



# VATU-I-RA COMMUNITY BULLETIN



Ni sa bula vinaka! Welcome to the eighteenth 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.

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## TRIP REPORT FROM THE MARINE SURVEYS IN BUA AND CAKAUDROVE

In April and May the WCS field team were in Bua and Cakaudrove Provinces conducting marine biodiversity surveys on the coral reefs. The team surveyed 143 sites across Solevu, Nadi, Wainunu, Kubulau and Wailevu Districts, altogether spending a total of 572 hours, or almost 24 days in the water! Despite the hard work, everyone agreed that it was a fantastic trip and would like to say vinaka vakalevu to our hosts in Nasavu, Daria and Natuvu villages, especially to the wonderful cooks and volunteers who came out on the boats with us each day.

We were fortunate to be blessed with perfect weather for the trip, with bright sunny skies and calm seas every day for five weeks. Everyone in the team had a different

role to play, recording the numbers and different species of fish and corals, or assessing other signs of reef "health" which indicate how well a reef might survive or recover from large storms or increasing temperatures associated with climate change, which can cause corals to die. Apart from revisiting a few long-term monitoring sites in the Namena reserve, all of the survey sites were new for the WCS team. We were excited to be the first people to dive on these reefs, and had no idea what to expect when we got underwater.

On the reefs offshore from Nadi and Solevu we were delighted to see sharks, manta rays and turtles every day, and even had a pod of dolphins accompanying our boat on a couple of occasions. The reefs are colourful and full of life, and could attract dive tourists to the area. However, it is clear that they are also attracting a lot of fishermen, so communities will need to consider how to manage these reefs to ensure that the fish stocks remain for future generations.

We expected the reefs inshore to be less spectacular, as run-off from the land usually means that the visibility underwater is poorer, and you are less likely to encounter the charismatic species which are attracted to the high current sites offshore. However we were pleasantly surprised on some of our survey sites where we encountered large schools of snapper. This shows that even inshore areas can support large fish populations if they are managed well.

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### 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: Reef scape from Nadi district

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# TRIP REPORT CONTINUED....

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The reefs offshore from Wailevu District were full of surprises. We saw some large fish, including sharks and Giant Trevally, but the coral reefs themselves are less healthy. The reefs were likely damaged by cyclones last year, and further damage has been caused by the "crown of thorns" (Fijian = bula?) starfish. These starfish feed on corals, and when they occur in large numbers, they can destroy large areas of the reef. Unfortunately they have few natural predators, only the *davui* (triton shell) and (humphead wrasse) can cope with their poisonous, sharp spines.

The WCS staff are now busy back at our office in Suva entering and analysing all the data that we collected in the field. Later this year we will be back in Bua and Cakaudrove to present our results. We hope that our recommendations about which areas of the reef will benefit most from protection in marine protected areas or tabu areas will help communities to make decisions about how to manage their resources effectively.



Left : WCS team heading to a survey site in Solevu  
 Middle left: Mushroom coral  
 Top: Longnose filefish  
 Middle: WCS staff member Waisea Naisilisi getting his equipment ready before a survey.  
 Bottom: Pink Anemonefish

**FJI FISH RULER**

 <b>Rastrelliger kanagurta</b> Indian mackerel • Salala 20cm	 <b>Lethrinus harak</b> Thumbprint emperor • Kabatia 25cm	 <b>Chlorurus sordidus</b> Bullethead parrotfish • Bose/Karakarawa 25cm	 <b>Acanthurus xanthopterus</b> Yellowfin surgeonfish • Balagi 25cm	 <b>Lutjanus argentimaculatus</b> Mangrove red snapper • Bati ni Voldogo 30cm	 <b>Lutjanus ehrenbergii</b> Blackspot snapper • Kake 30cm
 <b>Flectorhynchus chaetodonoides</b> Many spotted sweetlip • Sevaseva 25cm	 <b>Lethrinus obsoletus</b> Orange-striped emperor • Sabutu 25cm	 <b>Chlorurus bleekeri</b> Bleeker's parrotfish • Baluvula 25cm	 <b>Gtenochaetus striatus</b> Lined bristletooth • Dridri 25cm	 <b>Caranx melampygus</b> Bluefin trevally • Saqa 30cm	 <b>Naso unicornis</b> Bluespine unicornfish • Ta 30cm

Measurement in centimetres—minimum catch size shown in RED. Fish caught smaller than the minimum size must be thrown back.

