

# **Establishment of Effectively Managed MPA Platform Sites as Foundations for Resilient Networks of Functionally-Connected Marine Protected Areas**

**Raja Ampat Islands, Papua Province, Indonesia**

**Annual project report (October 2007 – September 2008)**

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The Nature Conservancy Indonesia Program

Coral Triangle Center

## **TABLE OF ACTIVITY STATUS**

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Establishment of Effectively Managed MPA Platform Sites as Foundations for Resilient Networks of Functionally-Connected Marine Protected Areas Raja Ampat Islands, Papua Province, Indonesia			
<b>Objective 1</b>	<b><i>Local policy support and development of a coalition for marine conservation and MPA management</i></b>		
1.1	District-wide legislative framework for declaration of MPAs, including guidelines for management planning, zoning, and management responsibilities of local entities	On track	
1.2	Inclusion of the 6 newly established MPAs and 1 existing MPA into the Raja Ampat District spatial plan	Mixed performance	
1.3	Commission the drafting of local fishery regulations that provide a means to limit fishing effort to sustainable levels	Cancelled	See activity 1.3 for details
1.4	Maintain strategic partnerships with WWF, CI, COREMAP, UNIPA, LMMA and ForBes	On track	
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2.1	Initiate draft zoning and management plans for Southeast Misool and Kofiau	Mixed performance	
2.2	Conduct research on Ecosystem-Based	On track	

	Management.		
<b>Objective 3</b>	<b><i>On-site Conservation: community outreach</i></b>		
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4.1	Conduct biological monitoring (reef health, SPAGs, cetaceans) in Kofiau and SE Misool	On track	
4.2	Conduct resource use monitoring / patrolling in Kofiau and SE Misool	On track	
4.3	Support patrols with the finalization and endorsement of the Joint Patrol Standard Operating Procedure (SOP) throughout Raja Ampat	On track	
<b>Objective 5</b>	<b><i>Field Presence for CTC Raja Ampat Program</i></b>		
5.1	Operate field stations in Kofiau and Southeast	On track	

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5.4	Operate Floating Patrol Station and Awareness / Supply Vessel	On track	

## **Project Background**

The Raja Ampat islands encompass over four million hectares of land and sea off the Northwestern tip of Papua in Indonesia, forming the center of the “Coral Triangle”, the area of the world’s highest marine biodiversity. The islands are located at the northeastern entrance of the Indonesian Through-flow from the Pacific to the Indian Ocean, thus occupying an important position upstream of many other high biodiversity marine areas in the Coral Triangle. Coral reef bio-geographers identified the Raja Ampat area with Cenderawasih Bay as a single functional seascape, the Bird’s Head.

Conservation International (CI) and The Nature Conservancy (TNC) conducted Rapid Ecological Assessments (REA) of the Raja Ampat area in 2001 and 2002. The archipelago is estimated to harbor over 75% of world’s coral species. A total of at least 537 species of scleractinian corals can be found in Raja Ampat. Soft coral diversity is also very high, with at least 41 of the 90 Alcyonacean genera known worldwide, recorded during TNC’s REA. The Raja Ampat islands also have one of the world’s richest coral reef fish faunas, consisting of at least 1,074 species. TNC’s REA concluded that conservation of marine biodiversity in the area is an overriding priority and of major interest to the global community. Four areas of over-riding conservation value and opportunity were identified: the islands of eastern and southern Misool, Kofiau, Sayang and Pulau Ai, and the Wayag islands.

Overall, the reefs in Raja Ampat are in very good health. Reefs do not appear to be suffering from any recent serious detrimental effects. Up to now, there is no obvious evidence of the bleaching events that caused extensive mortality to reefs in the region in 1998. There is no evidence of current or recent Crown-of-Thorns Starfish outbreaks or damage from other corallivores. There was very little sediment and pollution impact.

Blast fishing and fishing with poison, however, is still common, and reef fish communities have suffered from over-exploitation. Assessments conducted under the GCP program show that spawning aggregation (SPAG) sites of valuable species have disappeared. After establishment of the Kofiau field office in 2005, TNC field staff reported that a local trader from one of the nearby villages was about to ship a large amount of live grouper, which may have been the last substantial shipment from this area. Through cascading effects in the food web, over-exploitation may eventually lead to a decrease in overall coral reef health, for instance through a more frequent incidence of Crown-of-Thorns Starfish outbreaks. Sea turtle eggs and sea turtle adults, both protected under Indonesian law, are commonly poached. Though the status of shark populations has never been assessed, one may safely assume that the high fishing pressure on sharks cannot be sustained.

