



VATU-I-RA COMMUNITY BULLETIN



Ni sa bula vinaka! Welcome to the twenty-fourth edition of the VATU-I-RA COMMUNITY BULLETIN. The bulletin brings together news and results from ongoing work by the Wildlife Conservation Society within the Vatu-i-Ra Seascape.

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BARRIERS TO FISH MIGRATION

WCS Fiji field officers recently completed a mission to find hanging culverts in Bua and Cakaudrove. Hanging culverts are a major barrier to migration of endemic fish from the oceans to upstream areas. Knowledge of hanging culvert locations will help us map threats to biodiversity in the rivers and creeks of the important corridor between Mt. Kasi in the east, and Mt. Navotuvotu in the west. This will focus upcoming biodiversity survey effort on the least obstructed rivers, likely to still be home to healthy populations of endemic fish.

KK and Waisea worked their way eastwards from Nabouwalu towards Wailevu East. Every dusty, bumpy road or track was explored in search of the troublesome culverts. The survey took a total of 5 days to complete, with approximately 280 culverts being mapped, photographed and described. The duo identified about one third of these as the type of hanging culvert which blocks fish migration routes.

About 98% of Fiji's freshwater fauna make contact with the sea to complete their lifecycle. So at certain periods in their lives they migrate

down to the sea, and ultimately will need to return upstream to complete their lifecycle. These fish are skilled at navigating natural obstacles on their upstream migrations, but unfortunately culverts which hang away from the river surface present an impossible obstacle even for the most intrepid climbers.

In recent freshwater surveys in Fiji, the presence of hanging culverts correlated with low fish diversity and abundance relative to similar areas without hanging culverts, even in areas where the river was surrounded by intact forest. This points to the hanging culverts as a possible cause of the decline in fish diversity and abundance.

It can be concluded from the culvert survey that most major catchments which have bridges do not have culverts, whilst small creeks have culverts. This was a promising sign since most of these major catchments therefore run right up to the headwaters without migration barriers. There were also good indications of intact forest within some areas of Wainunu and Dama districts—another ingredient for healthy rivers.

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



Above left: Hanging culverts near Nabalabalawa, giving no chance for fish to climb upstream. Above right: Culvert with fish ladder (rough concrete surface in front of culvert) to help fish with their upstream migrations.

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CAKAUDROVE COMMUNITIES WORK ACROSS BORDERS

When the villagers of Nakawaga and Nukubolu heard about Ecosystem-Based Management developing in the neighbouring tikina of Wailevu, they approached WCS Fiji to find out more. Nakawaga and Nukubolu are located in the heavily forested, steep sided upper valley of the Nasekawa River, in the district of Koroalau in Cakaudrove. They are approximately 10km upstream from the district border, along the Nasekawa River which crosses Wailevu before discharging into Savusavu Bay.

Recognising their ecological and hydrological connectivity with ecosystems downstream, Nakawaga and Nukubolu hosted an awareness raising workshop in June and have now made links with Wailevu East Resource Management Committee (WERMC). They will play an active role in WERMC, adding their own experience of managing the upper catchment (protecting a 2km stretch of river for over 10 years) and developing a range of community ecotourism activities.



Above: Workshop participants mapping activities around Nakawaga and Nukubolu villages.

Veresa Matararuru, a Nakawaga village elder, said “We Fijian communities are connected by our forests, rivers and natural resources, as well as by our culture. We welcome the opportunity to work with different tikina, to help each other and preserve the natural environment with which we are blessed.”

FACT-FINDING MISSION IN VANUA LEVU

In June, the WCS Fiji team went on a new kind of mission to Vanua Levu. Our objective was to gather maps of areas under logging concession, as well as information about any other planned activities. WCS Fiji will use these maps in our work with *mataqali* to propose new forest protected areas.

