Building Successful and Effective Management in Fiji's Kubulau MPA

Final Report Submitted to:

NOAA CORAL REEF CONSERVATION
GRANT # NA07NOS46630035

Marine Program
Wildlife Conservation Society
February 28, 2010

Foreword

Funding from the NOAA Coral Reef Conservation Program (#NA07NOS46630035), in conjunction with additional support from the Gordon and Betty Moore Foundation (#540.01) and the David and Lucile Packard Foundation (#2007-31847), has strengthened management effectiveness at the community-managed ridge-to-reef protected area network in Kubulau District, Vanua Levu, Fiji. The development of new management institutions (local resource management committees) and management rules have been captured in Fiji's first ecosystem-based management (EBM) plan for Kubulau's ridge-to-reef network, which has been promoted through the Fiji Locally Managed Marine Area (FLMMA) Network and through Fiji government for uptake at other sites in the country.

The new scientific knowledge gained from investigations in Program I and II of the NOAA project has created a knowledge base and stable platform to inform ongoing ecosystem-based science and management. Our biological studies, combined with the socioeconomic assessments, have indicated several key factors that have influenced marine protected area management success at three district-wide no-take marine protected areas (MPAs) in Kubulau. These factors include: size, placement of reserves in naturally productive habitats; visibility; distance from potential poachers; access to markets; and respect for management rules and community decision makers.

All of the lessons learned from our scientific and management activities in Kubulau have been shared through presentations locally (e.g. at the Inaugural Fiji Islands Conservation Science Forum and FLMMA Annual Training Forum), at various international conferences and within technical reports that have been uploaded to publicly accessible libraries through Reefbase and the South Pacific Regional Environment Programme (SPREP). In addition, we have strengthened the capacity of community managers to improve resource management and the capacity of young scientists in Fiji to carry out their own experiments and interpret their findings.

Based on the success of this adaptive EBM model, WCS has submitted a follow-up proposal to the NOAA Coral Reef Conservation Program to: (1) facilitate the revision of the EBM plan Kubulau District to incorporate resilience to climate disturbance; and (2) based on the Kubulau experience, expand the regional MPA network and its management planning process to the adjacent area of Wainunu District, where currently no MPAs exist.

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Final report on Project Activities

The scope of the NOAA grant award #NA07NOS46630035 changed considerably since its inception in November 2007. The initial proposed project "Building Successful and Effective Management in Fiji's Macuata and Kubulau MPA Networks" was to investigate drivers of MPA effectiveness at two community-based management sites in Vanua Levu, Fiji. The first six monthly report in April 2008 detailed outcomes of a desktop study to identify appropriate biophysical, socioeconomic and governance indicators of MPA effectiveness across three 6 MPAs being monitored within the Kubulau and Macuata MPA networks. Management programs at the two project sites were assessed against the indicators to provide guidance on implementing effective management.

Following submission of the April 2008 report to NOAA, there was a significant transition in WCS-Fiji personnel with the departure of the director, Kathy Walls, and arrival of a new WCS Country Program Director, Martin Callow, and Associate Conservation Scientist, Stacy Jupiter. The new WCS leadership thoroughly reviewed all programmatic and grant activities and came to the conclusion that the scope of the NOAA award required modification because: (1) the proposed work in the Macuata MPA networks was challenging both programmatically and financially; and (2) there were some concerns with the original experimental design, discussed below. A no-cost extension and project modification request was filed with NOAA and approved on 16 March 2009 to re-focus project activities exclusively within the Kubulau MPA network and to extend the project deadline to 30 November 2009 to align it with the completion of complementary activities funded by the Gordon and Betty Moore Foundation (#540.01) and the David and Lucile Packard Foundation (#2007-31847).

The following narrative describes the completion of NOAA grant award #NA07NOS46630035 against each of the four project objectives as modified through the approved no-cost extension and project modification request.

Objective 1: Identify key biophysical, socioeconomic, and governance indicators that will support effective management of the new MPA networks in Kubulau

At the initiation of the project and following consultation with communities, indicators were developed to assess management effectiveness of two district MPAs (Namena, Namuri) and one community tabu (Nakali) in the traditional fishing grounds (*qoliqoli*) of Kubulau District, Bua Province, Vanua Levu (Figure 1). The steps below describe actions and outcomes to develop indicators, refine experimental design for assessing MPA effectiveness, and then adapt the indicators based on Program I learning from biological and socioeconomic monitoring.

Table 1. Original biophysical, socioeconomic and governance indicators selected based on desktop research in April 2008 for evaluation across selected MPA sites in Kubulau.