## Overall Assessment of Progress and Management Issues during FY08

Highlighted below are the most notable achievements and progress made in FY08:

- The development of a Local Government Regulation (*Peraturan Daerah*, PERDA) for the Raja Ampat MPA network has been initiated.
- TNC and CI assisted the Raja Ampat Government to develop (a) a decree on the establishment of the joint marine patrol, and (b) a decree on the tourism entrance fee in Raja Ampat.
- LMMA program implemented at the Kofiau and SE Misool MPA sites to empower local communities, build their support for the establishment of MPAs and to build their capacity for management.
- Three *sasi* marine areas (12 ha) and seven *sasi* marine areas (22 ha) were established at Kofiau and SE Misool, respectively, with villagers at both MPAs signing an agreement to implement the LMMA model in their villages.
- 'Small Scheme Grant' (SSG) projects were implemented at SE Misool (26) and Kofiau (6) to increase awareness of marine conservation and sustainable resource use.
- Village Community Outreach officers (VCO) have been recruited at Kofiau and SE Misool to undertake regular conservation activities, including the implementation of the LMMA program, a small grant scheme, and RARE Pride campaign.
- A teacher's workshop successfully produced a local curriculum, modules, syllabus, an annual and semester program and a teaching plan, which drew the attention and support of the Education and Teaching Agency *Dinas Pendidikan dan Pengajaran* in Raja Ampat.
- TNC and CI formally launched the conservation education vessel the '*Kalabia*' on 31 August 2008.
- Support was built for the TNC-CI joint enforcement patrol program with DKP, and patrols were conducted in FY08. It was agreed that in FY09 floating patrol station 'Inbekwan' would focus on patrol and enforcement at Kofiau and SE Misool MPAs.
- Biological monitoring was carried out at both sites to collect baseline data that will be used to design zoning plans at the two MPA sites. Manta tow surveys were completed throughout Kofiau MPA.
- Received a grant from Packard Foundation for Phase II of the Ecosystem-Based Management (EBM) studies (2008–2010), which is being implemented by TNC, CI and WWF in the Bird's Head Seascape. TNC is the lead agency for EBM Phase II. Results of Phase I were presented at two workshops in Manokwari (9 September 2008) and Sorong (12 September 2008).

## **Objective 1: Local policy support and development of a coalition for marine conservation and MPA management**

**Activity 1.1:** *Develop a district-wide legislative framework for the management of MPAs, including guidelines for management planning, zoning, and management responsibilities of local entities.*

### **Anticipated Results in FY08:**

- Final draft of an ‘academic draft’ released for a PERDA that provides implementing regulations for managing the Raja Ampat MPA network, with clear delegation of responsibilities to site-based authorities, and appropriate collaborative management mechanisms.
- Final draft of Raja Ampat MPA network management framework consulted with stakeholders and ready for endorsement by authorities.

### **Results**

TNC and CI assisted the Government of Raja Ampat in drafting a Decree (*Peraturan Bupati*) for the establishment of the six new MPAs in Raja Ampat, which was passed in July 2007 (Bupati decree No. 66/2007). As a follow up to the declaration of the individual MPA boundaries, the District Government and the TNC Raja Ampat program – with related partners and stakeholders including CI, COREMAP, and the Local Fisheries and Marine Agency (DKP) – are working towards establishing and legalizing the Raja Ampat MPA network through a Government Regulation (*Peraturan Daerah*, PERDA). This PERDA is aimed to legally endorse a framework for management planning and zoning, and that clarifies management responsibilities of local entities.

There have been several coordination meetings involving TNC, CI, and COREMAP to discuss the main content of this particular PERDA. This has been followed by consultation meetings with local government (DKP). The local government of Raja Ampat responded positively and has committed their involvement to establishment of the PERDA. In order to support the PERDA, TNC Raja Ampat program has also facilitated the establishment of Village Regulation (PERKAM) of all villages in SE Misool and Kofiau Sub Districts. By doing so, the process of establishing the PERDA of Raja Ampat MPA will accommodate more inputs from grassroots constituents (bottom up process). The next important step is strengthening the local multi-stakeholder forum which is aimed at gaining broader stakeholder support and involvement for conservation and MPA management. The TNC Raja Ampat team will also identify opportunities and support members representing the constituency including traditional leaders from SE Misool and Kofiau to participate in district wide meetings on MPA management.

