Vatu-i-Ra Community Bulletin

Vol. 20. November 2011

Ni sa bula vinaka! Welcome to the special twentieth edition of the VATU-I-RA COMMUNITY BULLETIN. The bulletin brings together news and results from ongoing activities by the Wildlife Conservation Society within the Vatu-i-Ra Seascape. Additionally, this special edition brings to you highlights from the recently held second Fiji Conservation Science Forum, where hot conservation topics in Fiji were presented and discussed between September 14-16, 2011.

Wainunu Management Planning Workshop

From November 24-26th, 3 districts in Bua (Wainunu, Nadi, and Solevu) came together to attend a 3-day Management Planning Workshop in Daria village. This workshop was also attended by representatives from Vuya district as observers.

This workshop was organised by the Wildlife Conservation Society (WCS) and included representatives of other NGOs and various government departments who attended to share their knowledge and experience with the community members.

Day 1 of the workshop involved presentations to inform the participants about results of ecological and socio-economic research conducted within the 3 districts this year.

"This was a very informative exercise for the communities as they got to see just how important their natural resources are for nature conservation, as well as for their health and livelihoods" says Akuila Cakacaka, a marine biologist with WCS.

Based on presentations made on Day 1, on Day 2 the community members identified conservation targets (e.g. freshwater food fish, mangroves) for terrestrial, freshwater, coastal and marine habitats. Later they identified threats to these resources and strategies to counter these threats.

On the last day each district formulated management rules to mitigate the threats to their unique species and natural resources. Community consensus towards setting up *tabu* areas for better managing natural resources was an important outcome of this workshop.

Participants of the Management Planning Workshop in Daria village, Wainunu (left).

Key EBM Messages:

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

- Successful 'ridge-to-reef' management depends on broad stakeholder input
- Inland and coastal communities need to manage their actions and resources together
- 'Ridge-to-reef' management protects habitat for all stages of life
- The success of protected areas for conservation and livelihoods relies on combining bottom-up community engagement with top-down planning
- Public health and livelihoods depend on environmental health
- Healthy ecosystems are the best defense against climate change impacts to livelihoods

Inside this issue:

MANAGEMENT SUPPORT WORKSHOP FOR KRMC

From October 12-14th, staff from CORAL and WCS were in Kubulau to conduct a management support workshop. This workshop was planned to strengthen the Kubulau Resource Management Committee (KRMC) and its sub-committees. The first management support workshop, held in 2009, looked at setting priorities, timeframes, and responsibilities for implementing the actions listed in Kubulau's ridge-to-reef ecosystem-based management plan. The 2009 workshop also did a gap analysis to see what resources and skills would be needed by KRMC to effectively implement the actions.

Earlier this year, in July 2011, a Kubulau adaptive management workshop was held to discuss options for reconfiguration of the *tabu* areas and district reserves and to add additional sites for management of terrestrial and freshwater areas to the network. This adaptive process of reconfiguring the design of the protected area network meant that the rules and boundaries would change depending on the decisions and consensus of the communities.

The management support workshop was used as a forum to get feedback from communities on the protected area options that they had decided to take forward. Based on these changes, the management rules and actions were reviewed. The participants in the workshop also discussed strategies for tackling the challenges faced by the KRMC, such as: inactive committee members, lack of communication, lack of meetings, and lack of compliance.

The participants also discussed the nomination and endorsement of new KRMC members and chair/co-chairs of sub-committees. The new KRMC members include Vitale, a representative from Nabalabalawa, and Weresova from Nadivakarua. Weresova is also the new chair for the Community Development and Finance sub-committee. He has been trained in Financial Management by CORAL at the Nadave Technical Training Center and is looking forward to putting his new financial knowledge and skills into practice in this role.