# CETACEAN SURVEYS

A Cetacean survey will be conducted in the Vatu-i-Ra Seascape by the WCS team under the direction of WCS Marine Program Cetacean expert Brian Smith. The WCS team with the assistance of Department of Fisheries will be interviewing local villagers in the districts of Bua, Cakaudrove on Vanua Levu and Rakiraki, Saivou, Nakorotubu, Sawakasa and Verata on Viti Levu. These surveys will be happening between July 4th– 25th.

The surveys will ask villagers if they encounter dolphins or whales and if they do, can they identify species by the pictures they will be shown. Questions about what time of the year that the cetaceans are sighted and how often they are seen will also be asked. How people feel about dolphins and whales and cultural significancies will also be determined. The information collected will then be used for some targeted sea-based



Above: Humpback whales during the cetacean survey in Levuka last year.

# CPUE TRAINING

Marine managers around the world are using various methods of protection including monitoring and surveying details, such as the size and numbers of fish caught to increase fish stock. These monitoring and survey methods help us understand the life cycles of protected fish species and their various growth phases from larvae to adulthood. A monitoring method that can provide information on the size distribution of fish species along with effort and size information is the Catch Survey method. From this data collected the Catch Per Unit Effort (CPUE) can be calculated. CPUE is the weight (biomass) of fish and invertebrates caught in a given area during a fishing period using a certain fishing technique. CPUE generally gives the fish/invertebrates caught per fishermen per time period.

district of Wailevu, Kiobo and Natokalau in the district of Kubulau, Saolo and Nakawakawa in the district of Wainunu from the 28-30th June. These villages have been chosen because they have been observed to be utilizing marine resources more frequently. 20 households from each of these villages will be chosen to conduct this CPUE and will be trained on how they will be required to collect this data. Each household will be provided with data sheets and maps to help them record data and identify fishing spots.

WCS has produced a ruler which is shown below to assist in the measurement of all fish and invertebrates caught. Most of the food fish are on the fish ruler with their respective maturity size and also included are the threatened and endangered fish species.

CPUE training for the villages of Natuvu and Naiqai in the

*Sphyræna forsteri*  
Bigeye barracuda • Silasila  
30cm

*Epinephelus fuscoguttatus*  
Brown-marbled grouper • Delabulewa  
50cm

*Cheilinus undulatus*  
Humphead wrasse • Varivoo

*Epinephelus lanceolatus*  
Giant grouper • Kavv

*Plectropomus leopardus*  
Leopard coral grouper • Donu Damu  
38cm

*Epinephelus polyphekadion*  
Camouflage grouper • Kawakawa  
50cm

*Balbometopon muricatum*  
Bumphead parrotfish • Kalisa

*Siganus uspi*  
Bicoloured foxface • Nuqa buidromo

*Mesopristes kneri*  
Orange spotted tharapon • Reve

**30 | 35 | 40 | 45 | 50 | 55**

**Na balavu ni ika me qolivi e volai toka ena DAMUDAMU. Na ika e qolivi ka lailai mai na balavu oqo me biu lesu e waitui.**

**MEASURE FISH** from point of nose to mid-centre of tail.  
This fish ruler has been produced by WCS – Fiji. This is a guide only and not a legal measure of length.