The academic draft of the PERDA has not been written. The final PERDA and draft of Raja Ampat MPA network management framework requires further discussion and consultation with government partners and local communities to obtain agreement on the process that needs to be followed. TNC and CI Marine Policy advisors worked together to review current Indonesian legislation and policy, held discussions with government departments in Jakarta, and have identified two options for a network management body or structure: *Unit Pelaksana Teknis Daerah* (UPTD) or *Badan Layanan Umum Daerah* (BLUD). The latter is the preferred structure, because it allows non-government members to be involved, greater flexibility for developing a collaborative management framework, and allows the collection of public or donor funds. A process document is being developed to help guide field-based staff with the development of the content of the PERDA and the network management framework. Discussions held with local government in Raja Ampat have led to a broader agreement that the PERDA will be based on the Bupati decree, though with more substantial guidelines included. The recent filling of a Policy and Constituency Building Coordinator will help in the coordination at the Regency and MPA-site level within the TNC Raja Ampat program.

**Activity 1.2:** *Inclusion of the 6 newly established MPAs and 1 existing MPA into the Raja Ampat District spatial plan*

**Anticipated Results in FY08:**

- An MPA network specifically included in the spatial plans and development plans of the Raja Ampat District.

**Results**

TNC Raja Ampat program has been involved in several informal coordination and consultation meetings and a workshop with the Raja Ampat Planning Agency (Bappeda Raja Ampat). These meetings and the workshop were aimed at getting more inputs from related stakeholders in this region. The first drafts of the spatial plan recognized Kofiau MPA as a conservation area, but not the other five MPAs in Raja Ampat. TNC, CI and local NGOs attended a workshop on 6 December 2008 where they raised their concerns about the exclusion of the MPAs in the spatial plans and provided comments on the draft. Bappeda agreed to consider the NGOs' suggestions and agreed to involve and seek stakeholder comments on later drafts of the spatial plan. However, to date little information has been received from Bappeda, and no further drafts of the spatial plan have been provided. The recent EBM workshops may be another mechanism by which NGOs such as TNC may be invited to participate in the spatial plans. Persuading the government to allow NGO input into the spatial plans has been challenging.

**Activity 1.3:** *Commission the drafting of local fishery regulations (PERDA) that provide a means to limit fishing effort to sustainable levels*

### **Anticipated Results in FY08:**

- Draft PERDA developed and agreed by the district fisheries service.

#### Results

Consultation meetings with the Raja Ampat Fisheries and Marine Affairs (DKP) office have continued. Their response is still positive and they will continue to lead the process. During FY08, DKP prioritized the establishment of a Government Regulation (PERDA) on Fishing Licenses but they unfortunately did not include NGOs such as TNC in this process. This PERDA will be followed up with the establishment of additional regulations on fisheries which will cover fishing effort and type of gear allowed. There is no funding available to be involved in fisheries regulations at the network level. Without much more detailed analysis of the scale and economies of different fisheries in Raja Ampat, it is not possible to advise the government on fishing effort that should be allowed. However, fisheries management will be examined in more detail as part of the development of zoning plans for Kofiau and SE Misool, which will allow multiple use, and the declaration of 'no-take' zones that will allow for spillover effects and the enhancement of local fisheries. The exclusion of destructive or inappropriate fishing gear will also be included. The use of *sasi* for enhancing local commercially important marine invertebrate species is currently being trialed with local communities.

#### ***Activity 1.4: Maintain strategic partnerships with WWF, CI, COREMAP, UNIPA, LMMA and ForBes***

### **Anticipated Results in FY07:**

- Strong collaboration and coordination enhances conservation work in the Raja Ampat region.
- Joint research projects to support conservation efforts in Raja Ampat and a wider Bird's Head Seascape are designed, communicated and implemented (e.g., Joint Packard EBM project TNC / WWF / CI).
- Mechanisms established to link communities to the Locally-Managed Marine Areas network

#### Results

Following the declaration of the six MPAs in Raja Ampat, the Government of Raja Ampat, TNC and CI are now trying to develop the broader management framework for the MPAs. On 6 September 2007, the Ministry of Fishery and Marine Affairs conducted a workshop on the development and management of local MPAs (KKLD) in Jakarta. TNC participated in the workshop, together with representatives of Raja Ampat Government and CI. The workshop aimed to discuss the institutional and legal framework, and financing of local MPAs. Recommendations or options were identified for the institutional framework for local MPAs. DKP, TNC and CI conducted a follow-up stakeholder workshop in Waiwo from 6–7 December 2007. The objective of the workshop was to brainstorm ideas on the institutional model of the local MPAs within the Raja Ampat context. The workshop resulted in a set of recommendations:

- The local MPA will be managed by a management team based on a regulation or government decree.
- The management of the MPA will be based on the management plan and zoning plan regulations.
- Local communities will be consulted on the management model.
- Two options of the management model can be considered: under the government structure (DKP) or a collaborative management unit.