We started in dusty Labasa, and spent a few days visiting offices there. Department of Forestry and iTaukei Land Trust Board are key contacts for mapping this kind of information. The office of the Commissioner Northern made us most welcome; in the future the Commissioner hopes to build a mapping system for the whole of Vanua Levu, to show areas for development and those to be protected for conservation.

All logging companies operating in Vanua Levu have a base in Labasa, so we spent a lot of time learning about how the logging industry works, and examining maps with them. We gleaned plenty of useful information. The people we met were very supportive of spatial planning, using maps to decide what activities should go where. Areas not ideal for logging are often of high conservation value because the inaccessible, steep nature of those forests means they have never been logged in the past.

From Labasa we carried on to Savusavu, to check in with WCS Fiji’s Community Liaison Officer Didi and the Cakaudrove Provincial Office. Then it was a long and bumpy journey back to

Nabouwalu. On the road from Dreketi to Nabouwalu we passed the famous Nawailevu bauxite mine and saw the lorries of soil waiting for export.

After a night in Nabouwalu, we met with the Bua Provincial Office to discuss our project, before we caught the ferry back to Natovi and home to Suva. Since the trip we have been busy getting the maps we collected ready to be used in the next stage of the project: identifying key *mataqali* to work with in order to set up community-based management of forests. We expect to start initial consultations with these *mataqali* in October.



Above: WCS Fiji team visited Fiji Forest Industries, near Labasa, who hold most logging concessions in Wainunu district.

EBM TAKES SHAPE IN NADI & SOLEVU

Two more districts in Vanua Levu are establishing Ecosystem-Based Management (EBM) Plans to safeguard their natural resources, which are vital to meet the daily needs of the communities. In November 2011, Nadi and Solevu sent representatives to a management planning workshop in Wainunu, where they took part in a conceptual modeling exercise which identified conservation targets, threats affecting those targets and strategies through which the threats could be addressed.

In June 2012, WCS Fiji facilitated district-wide workshops in Nadi and Solevu to raise awareness of environmental issues and to further define boundaries of freshwater, terrestrial and marine protected areas and sets of rules to govern the management of natural resources. These rules and protected area networks will provide the basis for EBM Plans to maintain healthy, productive and resilient ecosystems in order to overcome pressure from population growth and climate change, enhance local qual-

ity of life and meet the needs of future generations. The next step will be for Nadi and Solevu to form district-level Resource Management Committees who will be responsible for implementing the actions laid out in the EBM Plans.

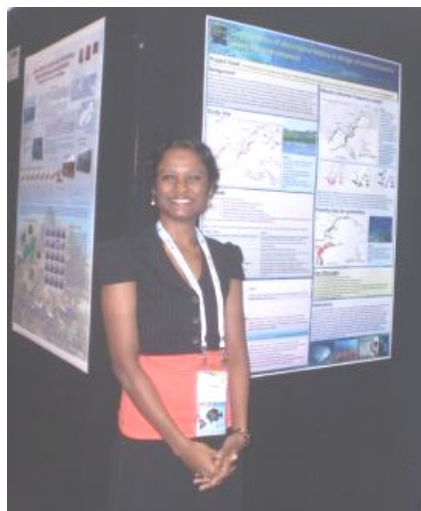
WCS Fiji's Director Stacy Jupiter stated "We would like to thank the leaders and communities of Nadi and Solevu. They should be congratulated on their progress and we look forward to supporting the development and implementation of their management plans."



Above: Children of Solevu will reap the benefits of the new protected area network in years to come.

FIJI REEF CONSERVATION GOES GLOBAL

Last month Fiji delegates shared conservation success stories and ongoing efforts at the 12th International Coral Reef Symposium (ICRS) in Cairns, Australia. Fiji was represented by partner organisations from the Fiji Locally Managed Marine Area (FLMMA) network, including WCS Fiji (Stacy, Margaret, Akuila and Yashika made up the lucky team), the Institute of Applied Sciences (IAS) at the University of the South Pacific, and SeaWeb.