ACTIVELY ENDANGERED: NEELGHEE TUNA / ʻŌʻŌʻI  
CRITICALLY ENDANGERED: BROWN MARLBED GROUPER  
PACIFIC HUMPHEAD WRASSE / ʻŌʻŌʻI

**WILDLIFE CONSERVATION SOCIETY FIJI**

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

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## ONGOING AND UPCOMING EVENTS

- June 27-30, 2011 CPUE training (selected villages)
- July 2011—Cetacean surveying
- 25 July 2011—CENT workshop with CORAL.
- 26/27 July 2011—Workshop with KRMC and chiefs to discuss options for adapting MPA network and EBM plan.
- July—November 2011— Construction of options for Solevu-Nadi-Wainunu and Wailevu MPA network designs, consultation workshops with communities leading to MPA design and management plan recommendations.

## MAKING THE NEWS...

### INTERNATIONALLY...

The management efforts of the KRMC and research undertaken by WCS and our colleagues received an International audience at the 2<sup>nd</sup> International Marine Conservation Congress, held in Victoria, Canada from 14<sup>th</sup>-18<sup>th</sup> May. The conference was attended by more than 1,200 people from around the world, and by the end of the week many of them had heard about Kubulau District. In total there were 16 presentations on Fiji, and 5 featuring Kubulau.

Dr Rebecca Weeks presented the research that WCS is currently undertaking to improve the resilience of the Kubulau MPA network to potential future impacts of climate change.

Naushad Yakub, also from WCS, talked about the development of the Kubulau District EBM Plan, and how this is now being used as a template for ecosystem based management projects in other parts of Fiji and across the Pacific.

Thomas Tui from SeaWeb gave a presentation on the Community Educators Network Training undertaken in Kubulau.

Rick MacPherson, CORAL's Director of Conservation Programs, participated in a panel discussion on conservation successes, and chose to highlight the Kubulau site from all of CORAL's projects world wide.

Dr Stacy Jupiter, WCS-Fiji Director, talked about the efforts of the national Protected Area Committee and FLMMA to increase the number of marine managed areas across Fiji.

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

TAQOMAKI NI NODA VEKABULA



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.

### AND LOCALLY...

### FIJI TIMES ARTICLE MAY 21

**Discovering Solevu reefs**

Women of Solevu wade to mangroves to look for food for their families.

**Environmentalists help villagers bring sea back to life**

By DR STACY JUPITER

It had come to the chief's village in Kubulau District with Wadua from our island and the people of Kubulau District, Nadi District, in order to present our assistance.

When visiting a village in PLS, it is traditional protocol to ask permission of the local chief before undertaking any marine survey in their waters.

In this village, their chief is a woman and she was particularly interested to know we could help her people restore their vanishing fishery.

Although illegal under the PLS Fisheries Act, I learned that the women from Kubulau village have been regularly using fish ponds from their boat to obtain their catch. Luckily, these women have been using empty baskets.

"We're finding our children (children) so often," she said last to me.

"This is not healthy. An important factor of them were (discovered). I started as person after person recognized what they had heard about the positive benefits of management in Kubulau District, where the Wildlife Conservation Society (WCS) has been working with communities since 2005.

One week when with in some fisheries was assessed on the last day there when he spotted inside one of the marine protected areas. The Solevu communities were ready for help and they wanted to start immediately.

Fortunately, that's why we are here. We are doing initial surveys of all of the reef habitats of Kubulau District in order to make recommendations of where might be the best places to establish new protected areas.

We will present all of the results back to the village later this year. Then the chief will weigh the options against the costs of closing off areas to fishing to ultimately decide the size and location of the marine reserves.

So far, there have been pleasant surprises, but also some worrying signs.

The pleasant surprises have included a manta, a shovel nose grey reef shark, humphead wrasse and turtles - all rare, charismatic species which might draw tourists to the area.

The worrying signs on first impression are that the majority of fish fish are very low. In fact, there is opportunity to restore the fish populations.

The USA's new strategy across complex reef structures, which means that if the fish are given the chance, they will come back to find future generations of Kubulau children and bring them back to health.

Dr Stacy Jupiter is an expert on marine life and is the Wildlife Conservation Society Fiji Country program director.