A follow-up workshop will be held after further consultations with communities and relevant government institutions, particularly on the institutional framework for the local MPA network in accordance with existing national and local laws.

The West Papua Government's concern for sustainable development is increasing following conservation efforts in this region last year. TNC participated in a workshop facilitated by the Forestry Agency of West Papua Province and Papua Civil Society Support Foundation (PCSSF) in September 2007 in Manokwari. The objective of the workshop was to discuss a possible framework for the management of natural resources (including timber and non-timber resources, fisheries and environmental services) that would serve as a model for 'sustainable natural resource management' in Papua. The workshop identified the main stakeholders involved in natural resource management in each Kabupaten in West Papua, and recommended the development of an action plan. The Provincial Government committed to incorporate the workshop recommendations in the planning and policy making process.

Funding was received from the David and Lucile Packard Foundation for Phase II of the Ecosystem-Based Management (EBM) research program (2008–2010), implemented through a collaborative effort between CI, TNC and WWF. The program will provide a strong complement to GCP support in the Raja Ampat islands, and will feed into long-term design and management of the Raja Ampat MPA network.

The TNC Raja Ampat program continued to collaborate with the University of Papua (UNIPA), with which it has an MOU. In FY08, UNIPA staff and students were involved in internship program, where training was provided on biological monitoring (e.g. manta tow surveys).

Over the last 12 months lines of communication have improved between TNC and COREMAP staff. We have a verbal agreement with COREMAP to work collaboratively on the development of the PERDA for the Raja Ampat MPA network, and the management framework, formal education and tourism.

There were no further activities with ForBes in FY08. Internal organizational problems have not been resolved and TNC has decided not to invest financial

resources in ForBes at this stage. However, our staff continued to involve and engage with ForBes members on an individual basis in FY08, and have included them in workshops and relevant discussions relating to MPAs.

In FY08, TNC-CTC Raja Ampat program strengthened and furthered its collaboration with the Indonesia Locally Managed Marine Areas network (ILMMA) to facilitate the development of LMMA in Kofiau and SE Misool. The local people committed to adopting LMMA methods to revitalize their traditional resource management system called *sasi*, involving temporary closures of marine areas to all forms of exploitation, including fishing. The LMMA model is very appropriate to educate the local coastal community on how the 'spill over' from no-take areas works in their marine areas.

## **Objective 2: Technical support for network design, site selection and MPA delineation**

### **Activity 2.1: Initiate draft zoning and management plans for Southeast Misool and Kofiau**

#### **Anticipated Results in FY08:**

- Completed zoning options for Kofiau and Southeast Misool, where approximately 30% of critical habitats are designated as no-take zones.
- Final draft of zoning plan reflects consultations with partners, communities and other stakeholders, and is ready for official endorsement.
- Draft management plans for Kofiau and Southeast Misool MPAs.

#### **Results**

The consultation process with communities on zoning at both MPA sites is ongoing. In FY08, traditional leaders of each village at SE Misool and Kofiau suggested a number of areas for designation as 'no-take' and 'traditional use' zones. At Kofiau, in FY08 the monitoring and science team collected the remaining baseline scientific data required for zoning, and the outreach team continued with community consultation meetings to build support and involvement in the zoning plan process. The data were analyzed and Marxan analysis will be done and the options for zonation will be presented to communities at Kofiau. It is anticipated that a zoning plan for Kofiau will be completed in FY09. Given the size of SE Misool and the complexity of working with 11 communities and 3 sub-districts, collecting baseline data and building support for the zonation of SE Misool has taken longer than originally anticipated. The monitoring and science team for Kofiau will support the SE Misool team to complete all remaining baseline surveys for the MPA in FY09. The SE Misool outreach team will continue to prepare and build support from communities for zonation. Resource maps will be finalized with local communities, and additional areas will be identified for inclusion in the zoning plan. Trial Marxan runs will commence towards the end of FY09 for SE Misool once the majority of data has been collected.

Representatives from the LMMA Network facilitated a series of village meetings/workshops on LMMAs. The workshops aimed to (1) introduce local

communities to the concept of a village conservation program, (2) facilitate the development of a village conservation program, and (3) form a village conservation group (*Kelompok Konservasi Kampung*) to lead the village conservation program. The workshops resulted in teams being established to manage the village conservation programs in three villages at Kofiau (Deer, Dibalal, and Toloby) and six villages at SE Misool (Lilinta, Kapatcol, Biga, Gamta, Magey, Tomolol). The workshops also resulted in local communities deciding to develop an LMMA program at both MPA sites.