MPA	Indicators selected							
Biophysical Indicator	Focal spp abund.	Focal spp population structure	Habitat distribution & complexity	Composition & structure of community	Type, level & return on fishing effort	Area showing signs of recovery	Area under no or reduced human impact	
Navatu	√	√	√	√	√	√	√	
Kiobo	√	√	√	√	√	√	√	
Namena	√	√	√	√	√	√	√	
Socio-economic Indicators	Local marine resource use patterns	Level of under-standing of human impacts	Perceptions of local resource harvest	Material style of life	Household income distributed by source	Community infra-structure & business	Stake-holder knowledge of natural history	Distri-bution of formal knowledge to community
Navatu	√	√	√	√	√	X	√	X
Kiobo	√	√	√	√	√	X	√	X
Namena	√	√	√	√	√	X	√	X
Gover-nance Indicators	Existence of a decision-making & mgmt body	Existence & adoption of a mgmt plan	Local under-standing of MPA rules & regulations	Availability & allocation of MPA adminis-trative resources	Existence & application of scientific research & input	Degree of interaction between mngrs & stake-holders	Degree of info dis-semination	
Navatu	√	√	X	√	X	X	X	
Kiobo	√	√	X	√	X	X	X	
Namena	√	√	X	√	X	X	X	

- **Step 1: Perform desktop study to identify relevant biological, socioeconomic and governance indicators**

A desktop analysis to identify key biophysical, socioeconomic and governance indicators was completed and reported on in April 2008. Indicators considered most applicable to the MPA networks at Kubulau were selected from the MPA guidebook "How is your MPA doing?" (Pomeroy et al. 2004). The existing monitoring and management programs at the project site was then assessed against the indicators to provide guidance on implementing effective management (Table 1). Gaps in the current programs were identified, where these existed, and approaches identified to apply the new indicators.

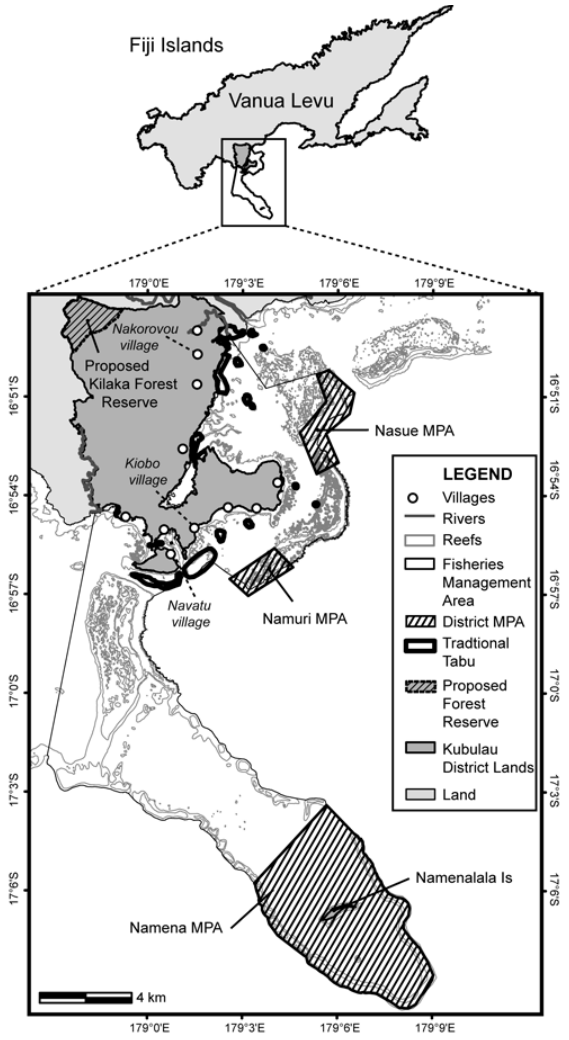

Figure 1. Kubulau District and traditional fisheries management area, including district no-take marine protected areas and proposed forest reserve (black diagonal striped) and traditional village-managed closures (thick black outlines).

- **Step 2: Adapt experimental design to improve ability to detect differences in MPA effectiveness related to management**

In March 2009, WCS requested and was granted a no-cost extension and budget adjustment to switch the comparison of Kubulau MPAs from the Namena Marine Reserve, Kiobo fishery MPA (Namuri) and the Navatu traditional MPA (Nakali) to a comparison of Namena, Namuri and the Nakorovou fishery MPA (Nasue). The switch vastly improved the experimental design (Figure 2).

