



EBM KUBULAU BULLETIN



VOL. 3, SEPT 2008

Ni sa bula vinaka. We would like to dedicate this third edition to the late Tui Kubulau, Ratu Epeli Donumaibulu. Tui Kubulau was the driving force for conservation for Kubulau and will be sorely missed by the communities and the Fiji EBM partnership.



WCS FIJI DIRECTOR VISITS KUBULAU

Last month new WCS Director, Martin Callow, accompanied by Kubulau Resource Management Committee chairman Paulo Kolikata of Namalata Village and WCS employee, Sirilo Dulunaqio (Didi) visited three of the villages involved with Ecosystem Based Management in the Kubulau District of Bua. During the brief trip, Martin visited Namalata, Nadivakarua and Kiobo to listen and learn more about the successes and challenges faced by the management committee and community members. Martin was also honored to join in the fundraising activities in Namalata.

"It is really rewarding to see the growing community support for Ecosystem Based Management in Kubulau, and importantly the community desire to build further on the successes to date. Paulo was kind enough to convene members of the committee for me to learn directly their current and future thinking. I was also very privileged to meet with Tui Nadi, and Ratu Ravulolo



Meeting at Kiobo to discuss Kubulau's Ecosystem Based Management

Vasuibau of Kiobo. WCS will now work even closer with the Kubulau Resource Management Committee (KRMC) so that the work of our partnership can be strengthened. WCS will also support the KRMC to refine the existing marine and terrestrial (land) management plans and help develop the roles and responsibilities of the KRMC members. WCS and the KRMC aim to host a workshop in January 2009 to progress these next steps". Martin aims to return to Kubulau later in the year for further discussions and to enjoy more warm hospitality that he was shown on this trip – vinaka vakalevu.

ECOSYSTEM BASED MANAGEMENT—WHAT DOES IT MEAN?

In Fiji, the EBM team and supporting communities of Kubulau and Macuata are striving to preserve the health of the marine ecosystems or 'seascapes'. EBM is a holistic integrated management approach and therefore also includes adjacent systems such as terrestrial, freshwater and mangrove. It is anticipated that over time the lessons learnt from Kubulau and Macuata will be shared throughout Fiji and the Pacific region.

The project vision for EBM Fiji is: "**Healthy People, Processes and Systems.**"

KEY EBM MESSAGES:

Preservation of functional integrity of Fiji's seascapes through community based management.

- *Successful EBM relies on cross sectoral management*
- *Inland and lowland communities need to manage resources together*
- *EBM protects habitat for all stages of life*
- *Improving land and fishing practices helps protect natural resources*
- *Public health depends on environmental health*

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FISH TAGGING.....WE NEED YOUR HELP!

Fish tagging measures the movement range of different fish species, which is important for management. When the fish are tagged inside a Marine Protected Area (MPA) and captured outside by local fishermen this is called 'spill-over'. Fish that become more abundant and larger inside the protected area have a higher chance to move outside. Information on the movement and 'spill-over' will help the KRMC to plan and adapt the manage-

ment of MPA's. In June, WCS fellow Dr. Daniel Egli with the WCS marine team started tagging important food fishes in Kubulau MPA's. The team tagged a total of 135 fish and more will be tagged this month, but we need your help!

Fishermen that report the location of any captured tagged fish will help us find out how far fish move. So, if you catch a tagged fish, fill out a form as held by designated Fish Tag representatives

with a description of the fish and where it was caught. Make sure to record the tag number, location, where the fish was caught, date and fish length at time of capture. When you report back with the form and tag you will receive a free 'Kubulau Tag Team' T-shirt. Don't forget, you can eat the fish and still get the reward if you submit the tag and completed report with the information required. More on this story in our next newsletter!



If you catch a tagged fish, fill out a form which are with the Fish Tag representatives in your village. Contact Didi on 885 3035 to receive your 'Kubulau Tag Team' t-shirt. Don't forget, T-shirts will only be distributed when both the tag and form are provided.