It was decided that the development of management plans for the MPA sites would be postponed until the zoning plans were closer to finalization. Conservation Action Planning (CAP) will be initiated, if TNC-CTC trainers are available, to identify conservation attributes and define specific conservation goals and objectives for the MPAs. Threats and strategies for mitigating those threats will be mapped out using CAP, which will help to build the framework for the management plan.

**Activity 2.2:** *Conduct research on Ecosystem-Based Management*

**Anticipated Results in FY08:**

- One or two articles published in peer-reviewed scientific publications on the EBM model
- Results of studies disseminated to a wider range of audiences
- Results of EBM related studies incorporated into district spatial plan and MPA site zoning and management plans.

**Results**

TNC Raja Ampat program continued its support to the Ecosystem-Based Management (EBM) program through biological and resource use monitoring activities. Three peer-reviewed journal articles were accepted on the work produced during EBM Phase I. Efforts were made over the last 12 months to try and find fish Spawning Aggregation Sites (SPAGs) at Kofiau and SE Misool MPAs. Results from the EBM study will be incorporated into site zoning plans, and the overall management of the Bird's Head MPA network. The results of Phase I EBM were recently presented at Manokwari (9 September 2008) and Sorong (12 September 2008). Government representatives that are involved in the district spatial plan were present at the Manokwari workshop, including the technical advisor to the provincial planning board. The technical advisor stated he would recommend to the Bupati to include NGOs in the review of the spatial management plan prior to finalization. A number of reports and factsheets have been produced, and others are being finalized.

**Objective 3: On-site conservation: community outreach**

**Activity 3.1:** *Implement small contracts scheme in Kofiau and Southeast Misool*

Anticipated Results in FY08:

- At least 9 small projects in Kofiau and 11 in Southeast Misool make positive impacts on village environments and build stronger support for marine conservation.

### Results

A small contracts scheme was implemented at Kofiau and SE Misool MPAs to increase awareness on marine conservation and sustainable resource use. This program enables field staff to engage local community members in diverse, low-cost activities that are compatible with the objectives of the conservation program. During FY08 period, twenty-six potential projects were identified at SE Misool, and six at Kofiau. Training was provided to communities to prepare proposals. A total of 6 and 26 proposals were selected and implemented at Kofiau and SE Misool, respectively. The duration of activities ranged from 2-6 months at SE Misool, and 3-12 months at Kofiau. Activities included: community patrols, raising awareness on role and benefits of MPAs and general marine conservation issues faced by the MPAs, monitoring of *sasi* areas, coastal regeneration, village clean-ups, and drafting of village regulations. Reporting (both finance and project reporting) is still a challenge when implementing this particular program, and further training and capacity building will be required in FY09.

### **Activity 3.2: Teacher training**

#### **Anticipated Results in FY08:**

- At least 20 local elementary or secondary school teachers have an improved understanding of conservation.
- Contents from the teacher training workshop are adopted in the local elementary and junior high school curriculum.

### Results

This activity has been incorporated into the LMMA program, especially activities related to environmental education. The main aim of this project is to encourage the local teachers to produce their own local curricula and to use it in their own schools. So far, six teachers from four local primary schools in SE Misool (SD Lilinta, SD Biga, SD Tomolol, and SD Harapan Jaya) and six teachers from three elementary schools in Kofiau (Deer and Dibalal) have participated in this initiative. A workshop was held to develop local curricula in February 2008. The workshop successfully produced a local curriculum (*Kurikulum Tingkat Satuan Pendidikan, KTSP*), modules, syllabus, an annual and semester program and a teaching plan (*Rencana Pelaksanaan Pembelajaran, RPP*), which complied with government standard. The success of local school teachers in Kofiau and Misool to finalise the school curricula facilitated by TNC and LMMA drew the attention of Education and Teaching Agency *Dinas Pendidikan dan Pengajaran (Dinas P&P)* Raja Ampat. The Head of *Dinas P&P* invited TNC and local teachers to make a presentation on the final curricula of each school, the syllabus, annual teaching plan, and the local content at a meeting on 14 July 2008. *Dinas P&P* organized a coordination meeting soon after (22 July 2008) with TNC, Coremap and local school teachers. The objective of the meeting was to build coordination between organizations to develop the Environmental Education Curricula for

all schools in Raja Ampat. The meeting resulted in the formation of a team consisting of school teachers, *Dinas P&P*, TNC, ILMMA, Coremap and Lembaga Ilmu Pengetahuan Indonesia (LIPI).

**Activity 3.3:** *Local newsletter: Tabloid Raja Ampat*

**Anticipated Results in FY08:**

- Conservation messages reach important audiences and support project activities in Southeast Misool and Kofiau
- A supportive local constituency for marine conservation in Southeast Misool and Kofiau.