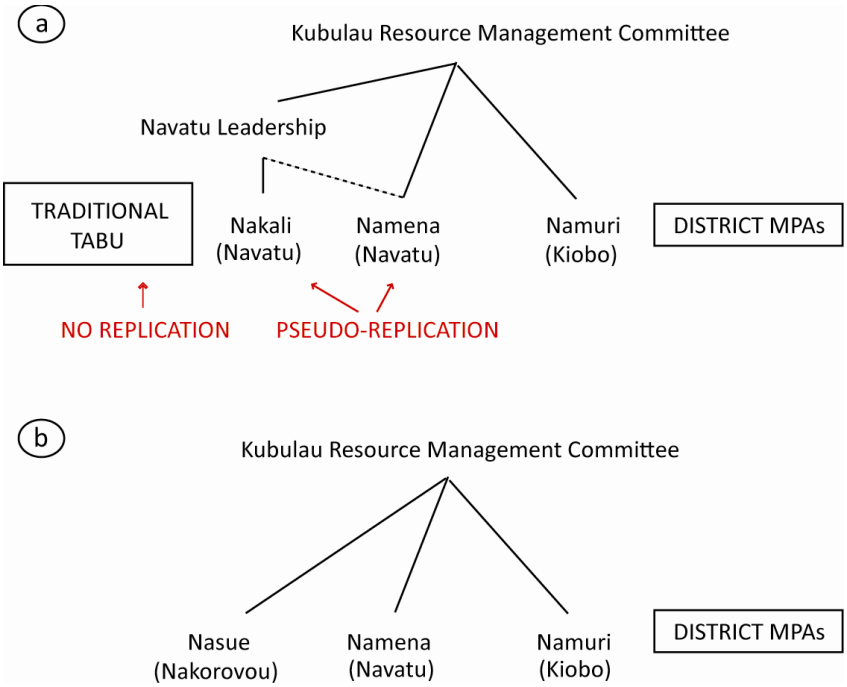

Figure 2. (a) Initial experimental design. (b) Adapted experimental design with 3 district MPAs, each with a different village having traditional fishing rights before closure.

As the proposal was originally written, there was only one traditional tabu area (Nakali) and there was pseudo-replication of the socio-economic data because the village of Navatu is primarily responsible for Nakali and would be the only group of fishers who would be harvesting in Namena (Figure 2a). The new experimental design holds the governance structure constant across the three district-wide MPAs in order to focus specifically on differences in awareness and compliance between the three villages (Nakorovou, Navatu and Kiobo) to assess MPA effectiveness through the biological responses (Figure 2b). These three district-wide MPAs are governed by the Kubulau Resource Management Committee under the same management plan, which is currently being adapted into a broader ecosystem-based management (EBM) model.

- **Step 3: Adapt and refine biological and socioeconomic monitoring with learning from Program I**

Program I biological and socio-economic monitoring showed that there were some strong differences in measures of success (i.e. total fish abundance in closed versus open areas) across the three reserves, and these are likely related to the length of protection, distance from shore, awareness of MPA boundaries, compliance with MPA rules and regulations, and proximity to poachers from outside Kubulau district. Exploratory data analysis in late 2008 revealed high variability in fish abundance and biomass recorded from backreef sites (Annex A), which made

it difficult to detect differences related to management effects from Program I data, even when pooled across exposure gradients (forereef, backreef). We therefore adapted our Program II biological monitoring protocol to increase replication at the site level and survey *forereefs only* in order to minimize variability due to habitat differences to tease out effects of management.

The biophysical parameters we monitored for MPA effectiveness for improving fisheries resources during Program II still included: focal species abundance; and focal species population structure. In addition, we added several other variables that are more physical in nature and can be used to explain the above response variables: habitat distribution and complexity; and composition and structure of benthic community; type, level and return on fishing effort; distance from runoff; visibility from villages (to gauge ability to enforce rules); distance from villages weighted by the frequency with which they consume caught fish (to gauge internal fishing and poaching effects); and distance from adjacent fishing grounds in other districts (to gauge external poaching effects) (Table 2).

We also adapted our Program I socio-economic-governance questionnaire, using focus indicators from the SEM Pasifika manual (Wongbusakaram and Pomeroy 2008), to specifically probe why there are differences across the three communities in attitudes and levels of awareness and compliance. The revised set of socioeconomic predictor variables include: local marine resource use patterns; ecological perceptions and understanding of ecosystem services; community awareness of management rules and regulations; community participation in management decisions; perceptions of compliance; and frequency of agreement with decisions by management authorities (Table 2). These include some of the indicators previously listed as under governance

Table 2. Adapted biological response variables and potential physical and socioeconomic predictor variables

	Indicator Variables					
Biological Response Variables	Focal species abundance	Focal species biomass	Focal species population structure			
Physical Variables	Distance from adjacent fishing grounds	Distance from runoff sources	Distance from villages weighted by fish caught	Visibility from villages	Habitat distribution and complexity	Composition of benthic community
Socioeconomic Variables	Local marine use patterns	Ecological perceptions & understanding of ecosystem services	Awareness of management rules	Participation in management decisions	Degree of compliance	Frequency of agreement with management decisions

Objective 2: Conduct biological and socioeconomic monitoring at three MPAs in each of the networks at Kubulau, incorporating key indicators.

- **Conduct Program I and II biological monitoring**

Underwater visual census surveys of reef fish populations and benthic habitats was carried out during Program I biological monitoring between April-May 2008 at 38 forereef and backreef sites within Kubulau qoliqoli (Figure 3) according to the protocols of WCS (2010). Results were presented back to the Kubulau communities during a three day workshop between 25-27 February 2009 to integrate the findings into adaptation of existing draft management plans into a single, holistic catchment-to-reef plan covering the entire district and traditional fishing grounds (see Objective 4).