Participants of the management support workshop held in Kilaka (left). KRMC members listening to a presentation (upper right). Participants used a voting system to decide which of the options for the district tabu *areas were the best for the community benefits (lower right)*

STAKEHOLDERS MEETING HELD IN KILAKA

On October 14th, the various stakeholders involved with the implementation of the Sustainable Business Development Plan for Kubulau District met in Kilaka to discuss the ongoing management of dive tag income from the Namena Marine Reserve. This meeting was attended by CORAL, WCS, Moody's Namena and Cousteau's Resort. The latter was represented by Mr Jean-Michel Cousteau, which made for a very special stakeholders meeting. Added to this, it was the first time the stakeholders all gathered in Kubulau—a good reason to celebrate!

This meeting was an opportunity for the NGO partners to update the other stakeholders on the recent and planned activities for Namena and Kubulau's network of protected areas.

WCS informed everyone about the outcomes of the Kubulau adaptive management workshop in July, where options were discussed for reconfiguration of the *tabu* areas and district reserves. Results of the marine monitoring surveys conducted earlier in the year were also presented.

CORAL discussed the presentations and posters made on the Namena Sustainable Business Plan during the recently convened Fiji Conservation Science Forum and Vatu-i-Ra stakeholders meeting.

Participants at the stakeholders meeting discussed the change of dive tag price from $25 to $30 per tag. This change had been requested by the Kubulau Resource Management Committee (KRMC) for some time and after a discussion and consensus the change was agreed upon. Agreement was reached that this increase in price will happen following the installation of a second coral mooring at Namena.

Participants also discussed the number of dive tags sold and the planned expenditure of this income. Part of this income goes towards the Kubulau Scholarship funds, which should soon become available for next year's school term (please refer to page 8 for dates). The remaining portion will be available for community development projects and management support costs.

Participants in discussion at the stakeholders meeting held in Kilaka (left). Tui Kubulau with Jean-Michel Cousteau (upper right). Members from the dive operators enjoying light entertainment provided by the Kilaka communities to celebrating the first stakeholders meeting taking place in Kubulau (lower right).

HUMAN AND CLIMATE IMPACTS ON DECLINE OF FIJI'S FRESHWATER FISHES

Recent studies conducted by the Wildlife Conservation Society (WCS), Wetlands International-Oceania (WIO), and the Department of Fisheries and Forests indicates that Fiji's native freshwater species are being threatened by forest clearing, presence of non-native fishes such as tilapia, and construction of roads with hanging culverts.

According to studies, negative effects of catchment clearing become more pronounced in degraded catchments during the wet season. This is based on the results of surveys of freshwater fish species diversity and abundance sampled in degraded catchment in Macuata and nearly intact catchment in Kubulau districts in 2008 and 2009. In 2010, a follow-up study revealed that the presence of overhanging culverts can be a major barrier for fish migration.

Unobstructed fish movement is important in maintaining abundance of freshwater fish species because: 1) some fish have an amphidromous lifecycle where the eggs laid in freshwater hatches in sea and then the juveniles swim upstream to repopulate the rivers and streams; and 2) some important marine food fishes spend time in the freshwater habitats. Both of these can be drastically affected by man-made structures such as overhanging culverts.

The studies conclude that the best way to protect current freshwater resources is to set up freshwater protected areas in catchments that showed high abundance and diversity. Early next year, WCS will be launching a comic book (*The Adventures of Joji* Goby) to educate schoolchildren on the threats to Fiji's freshwater fishes and the importance of maintaining healthy waterways. Stay tuned for more information regarding the comic book launch!

*Fiji's freshwater fish are declining due to non-native tilapia (*maleya*) (top), overhanging culverts (middle) and land clearing (bottom).*

CURRENT ASSESSMENT OF CETACEAN DIVERSITY IN THE LOMAVITI CHANNEL

Little is known about the current status of cetacean species in the waters of Fiji.

Staff from the Wildlife Conservation Society (WCS) recently interviewed people living around the coasts of the Vatu-i-Ra Seascape about when and where they see cetaceans. The results suggested that there were four potential hotspots for humpback whales, pilot whales, sperm whales, bottlenose dolphins and spinner dolphins within the Seascape.