**Results**

To increase local people's knowledge and awareness of the TNC conservation program, outreach teams disseminated regular information, including the Raja Ampat tabloid, fact sheets, posters, and information sheets to south and east Misool villages and Kofiau. During FY08, outreach materials have mostly been aligned to the RARE Pride Campaign. During FY08, ten editions of the joint publication (TNC, CI and Raja Ampat Government) "*Tabloid Raja Ampat*" were produced. The target audiences are Raja Ampat local communities, local government institutions and other stakeholders. The objectives of this tabloid are to increase awareness of the rich marine biodiversity of Raja Ampat and promote marine conservation efforts.

**Activity 3.4:** *Radio program*

**Anticipated Results in FY08:**

- Conservation messages reach important audiences and support project activities in Southeast Misool and Kofiau
- Interactive program aired on local radio at least 7 times/month for 3 months.

**Results**

During FY08, TNC Raja Ampat collaborated with a local radio broadcast – RRI – that airs a radio program called '*Siaran Pedesaan*' every night. We used this program to raise awareness of conservation issues in Raja Ampat. Several interactive dialogues were held with the National Radio Station, including one on 'World Environment Day'. TNC Raja Ampat staff discussed a variety of up-to-date environmental issues, the role of the TNC Raja Ampat program in dealing with marine and fisheries issues, and what actions have been taken to deal with such issues.

**Activity 3.5:** *Support village-based conservation outreach officers linking it to LMMA network*

**Anticipated Results in FY08:**

- Village-based outreach officers "open up" local communities for program activities.
- Site activities are improved through participation of village-based outreach officers.

- Conservation messages are effectively communicated through village-based outreach officers.

### Results

A total of thirteen Village Community Outreach officers (VCO) have been recruited in SE Misool (10) and Kofiau (3) to undertake regular conservation activities with their respective communities, including the implementation of the LMMA program, a small grant scheme, and RARE Pride campaign. In order to increase their capacity to implement these activities, training was provided on biological monitoring, organization and planning skills, proposal and report writing, basic dive training, computing skills and to improve their knowledge and understanding of MPAs. VCOs were given the opportunity to participate in the ILMMA network meeting in Jayapura from 13-22 November, 2007. TNC Raja Ampat program supported eleven VCOs from SE Misool and Kofiau to attend this particular network meeting/workshop. During the workshop, they were able to share their experiences, challenges, success stories, and even lessons they have learned about what has *not* worked. Training was provided for VCOs on biological surveys and monitoring, especially for specific species of sea cucumber and how to design fishing grounds and no-take zones, which combine traditional knowledge and science. Their response was very positive as they learned a lot listening and sharing their experiences with other participants from different part of Papua and from the Mollucas.

### **Activity 3.6: Kalabia conservation education program**

#### **Anticipated Results in FY08:**

- Conservation messages are effectively communicated to target villages.
- Increased understanding and awareness on marine conservation.

### Results

TNC and CI are developing a joint conservation education program for Raja Ampat to increase awareness on MPAs and marine conservation issues in general. The program has a conservation educational vessel called the 'Kalabia', which is equipped with educational materials and facilities. The vessel will try to visit the 88 villages throughout the Raja Ampat archipelago. Several coordination meetings were held with CI to build the team, establish objectives, plan and schedule activities and prepare materials, and arrange the logistics and operation of the vessel. Both TNC and CI have committed their support to the educational vessel program, agreed on the issues and messages to be focused on, and agreed on the general method and approach, as well as the specific needs and contributions from each organization. This program received support from the Education and Teaching Agency (*Dinas P&P*) of Raja Ampat Regency. The current priority is the recruitment of additional boat crew to meet all shipping requirements.

TNC and CI conduct a 12 day Training Workshop in 26 November–7 December, 2007 in Waiwo for the TNC and CI education team. Outcomes of

the meeting included that conservation educators have the capacity to deliver the “Education and Outreach Vessel Conservation Education Program” in an up-beat, interactive, knowledgeable and effective manner. Conservation educators became familiar with the program components, curriculum objectives, curriculum activities and the schedule for different activities. Each Education Team member became familiar with their role in the program, and the team collectively gained a sense of cohesion.

This program has taken longer to commence due to difficulties and delays faced during the refitting and preparation of the vessel. The first trial at sea took place in December 2007, and Kalabia departed Bali on 21 February 2008 arriving at Saonek, Papua Barat on 27 February 2008 for immediate service. Conservation education activities were done in March, April and May during the good weather season. The vessel was officially launched in August 2008. A detailed schedule for FY09 is being produced in collaboration with CI. Kalabia will be operating in Kofiau and SE Misool in October/November 2009.