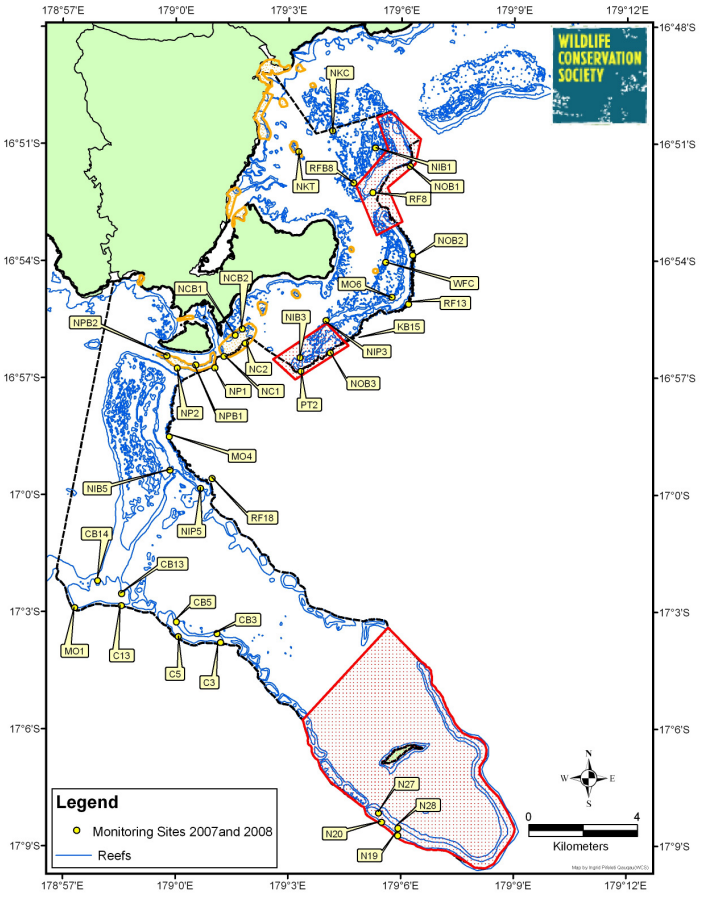

Figure 3. Location of 39 forereef and backreef monitoring sites surveyed in April-May 2008 in Kubulau qoliqoli.

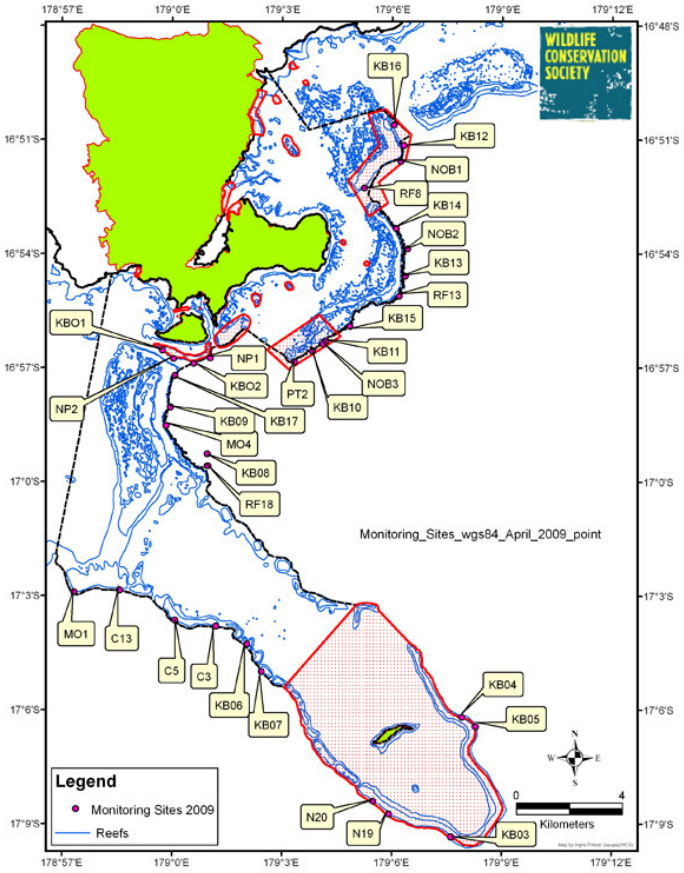

Figure 4. Location of 33 forereef monitoring sites surveyed in April-May 2009 in Kubulau qoliqoli.

A power analysis indicated that changing the sampling design to increased sample size of *forereef-only* sites would improve the ability to detect differences related to management (Annex A). As a consequence, only data from forereef sites collected prior to 2009 were utilized for final analyses. In April-May 2009, 33 sites were surveyed from deep and shallow depths on forereefs only in closed and open areas of Kubulau qoliqoli (Figure 4). Data have been entered and analysed with Statistica version 7.0 and Primer-E version 6 statistical software to assess influence of above biophysical variables on fish response variables. Results are reported in an attached technical report (Jupiter et al. 2010)

- **Conduct Program I and II socioeconomic monitoring**

Program I socioeconomic monitoring was implemented in November-December 2008, which included specific questions to identify resource use patterns, perceived threats and resource condition, awareness of MPA rules and regulations, and degree of participation in MPA governance. Preliminary information from Program I surveys was presented to the Kubulau Resource Management Committee (and stakeholders) in February 2009.

