



EBM KUBULAU BULLETIN



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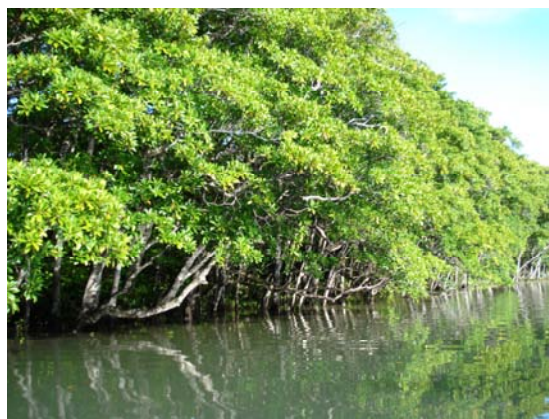
Ni sa bula vinaka. Welcome to the fourth, and final edition for 2008, of the WCS EBM Kubulau Bulletin. The bulletin brings together news and results from ongoing activities by the Wildlife Conservation Society within the Kubulau area.

2009 looks to be another busy year! Working closely with the Kubulau Resource Management Committee and communities, we will focus on revising and adapting existing management plans. Scientific and socio-economic data that have been collated by the EBM partnership and Kubulau communities over the past 4 years will be used to inform management planning.

Our achievements to date could not have happened without your support so a big vinaka vakalevu. Wishing you a very peaceful Christmas and a joyful New Year from all of us on the EBM partnership.

LAND BASED IMPACTS

On 21-22nd October, the Department of Land Resources Planning and Development with SPC/GTZ organized a workshop in Suva. The main aim of the workshop was to develop a set of guidelines for landuse development for activities such as crop production, animal husbandry, forest management, improving inland fisheries, safeguarding of protective vegetation and conserving biodiversity. During Day 1 of the workshop, a member of the partnership presented an EBM model which emphasizes the connectivity between habitats. These habitats are not only important pathways for animal movement but also for harmful substances such as pollution and sediments. Sediments and pollution that arise inland can travel down the rivers and streams reducing water quality and when it reaches the sea, it can destroy coral reefs and fisheries. The habitats in between terrestrial and marine environment, such as coastal wetlands and riparian vegetation (vegetation found along river banks) act as filters for sedi-



Kilaka *Bruguiera* forest

ments and pollutants. Located at the land and sea border, the coastal wetlands effectively reduce land based impacts by slowing the flow of water from mountains to the sea, trapping of sediments, and retaining or transforming nutrients. However, irreversible damage and even loss of these important habitats can occur if nutrient and sediment discharge reach above certain level. Therefore, it is important to adopt sustainable land use practices such as: limiting cutting trees right down to river's edge; reduction in farming along adjacent river banks; limiting mangrove cutting and encouraging mangrove re-planting in areas where mangroves no longer exist. These will ensure that our ecosystem integrity is maintained.

KEY EBM MESSAGES:

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

- *Successful EBM relies on cross sectoral planning and 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 and livelihoods depends on environmental health*

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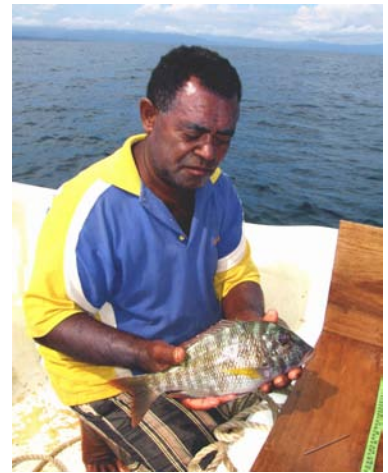
FISH TAGGING UPDATE

Our Kubulau tag team completed two fieldtrips in October to catch and tag more fish and to start mapping the reef in the district MPAs – Nasue, Namuri and Namena. During the latest visit, an additional 190 fish were tagged, bringing the total fish marked with dart tags to 325 (Nasue: 100, Namuri: 110, Namena: 115). The majority of the tagged fish are valued food fish such as Emperors, Snapper, Groupers and Trevally. Results from this survey will help the KRMC and EBM team learn how individual fish are moving within the Marine Protected Area's (MPA's). This information will help revise the existing management plan so we

really need your help!