**Activity 3.7:** *Linking communities at Kofiau and Southeast Misool with the LMMA network*

**Anticipated Results in FY08:**

- LMMAs initiated by at least 2 community groups in Kofiau and Southeast Misool
- Information on LMMAs is shared between other LMMA sites and the Raja Ampat program sites (Kofiau and Southeast Misool).
- Increased understanding and awareness on marine conservation.

**Results**

The LMMA network has designed methods and principles for developing community-managed marine areas, where local people play a strong and leading role in the MPA process from planning and implementation to evaluation. The LMMA model stresses the active participation of local communities to protect and preserve their marine resources. In FY08, TNC-CTC Raja Ampat program strengthened its collaboration with the ILMMA to facilitate the development of LMMAs in Kofiau and SE Misool. The local people committed to adopting LMMA methods to revitalize their traditional resource management system called ‘*sasi*’ involving temporary closures of marine areas to all forms of exploitation, including fishing. In Papua, *sasi* is well known and is a respected traditional system for managing their natural resources. *Sasi* can be designated either through a religious or customary ceremony. The LMMA model is very appropriate to educate the local coastal community on how the ‘spill over’ from no-take areas works in their marine areas. A series of village meetings, workshops and trainings were held in FY08 to initiate the LMMA program, including village conservation planning and the establishment of village conservation groups in every village.

Three villages in Kofiau (Deer, Dibalal, and Tolobi) established three *sasi* marine areas (12 ha) through a traditional ceremony and signed an

agreement to implement the LMMA model in their villages. Similarly, seven villages in SE Misool (Lilinta, Biga, Kapatcol, Gamta, Magey, Tomolol and Folley) established seven *sasi* marine areas (22 ha) and signed agreements to implement the LMMA model in their villages. These ceremonies were attended by all the local people, including religious figures, custom leaders, youth leaders, and women.

TNC Raja Ampat program supported 20 members of LMMA groups from SE Misool and Kofiau to attend the ILMMA network meeting/workshop in Tablanusu Village from 13-22 November, 2007. Participants were able to share their experiences, challenges, success stories, and even lessons they have learned about what has *not* worked. Training was provided on biological surveys and monitoring, especially for specific species of sea cucumber. Training was provided on how to design fishing grounds and no-take zones, which combine traditional knowledge and science. Their response was very positive as they learned a lot by listening and sharing their experiences with other participants from different part of Papua and from the Mollucas, and sharing their own experiences from their villages.

#### **Objective 4: On-site conservation: monitoring and patrolling for biodiversity**

##### **Activity 4.1: Conduct biological monitoring (SPAGs, cetaceans) in Kofiau and Southeast Misool**

#### **Anticipated Results in FY08:**

- Improved knowledge of status and use of near-shore marine habitats informs adaptive management and used for measuring management success.
- Increased field presence of Raja Ampat program staff and local partners, resulting in prevention of illegal or unreported fishing.

#### **Results**

Fish spawning aggregation (SPAG) monitoring was done in accordance with protocols and at sites identified from information in the TNC - Coastal Rapid Assessment in 2004. SPAG monitoring provides a measure of the overfishing pressure in an area, particularly in relation to more slow growing, longer-lived species such as groupers and Maori wrasse, and provides information to local people and other stakeholders for the design and management of MPAs. Three species were monitored, *Epinephelus fuscoguttatus*, *E. polyphekadion* and *Plectropomus areolatus*. In SE Misool, 17 sites were surveyed but none were found to be significant SPAG sites, though three pairs of groupers were observed displaying mating behavior. Biological monitoring was combined with community surveys to try and identify potential SPAG sites. At Kofiau the teams are still investigating suspected SPAG sites at Tanjung Lampu, Wambong Besar and Wambong Kecil. Local fishermen at Kofiau also told stories about the significant higher grouper catch, which the teams are also investigating.

There was a higher field presence of our staff in FY08, which, over time will act as a deterrent for illegal fishing activities. Resource use monitoring involves local district officers and local communities, and the presence of these officials should decrease illegal fishing pressures.

**Activity 4.2:** *Conduct resource use monitoring / patrolling in Kofiau and Southeast Misool*

**Anticipated Results in FY08:**

- Improved knowledge on status and use of near-shore marine habitats informs adaptive management and used for measuring management success.
- Increased field presence of Raja Ampat program staff and local partners, resulting in prevention of illegal or unreported fishing.