A review of the socioeconomic indicators was conducted in June 2009, resulting in modifications to the household surveys. Household surveys and key informant interviews were conducted in the three villages (Navatu, Kiobo, Nakorovou) with traditional fishing areas in and around the district MPAs during the first two weeks of September 2009. Responses were additionally compared with those from Natokalau village, which does not have traditional fishing areas in any of the three district MPAs, but has been noted to have a high level of community organization (S Jupiter, personal observation). Results from these surveys are integrated with the biological data in the attached technical report (Jupiter et al. 2010) to assess main drivers of district MPA effectiveness in Kubulau.

- **Tag a range of fish species (demersal and pelagic) from the Kubulau MPAs and record any caught by local fishers**

548 fish were tagged from within the Namena, Namuri and Nasue MPAs, with only 3 recaptures. The low recapture rate could be due to: (1) high mortality of tagged fish; (2) low mobility of fish from protected areas to fishing grounds; (3) lack of adequate communication of how to report tags; or (4) reluctance or unwillingness of Kubulau fishers to report catches of tagged fish. Full results from the study have been published as an attached technical report (Egli et al. 2010).

- **Host workshops to discuss the indicators and approaches for reviewing and refining the draft management plan**

All Program I biological and socioeconomic data were presented to the KRMC, *Bose Vanua* and representatives of each of the 10 villages of Kubulau during a major management planning workshop from 25-27 February 2009. Approaches for reviewing and refining the draft management plan were discussed with the KRMC and Bose Vanua during a workshop in May 2009 and will be discussed below under Objective 3.

Objective 3: Build the capacity of on-site managers and village leaders to monitor management effectiveness and engage in adaptive management.

- **Provide assistance to implement community monitoring programs**

Community biological and socioeconomic data collection workshop and refresher training was held in April 2008 and March 2009 to train new and existing community monitors in data collection using training methods from FLMMA learning framework. All 10 villages participated with 20 community data monitors trained, two from each village. Community monitoring data from three villages (Navatu, Nakorovou, Kilaka) have been uploaded as completed site reports to the Fiji Locally Managed Marine Area (FLMMA) network database and each of these villages have been accepted as full FLMMA members.

- **Undertake MPA site inspections**

In June 2009, the paramount chief of Kubulau and the *Bose Vanua* made a decision to traditionally bless the district MPAs as a sign of their commitment to management and to raise awareness among neighboring districts to reduce poaching. A ceremony was held with village chiefs, representatives of neighboring Wailevu and Wainunu districts and ministers which included a formal presentation of a whale's tooth (*tabua*) and blessings at Namena, Namuri and Nasue MPAs. The village chiefs and members of KRMC were taken by boat to inspect each of the district MPAs. The inspection included placing buoy markers and pronouncement of the formal blessing (Figure 5).

Figure 5. (left) Tui Nadivakarua presenting a whale's tooth at the blessing ceremony. (right) Ministers delivering formal blessing of the Namena Marine Reserve.

- **Facilitate cross site visits for KRMC to learn from other management committees about management issues and approaches**

In May 2009, the chairman of the KRMC along with several community representatives from Kubulau attended a workshop organized by WWF in Macuata Province to develop grant writing skills in order to improve sustainable financing of management activities. The outcome of the workshop was a proposal outline to the Global Environment Facility's small grants program for the KRMC to receive funds to raise awareness of and address the impacts of both deforestation and improper waste disposal. Funding is being requested specifically to: (1) establish a nursery

to aid in reforestation of degraded areas; (2) raise awareness of the environmental impacts of improper waste disposal; and (3) promote the use of composting toilets.

- **Participate in FLMMA executive committee meetings and attend working group meetings**

WCS and partners continue to be active and participatory members of the FLMMA executive committee. The FLMMA executive committee meetings have become an important platform for information sharing between FLMMA and WCS partners. In particular, WCS participated in the development of the FLMMA Strategic Plan 2010-2014 during partner and community workshops in September 2009. In addition, WCS orchestrated a half-day session to share lessons learned from ecosystem-based management work in Kubulau the December 2009 FLMMA Annual Training Forum. WCS staff also are important contributors to the following FLMMA working groups: Biological; Socioeconomic; Design and Management; Compliance and Enforcement; and Communications.

- **Strengthen roles and responsibilities of KRMC**

A workshop with members of the KRMC was held in August 2009 to strengthen roles and responsibilities of the committee. Topics addressed included: identification of chairs and co-chairs for the various KRMC sub-committees; confirmation of the roles of the sub-committees; allocation of the responsibility for the community actions to relevant sub-committees; developing time frames (starting date) for the community actions through prioritizing (high, medium low); identification of skills and resources needed for implementation of the actions; and providing brief training on selected skills necessary for effective resource management (internal and external communication, gazettal of marine protected areas, and compliance and enforcement).

- **Provide technical training to young scientists in areas such as field work, data analysis, and working with stakeholders to incorporate results into management programs**

In order to maintain skills throughout the year, WCS has been leading a bi-weekly series of peer learning workshops with WCS staff and young scientists and managers from local organizations (Department of Fisheries, SPC, USP, Birdlife, IUCN and Fiji Institute of Technology). The peer learning sessions are aimed at fostering better field monitoring, data entry, data analysis and communication of results. The topics covered during the peer learning series included: (1) expectations of MPA benefits; (2) variability and experimental design; (3) defining hypotheses; (4) citing sources; (5) writing styles; (6) synthesizing papers and reports; (7) interpreting figures; and (8) writing grant proposals.