We would like to remind the community that if you see a fish with a yellow/white/green tag, try to catch it and report the number, location and fish size to your village representative. Don't forget we are giving away the Kubulau Tag Team T-shirts when the tag and completed forms are returned.

If you catch a tagged fish, fill out a form which are with the Fish Tag representatives in your village. Contact Didi on phone 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.



Pajili with a tagged fish

MPA'S INCREASE FISH

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.

Master's student and WCS staff member Naushad Yakub has recently completed a study comparing fish size and the number of fish found inside and outside of the Namena MPA.

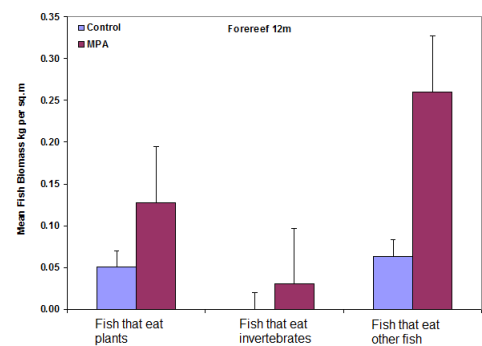
Using data collected from EBM surveys conducted in 2005, the results clearly

indicate that there are bigger fish on the deep fore-reef sites inside the MPA. This was true for all kinds of fish, including fish that eat plants such as Bleeker's parrotfish (*rawarawa*); fish that eat invertebrates such as the snooty wrasse (*dradravi*), and those that eat other fish such as the giant trevally (*saqa loa*).

The results demonstrate that no take, closed MPA's lead to an increase in fish; both in terms of size and numbers, safe guarding important food fish for future generations.

The fish tagging project (which we

need your help with!) will help us all understand how these important fish stocks



Graph showing the three types of fishes from forereef of control and MPA.

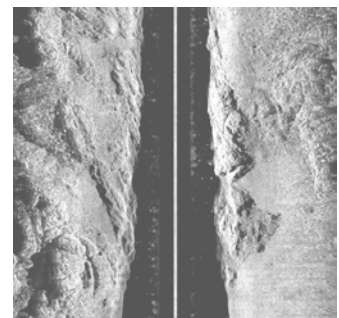
MAPPING UNDERWATER REEFS

WCS has started to map underwater reefs with a new navigation and sonar system. This will help to produce maps of the reef and the surrounding habitats.

Information on the shape and structure of the underwater environment can help the Kubulau Resource Management Committee to better understand where fish live.

This information will tell us if the important underwater habitats are represented under current MPA's.

We will report more on this in future bulletins.



Sonar works like underwater radar and makes an image of sand, rock, and other habitat, as shown in the picture.

BIOLOGICAL MONITORING IN MACUATA

The WCS marine team spent 5 weeks between mid-September and mid-October surveying reefs in the Macuata region. We were pleased to have Unaisi Mara from Navatu in Kubulau as one of our survey divers. The team measured the numbers of fish and invertebrates inside and outside three important *tabu* areas: Cakaulevu, located off Kia Island on the outer reef; Talai-i-Lau, an inshore reef and mangrove island located off Macuata-i-Wai; and Votuka, the oldest *tabu* area in the region located near the mouth of the Dreketi River.

While staying on Kia and in Macuata-i-Wai, the WCS staff spent a lot of time around the kava bowl talking to people

about EBM concepts, which they understood rapidly.



Left: Unaisi and Thomas helping out with inter-house games. Right: Alex and Akuila getting ready for a dive.

BOAT FOR MONITORING KUBULAU MPAS

On October 31st, a ceremony was held in Namalata village where a boat was given by Partners in Community Development Fiji (PCDF) to Kubulau Resource Management Committee (KRMC) to help protect their qoliqoli and marine resources. The boat will enable the KRMC to enforce the no fishing, no anchoring policy, and to protect Kubulau's MPA's and qoliqoli from poachers.

