



Pacific Blue Foundation
Review of Fiji Operations
November, 2006

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I. SUMMARY OF ACTIVITIES

To Yanuca Village Council,
Chief Tui Daga,
Head Adviser Taito Tabaleka,
Turaga ni Koro Sireli Kago,
Jiuta, Duru, Beti, Pati, Josevi Rasiga.

Pacific Blue Foundation (“Pacific Blue”) is writing to summarize the activities of our current members with the Yanuca community since 2003. We look forward to following up on our previous activities and in developing a plan for progress together with the Yanuca Island Village.

Summary of Activities

2003

Kerry Donovan worked as manager at Yanuca Island Resort, Wainidubu. During October 2003, Dr. B. Gregory Mitchell visited the island and learned of the iqoliqoli problems and limited amenities at the village. Dr. Mitchell discussed with Mr. Donovan details of possible interactions with the Yanuca Village. Mr. Donovan and Dr. Mitchell corresponded after the visit by Dr. Mitchell and made arrangements for a visit the following year.

October, 2004

Dr. Mitchell, Dr. Davey Kline and Kerry Donovan of Pacific Blue Foundation, accompanied by Sirilo “Didi” Dulanaqio visited in the fall of 2004. Dr. Kline and Mr. Dulanaqio dived in the iqoliqoli and Dr. Kline took photographs and showed them to the Village at Mosesi’s house on his laptop computer. Pacific Blue Foundation made a recommendation to the Village to consider creation of a Marine Protected Area (MPA). The Community and Council all could see the problems reviewed in the underwater images and stated at the time they wished to move forward with Pacific Blue Foundation to establish a marine resource management effort including defining a MPA within their iqoliqoli.

Taito asked for Pacific Blue’s “Charter or Constitution” and was informed it was in a process in the USA and would take some time.

November, 2004

Dr. Kline sent his Marine Recommendations for Bird Island and a larger area to Taito. He included resumes for Dr. Mitchell and himself, with references from their Directors at Scripps Institution of Oceanography and Smithsonian Museum respectively. (Enclosed is a copy of Dr. Kline’s recommendations.)

Soon after, Taito emailed Kerry he had applied for a marine reserve through Fisheries Department on behalf of Yanuca.

21 May – 12 June 2005

Once again Dr. Mitchell, Dr. Davey Kline and Kerry Donovan, along with Talina Konotchick of Pacific Blue Foundation, accompanied by Didi Dulanaqio Yanuca Island. Dr. Kline, Mr. Dulanaqio and Ms. Konotchick completed the diving studies of possible mooring sites and boundaries for the MPA. When Mr. Donovan visited Mr. Batibasaga at Fisheries Dept in Lami, Mr. Batibasaga invited Pacific Blue, Taito and any other members of Yanuca Council to draft a Plan Workshop for Amendments to Recreational Fisheries Legislation.

26-27 May, 2005

Taito, Sireli Kago and Jiuta attended on behalf of Yanuca and members of the Pacific Blue Foundation listed above were also present. During the Fisheries Workshop, Pacific Blue learned more about the Yanuca Community Goals from Taito's iqoliqoli presentation to Fisheries. (Enclosed is a copy of Mr. Taito's presentation.) Taito also learned more about Pacific Blue's members involved in marine ecology. (Resumes are attached)

2 June, 2005

Pacific Blue presented 4 copies of Tanya's artist impression of Korolevu Beach's 5 year vision. Copies were given to YIR, Big Bola, Mosesi, another elder, and Taito. (A copy is attached) (Large copy on wall)

12 June, 2005

Taito and Greg shared their Yanuca ideas while Dr. Mitchell was in Suva and Taito said "we seem to be speaking the same language". Dr. Mitchell gave Taito a DRAFT multi-year plan in writing calling it a Letter of Understanding ("LoU"). (A copy is attached). In this letter Dr. Mitchell asked Taito, the village Council, and members of the Village, to discuss their ideas for Yanuca Island and to reply our LoU. Taito asked for Pacific Blue's "Charter or Constitution" again and we assured him it was being prepared.

2 August, 2005

Kerry and Tanya returned to Fiji to research registration as a Charitable Trust to the procedure for Pacific Blue to become a charitable trust. Kerry and Tanya made two field trips to Yanuca Island,

2006

February, 2006

Kerry came to the United States to help prepare the documents for Fiji's Registrar of Titles, and preparation of work permit application. Upon his return to Fiji, Kerry immediately submitted Registration application.

17 March, 2006

Pacific Blue received its Certificate of Registration, and Kerry presented copies soon after to Taito and Sireli Kago for Yanuca, and Batibasaga for Fisheries. (A copy of the Charitable Trust Package submitted to the Government of Fiji, and the Certificate of Registration are both attached.)

May, 2006

Mark Calamia, an expert on iqoliqoli and socioeconomic issues in Fiji visited with Kerry Donovan. Dr. Calamia spent more than 2 years on Kadavu doing research on the issues of natural resource utilization, the issues related to declining reef resources, and transitions to alternative sustainable resources in relation to village governance under Fiji laws and regulations. Dr. Calamia prepared a DRAFT report on his observations and recommendations (report attached).

7 June, 2006

Kerry submitted his work permit application to Dept of Immigration after receiving letters of introduction from Yanuca Council and Fisheries. (Copies of these letters are attached.) In July, 2006, Kerry Donovan

received his work permit to work on behalf of Pacific Blue Foundation in assistance with the goals that we have outlined with the Yanuca Village. (A copy of the Work Permit for Kerry Donovan is attached.)

September, 2006.