Objective 4: Strengthen site management plans.

WCS successfully completed all activities outlined in Figure 6 for a full adaptive management cycle that transformed the existing draft management plans for the Kubulau qoliqoli, the Namena Marine Reserve and the Kilaka Forest Reserve into a unified and expanded ridge-to-reef management plan (WCS 2009), a first in Fiji and attached with this report. The plan was endorsed and signed by the chiefs of Kubulau in July 2009, followed by a roadshow to all of the villages in September 2009 to explain the management rules and process for amending the plan, plus identify individuals responsible for management actions.

A generalized template of the EBM plan has been prepared and presented at the Fiji Locally Managed Marine Area (FLMMA) network annual training in December 2009 (Annex B). It was extremely well-received by community members and provincial representatives from across Fiji who hope to adapt their own management plans to fit this model.

A journal paper has been accepted to a special-themed issue of Environmental Conservation (Clarke and Jupiter accepted), which details the management planning process and identifies areas where management is likely to succeed given synergies with national legislation and policy and areas where conflict is likely to arise given disparities between community rules and national legal frameworks (Table 3). A presentation was made on this topic at the FLMMA annual training meeting to share lessons learned on where community-based management of natural resources is likely to succeed and to produce conflict in Fiji, given legal constraints.

References

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Egli DP, Moy W, Naisilisili W (2010) Fish movement in MPAs on coral reefs in Kubulau, Fiji. Wildlife Conservation Society-Fiji. Technical Report no. 05/10. Suva, Fiji, 16 pp.

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Wongbusakaram S, Pomeroy B (2008) SEM Pasifika: Socioeconomic monitoring guidelines for coastal mangers in Pacific Island countries. South Pacific Regional Environment Programme, Apia, Samoa, 137 pp.

