active, levels of violation are currently unknown. In the Wiakoki CMMA, violations of community regulations reduced significantly as the CMMA network expanded and the number of hectares with enforcement presence increased. This was accomplished by adding the Wialoki and Ware islands to the CMMA network. However, due to family conflicts in the NIPA CMMA, approximately three quarters of the NIPA area did not retain an active enforcement presence. As a result, the overall area with active enforcement presence fell slightly short of the target, with approximately 500 miles under enforcement rather than the targeted 540 miles. The number of miles under active management similarly increased from 355 to 500 as the CMMA expanded to encompass a network covering Wialoki Island and Ware Islands, and initial steps for CMMA establishment were taken in the Engineer group of Islands. In terms of acres, the area under improved management increased from 277,336 to 320,000 acres just short of our initial target of 345,947 acres. With additional conservation actions in Wialoki and Ware Islands the number of conservation plans increased. Initially, there was one management plan and environmental law established in the NIPA CMMA, which increased to: 1) an additional management plan for Wialoki; 2) and draft environment law for the Bwanabwana LLG; 3) a preliminary plan for Ware, and; 4) another plan under development at Dawson. The number of activities being implemented increased from 10 before the project to over 30 primarily with Wialoki, Ware, and the active NIPA families carrying out their ongoing conservation outreach, patrolling, and biological monitoring with the support of CI staff, village engagement team members, and community monitors. In terms of tools to support conservation, CI successfully completed the community-based biological monitoring manual, a folder containing 14 factsheets providing guidance on ecological considerations for establishing effective CMMAs, and a video short profiling the views of the Wialoki Community. As previously mentioned, CI also developed a new tool—participatory video and community storytelling to help communities discover the history of their resources and develop their own community action plans to address resource declines. The refinement and piloting of this tool is now being funded by USAID. Finally, CI is now actively working with the nationwide LTN for Community-based Marine Management and the CLMA to fully develop the STR toolkit to support an increased number of communities to pursue management.

### *Changes in Project Outcomes*

The major change in the project is that as a result of family conflict, some of the clans that were previously participating in the NIPA CMMA were not as active as in the past. This was explained in the first section of the report. The family conflict occurred when a community member returned to Nuakata Island after a long absence and started to question the CMMA implementation. The conflict has been resolved by the individual and key community leaders, but resulted in delayed participation of some clans in the CMMA. Fortunately, three major sub-clans continued to participate in the CMMA implementation and continued to maintain their managed areas within the overall NIPA CMMA. Further engagement with NIPA will occur through the USAID funded initiative that will be nested within the Primary School.

Due to the community conflicts, approximately three quarters of the NIPA CMMA was not actively managed during part of the project period. Fortunately, the communities and families that own the area where the NIPA CMMA is located had been actively involved in CMMA management for several years. As a result we anticipate the community will become more active once the family conflicts are fully resolved. It is common in PNG that after a significant conflict, family members will wait one to two years to resume activities that were disputed. Thus, it will still take time before the main families involved in the conflict feel comfortable enough to restart their CMMA activities.

There are still strong indications that these families will actively participate in the management of their CMMA areas in the near future. Several community leaders have also expressed a strong desire to continue the active CMMA management, especially following the grounding of a container vessel in one of the no-take zones in early 2015. As

mentioned, even during the conflict three major sub-clans have continued to actively manage their parts of the CMMA and have achieved benefits, including reducing illegal and destructive fishing and achieving improved stocks. Since part of the CMMA was not actively managed during the majority of the project period, we have reduced the reported achievement in terms of area that is under active conservation management. This is summarized above in the update on the target numerical outcomes. This is the reality of CMMAs in PNG Melanesian society. During the lead up and process towards developing effective management solutions, CMMA management can sometimes fluctuate and shift in reaction to certain societal circumstances and events.

While the conflict in Nuakata was not anticipated and did result in some changes to the project, the project overall was able to achieve its objectives and major outcomes. This included building capacity of community members from the NIPA CMMA to prepare them to assist with training of newly participating community members in Wialoki, Ware, and the Engineer Group of islands. CI is pleased with the project results, including the progress made toward establishment of the CMMA network in Milne Bay and in developing the Spreading the Reach approach and materials. We are looking forward to continuing to implement these project activities and continue to expand the amount of priority coral reef area under effective management in Milne Bay.