This function was attended by many of the Chiefs and Village headmen, including the Tui Kubulau Ratu Tuvuki, Director for PCDF Alisi Daurewa and others from the Suva office.

The ceremony also marked the end of a weeklong 'Sea Safety' course facilitated by Fiji Islands Marine Safety Association (FIMSA) where



The boat donated by PCDF to help Kubulau communities monitor its MPAs

89 members of the Kubulau community were trained and certified as Boat Masters.

The donation of the boat is the result of community facilitators being trained to assist the community with proposal writing for funding applications. The training

was conducted earlier this year by PCDF as part of the MORDI program, after which the community collectively decided to put in an application for a much needed patrol boat.

Contributed by Heidi Williams of the Coral Reef Alliance (CORAL)



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

IN THE NEXT ISSUE...MARVELLOUS MANGROVES

Did you know that there are 7 species of Mangroves found in Fiji? Mangrove grows at the boarder of land and sea, especially in areas where there are low energy waves. Mangroves provide important nursery grounds for many of your important food fishes and also help prevent coastal erosion. However, unsustainable practices are threatening these marvellous species.

In the next issue, we will report on how mangroves have changed in Kubulau between 1954-2001.

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

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CHECK US
OUT!

WWW.WCS.ORG/

ONGOING AND UPCOMING EVENTS

- 24 Nov—5 Dec: Socio-economic survey by the WCS team in Kubulau.
- 27 Nov: EBM partnership presented to the National Environmental Council (NEC).
- Nov-Dec: Ongoing marine biological monitoring data analysis from Kubulau and Macuata.
- Late Jan 09: Management Planning Workshop in Kubulau.

STAFF FAREWELL

Alexander Patrick, WCS Project Officer, is leaving to go and start a new adventure in Manila. Alex has been working with WCS for 6 years, and with the EBM project since 2005. He will be sorely missed by the team and by the communities of Kubulau and Macuata. Good luck Alex!



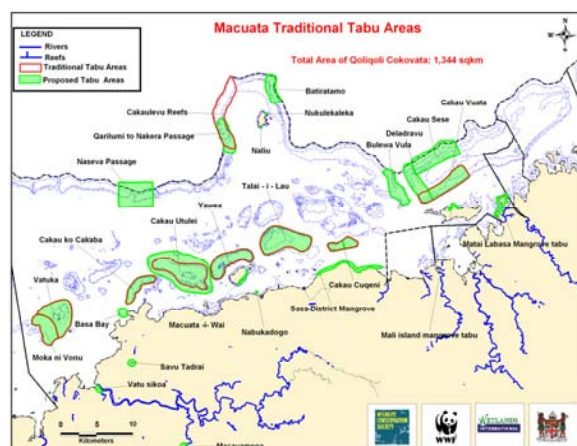
FISH FOR FUTURE — STORY FROM MACUATA

As part of ongoing efforts to better manage fisheries and other natural resources, community representatives from the districts of Dreketi, Macuata, Sasa and Mali in Macuata Province met earlier this year in Labasa to discuss proposed changes to their network of tabu areas.

The existing Marine Protected Areas (MPAs) were established based on best traditional knowledge, and information on fish breeding sites and habitats. Since then, extensive scientific and socio-economic surveys have been carried out and have been used to enhance and increase the existing MPAs.

After reconfiguration the number of MPAs will likely increase from 9 to 25. This increased number of MPAs will give better protection to a larger percentage of the reef and the different habitat types. This in turn will provide greater ongoing protection to the plants and animals of the reef and to the food security of the Macuata communities.

Tui Macuata, Ratu Aisea Katonivere, said, "The challenge is to ensure that we conserve some resources for our children and their children. We should take action now, and I am proud that we have been given the challenge to manage the third longest reef in the world."



Map of Macuata's network of existing and proposed tabu sites.

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 Monday 12th January 2009. 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.