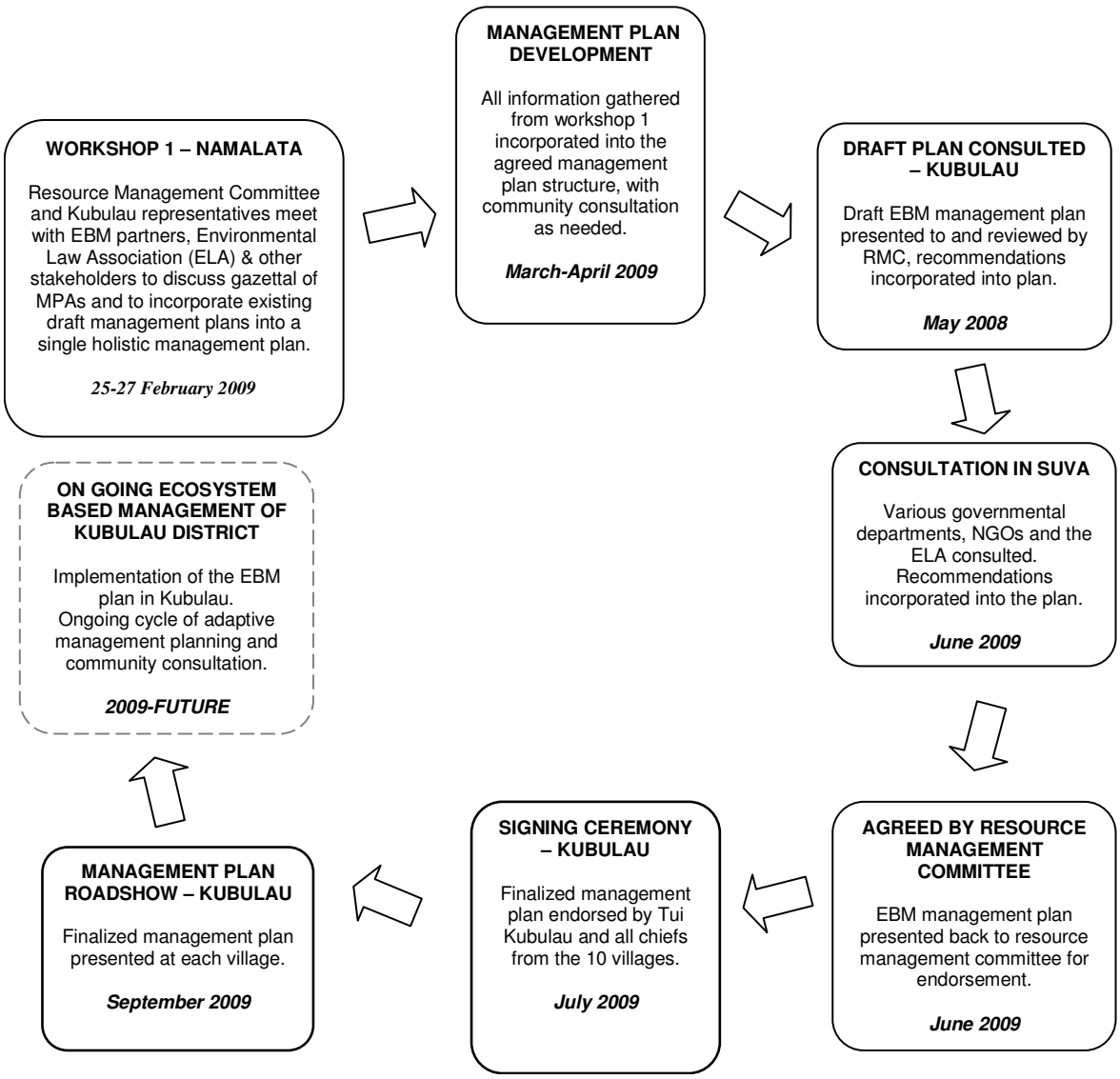


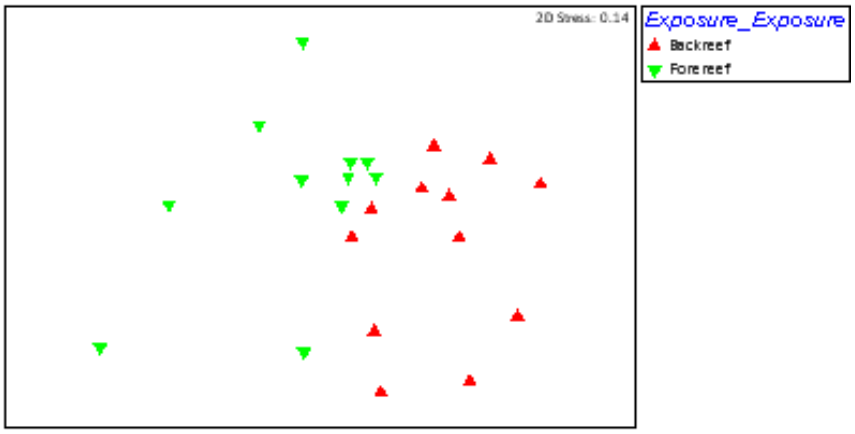
Figure 5. Adaptive management cycle for completion of the Kubulau EBM plan, Fiji's first ridge to reef management plan.

Table 3. Comparison of property and resource management rights for land and sea under Kubulau customary rules and national legislation. Synergies arise where traditional protection measures can be backed by measures such as conservation leases or water catchment area designations, for instance in terrestrial systems. However, conflict may arise, particularly in marine areas where national law has designated open access and communities choose to exclude others from extraction activities.

	Land		**Sea**	
	Custom	*Law*	*Custom*	*Law*
Property Rights				
Ownership	Clan (*mataqali*)	Clan (*mataqali*)	Tribe (*yavusa*)	State
Occupation	Clan (*mataqali*)	Clan (*mataqali*)	-	-
Right to exclude others	Clan (*mataqali*)	Clan (*mataqali*)	Tribe (*yavusa*)	Open access.
Resource Management				
Resource use rights (traditional resource owners)	Land use decisions by chief (*turaga ni mataqali*).	Land use decisions by clan, subject to state regulation.	Resource use decisions by chief (*turaga ni yavusa*)	Subsistence fishing rights recognised. Commercial fishing requires state approval.
Resource use rights (non-resource owners)	Use rights granted by chief (*turaga ni mataqali*).	Use rights granted by state, with consent of majority of resource owners.	Use rights granted by chief (*turaga ni yavusa*).	Fishing rights granted by state, following consultation with resource owners.
Protected areas	Traditional *tabu* areas, declared by chief (*turaga ni mataqali*).	*Conservation leases:* granted by NLTB with consent of majority of resource owners. *Nature reserves, catchment areas:* may be declared unilaterally by state.	Traditional *tabu* areas, declared by chief (*turaga ni yavusa*).	*Restricted fishing areas:* may be declared unilaterally by state. *Fishing licence conditions:* set by state, following consultation with resource owners.

Annex A. Revision of experimental design for monitoring MPAs

Variation in fish assemblages across exposure (forereef, backreef) and protection (open, closed) from Program I data was explored with multivariate tests using PRIMER-e version 6 software. A Modified Gower similarity matrix with a log10 was used to compare the biomass of reef fish assemblages at each site from inside and adjacent to the district MPAs (Anderson et al. 2008). A multidimensional scaling (MDS) plot of the matrix shows distinct separation between forereef and backreef sites (Figure 1), while no clear separation is evident related to protection status (Figure 2). This suggests that the observed pattern of reef fish assemblages is more likely driven by exposure gradients that override potential management effects; therefore focus on one exposure factor only will reduce the influence of additional variables and likely improve our ability to detect differences related to management.