### **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?

1. A major lesson was the need to provide management support in accordance with the overall needs and conditions in communities. The family conflict that led to delays in activities in the NIPA CMMA had very little to do with conservation, but more to do with different family members exerting their influence over community affairs. The main agitator had misinterpreted the approach and intent of the project; incorrectly thinking that CI was pursuing the project for its own purposes rather than supporting the community which had requested our support. Nevertheless it was important to provide time and space for the community to resolve these misinterpretations. We feel strongly that if we had tried to rush the process it would have worsened the conflict.
2. Conflicts that arose were quickly resolved once CI staff had a chance to speak directly with community members and fully explain our approach. However, it was still important to give the community time to reflect and fully resolve any remaining issues before initiating any additional work. As a result, CI has focused its efforts with the three sub-clans in NIPA that are continuing the project activities, with new CMMA communities and on the STR initiative more broadly.
3. Another major lesson is the value of historical story telling and video documentation approaches as a tool to promote community-based management. When the project started, we planned to focus primarily on a toolkit that would provide lessons on success stories of communities that have effectively managed marine resources and instruction on how communities achieved these successes. The toolkit will also include basic instruction on the ecological needs of key species for them to remain abundant and provide for ongoing community benefit. While we are still developing this toolkit and feel it will prove very useful to communities, we have also identified complementary approaches that show great promise in generating motivation to pursue management. In particular, we've focused on the use of storytelling and documentation of these stories through community-based participatory videos. These stories and videos track the history of marine resources in each community to reflect the past and current conditions of these resources, highlight any changes that have been observed and the reasons they could have occurred, and collect ideas on actions that communities can take themselves to address these changes and threats. We have found that this approach empowers the communities to explore their own community and history, rather than simply hearing the stories of others. The community then becomes motivated through retelling of personal and shared experiences, particularly if declines in fisheries have been experienced. Our initial results suggest that these videos can be a very powerful conservation tool especially when combined with examples of success and instruction on how to go about management actions, as collated in the STR toolkit. We have received a small grant from USAID to develop the video story telling approach and will combine this with the STR Toolkit over the coming months of the project.
4. The development of STR materials is grounded in our ongoing work with communities. In this way it is informed by contemporary issues in a society that is in a state of dynamic flux with increasing pressures on the environment

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from direct anthropogenic and climate change impacts. To continue extension work island by island community by community takes considerable time and resources and developing a Spreading the Reach approach is an innovative, smarter approach moving forward.

#### 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.

The materials and approaches developed by this project are being disseminated through several mechanisms. As mentioned, CI has worked with the Provincial Government in Milne Bay to share the project tools, approaches, and lessons. The Provincial Government has requested that CI submit a proposal to help with environmental planning in the Louisiade Islands in the eastern part of Milne Bay, the location of a major international shipping lane. This proposal will likely also be presented to the International Maritime Organization for due consideration. The proposal will include application of the STR approaches developed under this project. In the next phase of the project we will be actively training Government Officers and Community Influencers including community traditional and religious leaders in the use of the STR toolkit and messages as they are fully developed. These trained individuals will in turn act as mentors to support clans and communities as they pursue management actions.

The video story telling approaches developed by the project will be used by local schools and local government to train teachers and village officers on video production to track the history of their resources and help them plan for the future. The videos that the communities develop will then be shared across all LLGs in Milne Bay.

The tools and approaches that have been developed by the project are being shared with the PNG LTN. The LTN involves all major organizations and government agencies in PNG that support marine management, and has learning hubs in five Maritime Provinces including Milne Bay. CI is regularly sharing the approaches of the project. The PNG CLMA is a key partner in the proactive participation of stakeholders across the country through its stakeholders and offers opportunity to extend ideas to the LMMA networks in the region.

As the Spreading the Reach of Community-based Marine Management approach is more fully developed, CI will be sharing this approach in the larger Coral Triangle Initiative (CTI) forums to help further spread this important conservation innovation. For example, we are already sharing the approach with conservation partners in Indonesia and the Solomon Islands to help our partners develop approaches to expand the number of communities in each country that receive conservation outreach and management support.

#### 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. For each uploaded photo, provide a photo credit and brief description below;
- 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.

**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.*

Uploaded Photos:

**Photo 1:** Conservation International, Resource monitoring team in Wiyaloki, Milne Bay, Papua New Guinea.

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**Photo 2:** Conservation International, Community discussion on marine resource management, Milne Bay, Papua New Guinea.

**Photo 3:** Conservation International, Dawson's Reef, Milne Bay, Papua New Guinea.

**Photo 4:** T. Read, Conservation International, Community officers patrol local marine area, Milne Bay, Papua New Guinea.

**Photo 5:** T. Read, Conservation International, Local man with day's catch, Milne Bay, Papua New Guinea.

**Photo 6:** Conservation International, Wiyaloki community members conduct monitoring, Milne Bay, Papua New Guinea.

**Photo 7:** Jeff Yonover, Conservation International, Boys and baitfish, Milne Bay, Papua New Guinea.

**Photo 8:** Conservation International, Wiyaloki youth learning how to monitor local reefs, Milne Bay, Papua New Guinea.

**Photo 9:** Conservation International, Community members map out resources of Dawson's Reef, Milne Bay, Papua New Guinea.

**Photo 10:** Jeff Yonover, Conservation International, Abundant reef, Milne Bay, Papua New Guinea.

#### Uploaded Documents:

1. Survey Report #3: Wiyaloki, Nataole & Panabala CMMA Marine Resource Monitoring Program, July 2013
2. Trip Report: Wiyaloki and Engineer Group of Islands, Milne Bay Province, July 2013
3. Trip Report: Community Awareness Program on MPAs/CMMAs & Resource Management at the Engineer Group and Ware Island, Milne Bay Province, December 2013
4. Summary: Wiyaloki Scuba Surveys & Community Monitoring Program, October 2014