**Results**

The objective of resource use monitoring is to collect data on marine resource utilization such as fisheries and tourism. Monitoring provides data on temporal and spatial temporal patterns of marine resource utilization, and is a useful measure of fishing effort in a MPA. This information can be used to design and plan MPAs to minimize user conflicts. In FY08, the monitoring team involved local people and local government representatives to assess resource use in the two MPAs. Team members interviewed every fisher they met, recorded with GPS the location of boats, gear type, and catch. The surveys showed that illegal fishing practices were still taking place around, for example, Kofiau Island. Preliminary data analysis showed that 67% of users of the SE Misool MPA live inside the areas, while the remaining 33% come from outside the area. Data analysis is currently ongoing, and a report will be available in FY09, that will be used for outreach and education, and for adaptive management.

**Activity 4.3:** *Support patrols with the finalization and endorsement of the Joint Patrol SOP throughout Raja Ampat.*

**Anticipated Results in FY08:**

- Effective operational coordination on patrolling and enforcement among government agencies and environmental NGOs.
- All parties have a shared understanding of the purpose of the Floating Patrol Station.
- The Joint Patrol SOP is formalized through a decree from the Raja Ampat Bupati.
- Patrols contribute to the abatement of illegal and unreported fishing in Raja Ampat, thereby furthering biodiversity conservation and sustainable resource use.

**Results**

The joint-patrol team consists of DKP staff, police officers and community representatives who collectively enforce fisheries regulation and protect the MPAs from destructive fishing practices (e.g., bombing and use of cyanide). The team patrolled the newly-declared MPAs of Ayau islands, Kofiau islands, SE Misool and West Waigeo. Each patrol runs for 20 days using the Floating Patrol Station “*KM. Inbekwan*”.

During FY08, TNC-CTC Raja Ampat Team facilitated the establishment of a Bupati Decree on implementation of joint-patrol. It was produced and endorsed by local government. The final multi-stakeholder workshop was also carried out in Waiwo from 13-14 of February, 2008, which has produced two key outcomes: the final draft of the SOP of joint-patrol and the formation of a joint-patrol team. Three patrols were completed in FY08 with Inbekwan and the response from the local community was positive.

### **Objective 5: Field presence for the CTC Raja Ampat Program**

#### **Activity 5.1: Operate field stations in Kofiau and Southeast Misool**

##### **Anticipated Results in FY08:**

- Efficient support provided for the Raja Ampat field program.

##### **Results**

During FY08 period, SE Misool and Kofiau field stations were effectively managed to support the implementation of field activities with local communities. These field stations have been equipped with electricity, diving equipment, speedboat, electronic media, and VSAT connection to support outreach and monitoring teams.

#### **Activity 5.2: Operate administrative and logistical support desk in Sorong**

##### **Anticipated Results in FY08:**

- Efficient support provided for the Raja Ampat field program.

##### **Results**

The Sorong office was managed well in FY08 and provided financial, administrative and logistic support to the two field stations at Kofiau and SE Misool.

#### **Activity 5.3 : Operate two speedboats**

##### **Anticipated Results in FY08:**

- Efficient support provided for the Raja Ampat field program.

##### **Results**

Two speed boats with twin 4-stroke outboard have been very useful to support the implementation of field programs as well as to other operations (e.g., field visits, emergencies, transport between the field offices and Sorong). In order

to increase the skills, boat crew attended trainings on-site (Sorong) and off-site (Bali and Jakarta), such as training from Suzuki Marine Indonesia.

**Activity 5.4:** *Operate Floating Patrol Station and Awareness / Supply Vessel*

**Anticipated Results in FY08:**

- Efficient support provided for the Raja Ampat field program.

**Results**

The Floating Patrol Station (FPS) and Supply and Outreach Vessel have been fully supported during FY08. These vessels have been equipped with reliable crews as well as standard supporting navigation and safety equipment. As stated on Section 3.6 and 4.3, in collaboration with CI, these two vessels commenced their operations to support enforcement and conservation education programs in Raja Ampat.

**Objective 6: Assure that field activities are effectively supported and coordinated**

**Activity 6.1:** *Program coordination and management*

**Anticipated Results in FY08:**

- Effective coordination and management of the cooperative agreement
- Overhead necessary to maintain effective support of the project.

**Results**

Overall coordination and management of the program ensured site-based programs were managed efficiently and effectively, with links developed and strengthened with the wider Raja Ampat MPA network, and the Bird's Head seascape. Technical advice and support was provided by TNC-CTC staff during FY08, particularly in relation to the TNC-CTC science and monitoring program. Fund-raising efforts have resulted in the recent grant from the Walton Family Foundation for the Bird's Head Seascape, which was jointly submitted with WWF and CI. This should provide ongoing funding support for the Raja Ampat program for an additional 3 years, building on the strong foundation for marine conservation developed through USAID GCP.