The subpopulation of Oceania humpback whales has recently been listed as Endangered on the IUCN Red List. In August 2011, WCS staff located humpback whales breeding and calving in Fiji's waters at sites around Vatu-i-Ra Reef, making Fiji a very important place in the life-cycle of the whales.

Since Fiji's Exclusive Economic Zone (EEZ) was declared a whale sanctuary, the Department of Fisheries has been formulating a whale sanctuary management plan which takes into account various issues such as ecotourism and the removal of fish from fishing gear by whales. Together with partner organizations, including the Whale and Dolphin Conservation Society, the Department of Fisheries has drafted a Whale and Dolphin Action Plan.

To implement this Action Plan for the benefit of cetaceans, partner organization are encouraging stakeholders to report cetacean sightings to the Department of Fisheries: this information about cetacean distribution is critical to understanding cetacean diversity and population structure in Fiji.

Humpback whale (source nationalgeographic.com) (top), humpback whale fluke (middle) and bottlenose dolphin (bottom).

RESULTS FROM FIJI'S LOCALLY MANAGED MARINE AREAS

The Fiji Locally Managed Marine Area (FLMMA) network is helping communities all over Fiji to manage their marine resources by setting by Marine Protected Areas (MPAs).

The documented success of MPAs internationally have been based on relatively large areas which provide protection to most if not all of the home range of the target species. However, many community managed MPAs are small and so far we have little data to assess whether their size (less than 1 km^2) is adequate to provide protection for important food fish. However, a recent review of adult fish movement patterns suggest that even small MPAs can provide a good degree of protection, and even more so if the MPAs are networked close together.

The results from studies conducted by Victor Bonito of Reef Explorers and staff and students from the Institute of Applied Science at the University of the South Pacific at FLMMA areas along Coral Coast indicate that: 1) there was higher fish densities inside MPAs; 2) fishes were bigger inside MPAs compared to outside; 3) more fish inside the MPAs were big enough to reproduce; and 4) there was higher abundance and biomass of herbivorous fish inside the MPAs.

The results from Coral Coast MPAs demonstrate the critical role of MPAs in protecting and replenishing herbivorous fish species, as well as maintaining the natural cleansing process, ensuring good reef health

While the combination of these findings supports the utility of even relatively small MPAs as effective tools for enhancing certain fisheries stocks, it also suggests that management schemes based on temporary closures may be insufficient for ensuring long-term fisheries sustainability.

A conclusion from the study was that even though small no-take MPAs can provide fisheries benefits through the protection of reproductive stock, MPA fisheries benefits are quickly lost when they are opened.

Well enforced marine protected areas can provide protection to important food fish species, such as this grouper. However, to be effective, MPAs need to be larger than the home range of the fish that people are interested in protecting.

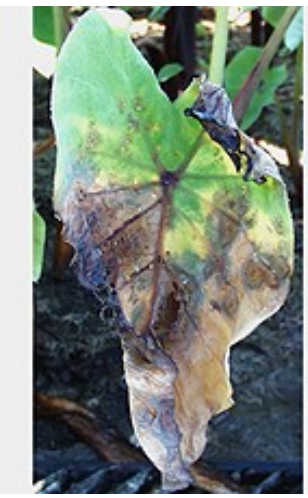
USING AGRO-BIODIVERSITY FOR CLIMATE CHANGE ADAPTATION

Pacific Island communities traditionally practised agro-biodiversity by planting a wide variety of food crops. However, modern farming methods promote farming of a small variety of crops at high volumes. With the expected changes in climate and increase variability of our environment over the coming decades, this reduction in varieties threatens sustainable food production. For example, if communities are only cultivating a single variety for commercial export, they become very vulnerable should the variety become susceptible to a new disease or invasive pest species.