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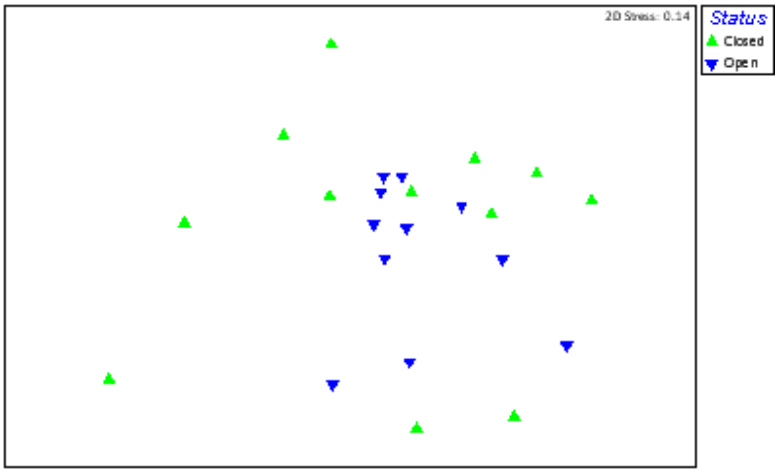

Figure 2. MDS plot of Modified Gower resemblance matrix of 2007 reef fish biomass for all sites identified by protection status (blue = sites open to fishing; green = closed MPA sites.)

Power analysis of experimental design showed a reduction in critical F-statistic values when sites are pooled across exposure (Table 1a,b) and when higher replicates of forereef only sites are surveyed (Table 2a,b). The main improvements were an expected increase of power to

detect an effect of status (crit F reduced from 12.2 to 7.57), which was the main question addressed by the original experimental design.

Table 1. Critical F-statistics needed to conclude significant differences at $p < 0.05$ level for experimental design of Kubulau 2007 and 2008 surveys where (a) exposure, site and depth are considered as separate factors; and (b) sites are pooled across exposure categories.

Factor	Levels	Nesting	Fixed/ Random	Numerator	Denominator	Critical F-statistic
(a) Exposure, Site and Depth as factors						
Status	2 (open, closed)		fixed	1	4	12.2
Exposure	2 (back-, forereef)		fixed	1	4	12.2
Site	2	status x exposure	random	4	96	2.93
Depth	3 (top, shallow, deep)	status x exposure x site	fixed	2	8	6.06
N	5					
Sample size	120					
(b) Site and Depth as factors						
Status	2 (open/closed)		fixed	1	6	8.81
Site	4	status	random	6	96	2.55
Depth	3 (top, shallow, deep)	status x site	fixed	2	12	5.1
N	5					
Sample size	120					

Table 2. Critical F-statistics needed to conclude significant differences at $p < 0.05$ level for experimental design of Kubulau 2009 surveys for (a) Namena MPA with 5 closed sites and 5 open sites surveyed; and (b) Namuri and Nasue MPAs with 4 closed sites and 4 open sites each surveyed.

Factor	Levels	Nesting	Fixed/ Random	Numerator	Denominator	Critical F-statistic
(a) Namena MPA (n = 10 sites total)						
Status	2 (open, closed)		fixed	1	8	7.57
Site	5	status	random	8	80	2.35
Depth	2	status & site	fixed	1	8	7.57
N	5					
Sample size	100					
(b) Namuri/Nasue MPA (n = 8 sites total)						
Status	2 (open, closed)		fixed	1	6	8.81
Site	4	status	random	6	64	2.63
Depth	2	status & site	fixed	1	6	8.81
N	5					
Sample size	80					

Based on the results of the above sets of analyses, a decision was made to survey an increased number of forereef sites only in Kubulau in April-May 2009 to improve the statistical power to detect differences related to management and depth.

Annex B. Generalized EBM plan template

I. Introduction
   a. Statement of objective
II. EBM Principles
   a. Definition of an ecosystem
   b. EBM objectives and targets
   c. Key messages for EBM specific to the region/project
III. Site Description
   a. Site boundaries
   b. Demographics of resource users
   c. Resource tenure (by habitat)
   d. Resource use patterns
   e. Protected area locations and sizes
IV. Legal Mechanisms for Establishing Protected Areas (under current legislation)
   a. Terrestrial
   b. Marine
V. Management Institutions
   a. Government institutions
   b. Community institutions
   c. Sub-committees
VI. External Stakeholders
   a. Government
   b. Non-government
   c. Private sector
VII. Management Roles and Processes
   a. Statement of where management rules derived
   b. Statement of where management actions were proposed
   c. Statement of who has responsibility for implementing the plan
   d. Process for amending the plan
   e. Time period for review of the plan
VIII. Compliance and Enforcement
   a. Mechanisms to raise awareness of management rules
   b. Statement of who is responsible for monitoring and surveillance
   c. Enforcement protocol for breaches of national laws

d. Enforcement protocol for breaches of community rules (and/or provincial by-laws)

IX. Habitat Description(s)
   a. Conservation value of management targets
   b. Threats to species/habitats
   c. Socioeconomic and cultural importance

X. Best Practice(s)
   a. Management activities to promote environmental health, though not enforceable by national or community laws

XI. Management Rules and Action Tables
   a. Rules
   b. Exceptions
   c. Designator of rule (national law/policy; community)
   d. Management actions, with responsible parties and timelines
   e. Source of each rule noted

XII. Sustainable Financing (*NOTE: This should complement a separate Business Plan*)
   a. Methods for generating income
   b. Activities on which income will be spent
   c. Methods to ensure transparency and accountability

XIII. Contact Details