CORAL CORE X-RAYS

Massive boulder corals can live for hundreds of years and grow yearly by adding a layer, or band to their skeleton similar to a tree. How their skeleton is made up is influenced by the water quality where the corals are living. Therefore, we can measure the coral skeleton back through time to see if the water quality has changed. Factors like increased sediment from river discharge and overflowing of tailing ponds from mining can be seen. Coral

pieces from 3 corals from Kubulau were taken to the Australian National University to be x-rayed. Two of the corals were collected from reef near the Yanawi River mouth and the other was collected near Namena. The results are currently being analysed which will show how the water quality has changed over time. Once the analysis has been completed, *EBM Kubulau Bulletin* will report fully.



Coral core x-rays showing bands deposited by the corals.

THE GOAL OF ECOSYSTEM-BASED MANAGEMENT IS TO MAINTAIN AN ECOSYSTEM IN A HEALTHY, PRODUCTIVE AND RESILIENT CONDITION SO THAT IT CAN PROVIDE THE SERVICES HUMANS WANT AND NEED.



How will this look in 30 years time from now?

MPA WORKSHOP

This month KRMC Chairman, Paulo and WCS community liaison officer Didi attended a regional MPA workshop held in Suva. It enabled Paulo and Didi to share their experiences and lessons learnt from developing and instigating EBM within the Kubulau district. The workshop, facilitated by NOAA and USP offered management ideas and advice for

future inclusion within the Kubulau Management Plan. KRMC will be working closely with WCS to incorporate some of these ideas and concepts to their adaptive management plan. The workshop also covered zoning, enforcement including traditional penalties and the role of the current Fisheries Acts.

WCS expresses it's thanks to NOAA and USP for hosting such a beneficial event.

'THE WORKSHOP OPENED UP IDEAS TO INCORPORATE INTO THE CURRENT KRMC MANAGEMENT PLAN' REPORTS DIDI.



CORAL—MOORING PROJECT

Six moorings will be installed in the Namena MPA in October through donations from CORAL, Mar Viva foundation, Greenforce, Jean Michel Cousteau resort, and Aggressor Fiji Ltd. The moorings will help protect the reefs from damage caused by boats dropping anchor, and the Namena MPA will be classed as an 'Anchor Free Zone'.

In addition, there will be three near shore moorings installed, one inside Navatu

Bay providing access to Raviravi, Namalata and Navatu, one by Kiobo and another by Natokalau. Dive operators are excited to use these moorings to bring their guests ashore for a taste of the world famous 'Fijian Hospitality' –and a few bowls of kava!

The installation of these moorings is part of the 'Business Plan', a joint project between CORAL, the Kubulau Resource Management Committee and other

Stakeholders including WCS. It is one of many projects towards providing the community with small business opportunities. Village visits and associated activities can generate income for community projects, thus bringing more direct benefit to Kubulau from the Namena MPA whilst protecting the marine ecosystem upon which the tourism relies. KRMC administer admission fees to Namena MPA.



Namena Island and MPA as seen from Kubulau qoliqoli.

LINKS BETWEEN AQUATIC SYSTEMS - WI-O REPORT

Fiji EBM partner, Wetlands International-Oceania (WI-O) is working to show the links between the freshwater and marine systems with an emphasis on fishes, particularly the Gobioid fishes. Gobioid fishes are very interesting because they use the mangrove, estuarine and rivers to move between fresh and sea water during their life cycle. This movement of Gobioid fish is important because they re-stock the rivers and streams and contribute to the health of these systems.

In April, WI-O trained staff from the Department of Fisheries and local communities

to conduct freshwater and estuarine surveys in Kubulau to record the different Gobioid fishes and the health of the Kilaka mangroves and estuary, Suetabu river and a lake near Raviravi. During this survey the team took first-ever live photos of the blind, mud-dwelling goby *Caragobius urolepis* and the beautifully multi-colored *Cristatogobius aurocingulus*.

Results of the survey showed that the upper Kilaka river possessed high water quality within the proposed Kilaka forest reserve. The Kilaka mangroves and estuary were also found to be in good

health. It is recommended that the mid-catchment areas need managing in line with the Logging Code of Practice. For example, cutting the vegetation right to the rivers edge can lead to unhealthy river systems because of additional nutrients and soil particles eroding in to the river.

The Gobioid fish data are still being compiled, and results will be incorporated into the Kubulau's adaptive resource management plan. More on this story soon!