Agro-biodiversity is the diversity of plants and animals that underpins agricultural systems. Agro-biodiversity assists farmers adapt against climate change by enabling farmers to adapt and meet their own needs, often more rapidly than specific scientific breeding programmes. The Pacific is home to unique crop diversity and there is a need to urgently evaluate and use this diversity to understand how it could help people adapt to problems posed by climate change.

To enhance food security in the region, the Secretariat of the Pacific Community (SPC) is currently undertaking a program with member countries to protect and promote traditional climate tolerant crop varieties.

A seed bank encompassing various strains of food crops has been established by SPC. This approach encourages an agricultural system that is resilient and diverse, and can be a mitigating tool for the Pacific region when dealing with food security and climate change adaptation.



A taro plant infected with leaf blight disease (above). In 1993 Samoa had an epidemic of taro blight disease which nearly wiped out the taro production of the country.

MARINE ZONING OF THE VATU-I-RA SEASCAPE

Participants at the Vatu-i-Ra consultation workshop at Nadave (above), where zoning options for four provinces were discussed.

The Vatu-i-Ra Seascape is a high conservation priority area for Fiji due to high marine species diversity, high endemism and resilience, and because it serves as an important migratory corridor for cetaceans and turtles.

Research carried out by the Australian Research Council's Centre of Excellence for Environmental Decisions has developed preliminary recommendations for zoning of Vatu-i-Ra Seascape. Trials were conducted at simulating different types of management zones to enable high effectiveness of protected areas while minimizing user conflict. This analysis found that the explicit consideration of zone effectiveness in terms of biodiversity protection means that protected area networks are more likely to be effective and to meet Fiji's national conservation targets. However, if zone effectiveness is ignored then there is an overestimate in the ability of protected area to achieve conservation goals.

The results of this work were presented as part of a suite of presentations to a wide range of stakeholders during the Vatu-i-Ra Seascape workshop organized by WCS on September 8-9th at Nadave.

As part of the ongoing work in developing provincial-level integrated coastal plans, the outcome zoning maps will be shared with stakeholders from the four provinces that make up the Vatu-i-Ra Seascape to discuss the viability of these theoretical management schemes.

ADAPTIVE MPA MANAGEMENT TO IMPROVE REEF RESILIENCE

Images of bleached corals

Increasing sea surface temperature of the ocean is impacting our marine ecosystems by causing coral bleaching, diseases, and mass mortality. Some areas of coral reefs, though, are more able to resist these changes or bounce back if they are affected. We call these areas "resilient".

At a local scale, setting up marine protected areas (MPAs) and protecting resilient reef systems can reduce stress and enhance coral recovery upon disturbance. The Wildlife Conservation Society (WCS) has considered this information when developing designs for resilient MPA networks spanning across Solevu, Nadi, Wainun and Kubulau districts in Bua and Wailevu District in Cakaudrove.

Furthermore, WCS has used adaptive management techniques to respond to new information, for example from monitoring. To engage communities, they have conducted management support workshops within Kubulau district to reconfigure existing MPA sites by adjusting boundaries of the *tabu* areas, adding new *tabu* areas to improve habitat representation and protect resilient reefs, and changing management rules to increase the effectiveness of sites.

WCS is now working on assisting the adjacent districts of Wainunu, Wailevu, Nadi and Solevu in using the principles of reef resilience and adaptive management to set up new network of MPAs to enhance connectivity of reef systems.

FLMMA SUSTAINABLE FINANCING WORKSHOP

The Fiji Locally Managed Marine Area (FLMMA) members and partners recently met in Natale-i-Ra to discuss the sustainable finance future of the network. The main aim of the two day meeting was to discuss if a FLMMA trust fund would be a sufficient investment to ensure the future sustainability of this network.

The purpose of the workshop was to: 1) increase shared understanding of what a trust fund is, 2) develop shared ideas on what the purpose of the trust fund should be; and 3) develop a shared idea of how the trust fund should be managed. At the end of the two days, the workshop participants were able to identify the situations in which a trust fund would provide financial support, to the extent to which the current FLMMA structure and processes can be used to implement a trust fund.