Fiji was shown to be a marine biodiversity hotspot in Stacy's presentation. Margy captured a lot of attention by linking traditional knowledge to protecting spawning aggregation sites in Fiji. Akuila shared his story on the importance of adaptive management. Yashika answered questions

about her poster on "Consideration of disturbance history for resilient MPA network design".

Fiji was well represented in presentations from other FLMMA partner organizations. Ron Vave (IAS), charmed the audience

with his findings on the effectiveness of locally managed marine areas in Fiji, while Saki Fong (IAS) shed more light on the socio-economic implications of establishing these marine protected areas. Semesi Meo gave the audience a show on ecological effectiveness of community-based management in Fiji. Alifereti Tawake (a former IAS staff member, now a PhD student at James Cook University) talked about social and cultural attributes of effective adaptive management systems. Our shared experiences of conservation on the ground were enough to let the world know about Fiji. The reports from international students who have worked in Fiji got other people interested in working in these beautiful islands in the future—it really gave us a boost to hear their enthusiasm.

ICRS was a great chance for us to network with a number of leading conservation managers and scientists from all over the world. At the same time we were digesting as much information as possible from the diverse efforts being undertaken internationally to ensure coral reefs thrive in the future.

In a matter of weeks Fiji will be on the world stage again. Kubulau's Paolo Kolikata (chair of the KRMC) will be attending the World Conservation Congress in Korea as FLMMA's representative, to share his experience with many others. We wish him a successful and enjoyable trip!

Above left: Yashika ready to explain her poster to the attendees at the International Coral Reef Symposium in Cairns.

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

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ONGOING AND UPCOMING EVENTS

- **July 30-August 8:** Freshwater biodiversity surveys in Wainunu & Wailevu
- **July 31-August 11:** Cetacean surveys around Vatu-i-Ra island
- **August 6-13 :** Kuta mat consultation in Wailevu, Kubulau, Wainunu, Nadi & Solevu
- **August:** Survey before Natuvu beche-de-mer harvest
- **August/September:** Management Support Workshops for Nadi & Solevu Resource Management Committees
- **September:** Bua Provincial Learning meeting & first Yaubula Management Support Team (YMST) meeting

WOMEN FIND ALTERNATIVE LIVELIHOODS

WCS Fiji has just received funding to develop alternative sources of livelihood in Bua and Cakaudrove. We were very excited to choose weaving round *kuta* mats as a central part of this project. We feel that there is a need to take up the challenge of *kuta* weaving since traditional knowledge is slowly slipping away—this would be a significant loss to future generations who are ignorant of the value of this tradition. Hence the alternative livelihoods project is a chance to revive these skills, preserve this knowledge and retain part of the identity for people from Bua and Cakaudrove. At the same time the project will create essential opportunities for women to generate additional income within their communities.



From an environmental perspective, *kuta* grows well in wetland areas; encouraging *kuta* weaving will give an economic value to threatened wetland areas which are very important for biodiversity.

This economic value will therefore give communities a concrete reason to preserve and manage these wetland areas into the future.

With the help of PCDF and WWF, one of our staff will be visiting part of Wailevu, the districts of Kubulau, Wainunu, Nadi

and Solevu to collect information from women about *kuta* weaving and *kuta* resources. PCDF has already conducted training on *kuta* weaving in early 2011 with Ms Edith Whippy from Wainunu, who taught some of the women from Wailevu and Kubulau to weave round *kuta* mats. Cross-site visits and to share knowledge will be an important part of the project, since the weaving skills differ across the districts. It may be possible for villages to sell their *kuta* to weavers in other villages. We expect to have the first sales of *kuta* mats before the end of the year.



Another part of this project will evaluate three other sources of alternative livelihood, and select one more to put into practice alongside *kuta* weaving: farming bath sponges (for selling to the beauty market), making virgin coconut oil and establishing a *dalo* cooperative.

Above left: A water chestnut plant in its natural wetland habitat, from which the stems can be harvested. Above: *Kuta* stems ready for weaving in Nabalebale village, Cakaudrove.

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.