Caragobius urolepis

**EBM
ACKNOWLEDGES
INTER-
CONNECTEDNESS
AMONG SYSTEMS;
BETWEEN AIR,
LAND AND SEA.**

IN THE NEXT ISSUE....

Recently, a study to compare fish biomass inside and outside of Namena MPA was completed by the WCS marine team led by Naushad Yakub, a Masters student with USP. The aim of the study was to show how different types of fishes were distributed in three habitat types. The results indicate that permanent no-take MPA's help increase fish biomass.

FIJI ECOSYSTEM BASED MANAGEMENT
(EBM) = HEALTHY PEOPLE, PROCESSES
AND SYSTEMS

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CHECK US OUT!

WWW.WCS.ORG/MARINE

ONGOING AND UPCOMING EVENTS

- 15 Sept—18 Oct: Biological monitoring by the WCS marine team in Macuata.
- 29 Sept—9 Oct and 20 Oct—4 Nov: Side-scan sonar and fish tagging research, and catch per unit effort (CPUE) refresher training in Kubulau.
- 3—7 Nov: Locally Marine Managed Area (LMMA) regional meeting. Representatives from Kubulau will hopefully attend.
- Nov: Socio-economic surveys conducted by WCS Project Officer, Thomas Tui.

NEW STAFF WELCOME

WCS is pleased to introduce two new arrivals to the team. Sunil Prasad (right) has joined us as the EBM co-ordinator and Nischal Narain (far right) has taken up the role of WCS Fiji Finance Manager—welcome on board!

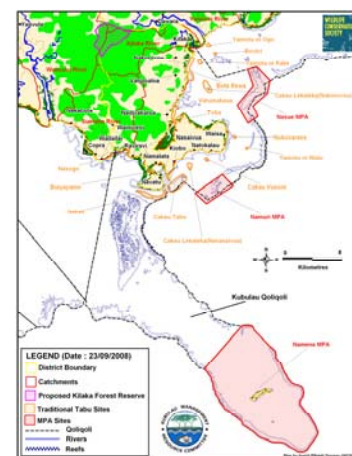


WHERE ARE YOUR TABU'S AND MARINE PROTECTED AREAS?

Fiji's traditional approach to fishing has included 'tabu' areas for millennia. With modern fishing methods, growing coastal populations, and increasing threats to coral reefs from human activities on both land and sea, tabu areas alone are no longer sufficient to safeguard fish stocks and protect habitats and ecological functions. However, combining the tabu approach and tradition with modern conservation approaches such as a Marine Protected Area's (MPA's) allows effective management of resources for future generations. Similar to a tabu, a MPA is part of the ocean including the seabed, living, non-living animals and plants, cultural and historical resources—but it is an area that is **permanently** protected from any removal by humans by closing the area to all types of fishing.

How adjacent land is used can effect the health of the marine environment and, therefore, also needs to be considered in EBM. An integrated effort addressing both land and sea-based threats and uses offers resource managers the optimum approach for sustaining natural resources, and the Fiji EBM team continues to support the KRMC to adopt EBM principles to holistically manage Kubulau's natural resources.

If you would like to know more please speak with your KRMC village member. New large maps have recently been sent to each village in Kubulau —why not go and have a look?



Map of Kubulau's network of tabu and MPA's—large maps now available in each village.

ANY QUESTIONS...?

Please send your questions and letters to the EBM Bulletin Editorial Team, using the contact details above. The deadline for submissions to the next newsletter is Wednesday 12th November. Please contact the Editor for further details.

TAQOMAKI NI NODA VEIKABULA



The Wildlife Conservation Society (WCS) is a U.S. based international NGO, with conservation programs all around the world, including Fiji. Over the past century, the WCS has worked to establish more than 130 parks and protected areas on land and at sea as well as working on threatened species. WCS works to save wildlife and wild places by understanding and resolving the critical problems that threaten key species and large, wild ecosystems around the world.

Our "Ecosystem-based Management" work is funded by the David and Lucile Packard Foundation and the Gordon and Betty Moore Foundation, which started in 2004. It is led by WCS, with the partners of the World Wide Fund for Nature - Fiji, Wetlands International, and the University of the South Pacific. A second EBM site is at Macuata, to the north. This newsletter focuses on the work led by WCS at Kubulau.



The University
of the
South Pacific