The participants decided that the highest priorities for funding under the trust fund would include: trust fund operations; core operation of the FLMMA secretariat; organization of annual general meetings and other meetings; and, support for Yaubula Management Support Teams. Monitoring and enforcement, income generation for livelihoods, capacity building (including education and training), and data storage were also identified as important but with medium to high priority.

The participants identified that the current structure of FLMMA did not have comprehensive expertise for long-term sustainable financing.

Participants of the FLMMA sustainable finance workshop (top). Paulo Kolikata, chairman of the Kubulau Resource Management Committee, with FLMMA members (bottom).

SAWAIEKE DISTRICT (GAU ISLAND) SIGNS MOU WITH WWF

Saving the natural resources of Sawaieke District in Gau, from its mountainous ridges down to the coral reefs, forms the basis of an understanding signed between WWF-South Pacific and the District Yaubula Committee.

WWF started work in Sawaieke in 2005 on the invitation of district chiefs who were concerned about protecting their natural resources for the benefit of future generations.

The MoU, endorsed by the Turaga na Takala-i-Gau Ratu Manasa Lewanavanua, will also help to safeguard the Lomaiviti Triangle, an area of global significance due to its rich biodiversity.

This area is home to a very important shark spawning area, Nailaga passage, which is a hotspot for international travellers eager to witness a shark give birth.

Lessons from the ecosystem based management (EBM) program piloted in Macuata province to protect the Great Sea Reef have been adapted for Sawaieke district.

Sawaieke EBM Program Manager, Alfred Ralifo, said the Gau Island community is being assisted to set up a community based natural resource management plan using the EBM model in Macuata as a tool.

"The MoU was reached after several consultations with villages and outlines the areas we agree to jointly work on in order to achieve the vision of the Yaubula Committee," Mr Ralifo said.

Community survey training in Gau (top). Turaga Bale na Takala-i-Gau Ratu Marika Lewanavanua signing the MoU with WWF – SPPO representative Mr. Sanjay Kumar (bottom).

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Recent and upcoming events

- November 2011—Wainunu/Nadi/Solevu community management planning workshop
- November 2011—Printing and distribution of the 'EcoTales from Kubulau"
- November-December 2011—Bose Vanua meeting
- December 2011—Distribution of 2012 dive tags
- December 2011-January 2012—Deadline for application for scholarship funds, awards will be out by February 2012
- January 2012—Wailevu management planning workshop

Please note that the WCS office will be closed over the Christmas and New Year period from 23rd December-3rd January.

Staff changes

Natalie Askew has joined the WCS team as the Ecosystem Based Management Project Coordinator. She has expertise in marine mapping from her previous work with the UK government to support the establishment of a national network of marine protected areas. She has experience training volunteer divers in marine survey techniques in Malaysia, and is happy to contributing to reef conservation once more.

Welcome aboard Natalie!

Ged Acton has joined the WCS team as a volunteer. He has expertise in community development, with previous experience of assisting communities in Fiji in 1999.

In the UK, Ged helped communities form management plans for natural resources including delivering projects for human health, sanitation, and alternative livelihoods. He is now back to help communities overcome sustainability challenges of 2012!

Janette Kaipio has been working for WCS as Program Manager. In November she left WCS to become Resort Manager at Wakaya Club and Spa.

Janette will be continuing her love of diving and marine life (especially the colourful nudibranchs) to support improved marine steward programs by the resort.

We wish Janette all the best in her future adventures. Sota tale Janette!

Sunil Raj Prasad was previously working with WCS as the Ecosystem Based Management Project Coordinator. He departed to USA in October 2010; now he is working with the Coral Reef Alliance (CORAL) as Fiji field office's Interim Manager. He will continue to support community efforts to manage resources under the ridge-to-reef management plan.

Welcome back Sunil!

Please send your questions and letters to the Vatu-i-Ra Community Bulletin Editorial Team, using the contact details above.

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.