David Muirline, of the University of California San Diego, Scripps Institution of Oceanography arrived in Fiji as Master and Captain of the research vessel Melville. Mr. Muirline was changing command of the vessel and agreed to assist Pacific Blue with a review of boat operations and logistics relevant to Yanuca Island socioeconomic, education, and tourism support. A preliminary summary of the work done by Mr. Muirline is attached, but a final report is pending.

November, 2006

Pacific Blue Foundation and several experts, including David Kline (coral ecology), Allan McGinty (construction and logistics), and William Haas (tele-communications and modern information infrastructure) visited Yanuca Island to continue investigation into the needs of Yanuca. Pacific Blue Foundation wants to re-submit the December 6, 2005 LoU again, and ask for a discussion of the 5 year goals. We request the meetings be in Pacific Harbour so it is easier for Taito and Tui Daga to attend.

Pacific Blue looks forward to continuing its work with the Yanuca Village and others in order to protect its iqoliqoli and preserve the culture and traditions of the Yanuca Village.

Sincerely,

Dr. B. Gregory Mitchell
President Pacific Blue Foundation

II. REGISTRATION OF CHARITABLE TRUST

FIJI



CERTIFICATE

CHARITABLE TRUSTS ACT (CAP. 67)

CERTIFICATE OF INCORPORATION

I HEREBY CERTIFY that **PACIFIC BLUE FOUNDATION** is
duly incorporated under the provisions of the Charitable Trusts Act subject
to the Conditions and Directions endorsed hereon.

DATED at Suva this 17th day of March, 2006



mpals
REGISTRAR OF TITLES

CONDITIONS AND DIRECTIONS
FILE ANNUAL REPORTS

PACIFIC BLUE FOUNDATION

We hereby apply to be incorporated under the relevant provisions of the Charitable Trust Act.

- 1 The name of the organization is the "PACIFIC BLUE FOUNDATION."
- 2 The Registered Office shall be based at 85 Sevua Circle, Deuba, Fiji Islands. Postal address shall be PO Box 344, Deuba.
- 3 The names, addresses and description of the trustees are as follows:

<u>POST</u>	<u>NAME</u>	<u>OCCUPATION</u>	<u>ADDRESS</u>	<u>SIGNATURE</u>
Director	Brian Gregory Mitchell	Scripps Lecturer, Marine Scientist	University of California 9500 Gilman Drive La Jolla, CA 92093	_____
Director	Daniel Goodrich McNamara, Jr.	Attorney	801 Scarbrough Bldg. 101 W. 6th St. Austin, TX 78701	_____
Director	Michael Kent Mitchell	Architect, Land Developer	P.O. Box 3069 Bald Head Island, NC 28461-3069	_____
Director	Charles R. Booth	President,	Biospherical Instruments 5340 Riley Street San Diego, CA 92110-2621	_____

- 4. The above trustees were duly elected to office on July 1, 2005.
- 5. The proposed device of the Common Seal is:
- 6. The purpose and objective of the organization are hereby specified in the attached Constitution.

Brian Gregory Mitchell
President

Witness
Must be Notary Public with Seal/Stamp

State of California
Secretary of State



I, BRUCE McPHERSON, Secretary of State of the State of California, hereby certify:

That the attached transcript of 7 page(s) was prepared by and in this office from the record on file, of which it purports to be a copy, and that it is full, true and correct.



IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this day of

MAR 14 2006

BRUCE McPHERSON
Secretary of State

ARTICLES OF INCORPORATION

FILED
in the office of the Secretary of State
of the State of California

OF

JUL 30 2004

PACIFIC BLUE FOUNDATION

Kevin Shelley
KEVIN SHELLEY, SECRETARY OF STATE

ARTICLE I

The name of the corporation shall be:

PACIFIC BLUE FOUNDATION

ARTICLE II

(1) This corporation is a nonprofit **PUBLIC BENEFIT CORPORATION** and not organized for the private gain of any person. It is organized under the Nonprofit Public Benefit Corporation Law for:

- (X) **public** purposes.
- () **charitable** purposes.
- () **public and charitable** purposes.

(2) The specific purpose of this corporation is to provide basic research, education, encouragement and dissemination of sustainable technologies and industries in the region of the island nations of the South Pacific with the ultimate goal of preserving and promoting the biological and cultural diversity of the region.

ARTICLE III

The name and address in this state of the corporation's initial agent for service of process in accordance with Section 1502(b) of the California Corporations Code is:

STEVEN P. HASKETT
PHILLIPS, HASKETT & ING WALSON
701 "B" STREET, SUITE 1190
SAN DIEGO, CA 92101

ARTICLE IV


(1) This corporation is organized and operated exclusively for **charitable** purposes within the meaning of Section 501(c)(3), Internal Revenue Code.

(2) No substantial part of the activities of this corporation shall consist of carrying on propaganda or otherwise attempting to influence legislation, and the corporation shall not participate or intervene in any political campaign (including the publishing or distribution of statements) on behalf of any candidate for public office.

ARTICLE V

The property of this corporation is irrevocably dedicated to **charitable** purposes and no part of the net income or assets of this corporation shall ever inure to the benefit of any director, officer or member thereof or to the benefit of any private person. Upon the dissolution or winding up of the corporation, its assets remaining after payment, or provision for payment, of all debts and liabilities of this corporation shall be distributed to a nonprofit fund, foundation or corporation which is organized and operated exclusively for **charitable** purposes and which has established its tax exempt status under Section 501(c)(3), Internal Revenue Code.

DATED: December 11, 2003


STEVEN P. HASKETT,
Incorporator

[c: corp-pacificblue art]



III. FIJI OPERATIONS COORDINATOR



IMMIGRATION DEPARTMENT

TEL NO. 331 2622
FAX NO. 330 1653
E-MAIL : immigration@govnet.gov.fj

P.O. BOX 2224
GOVERNMENT BUILDINGS
SUVA, FIJI ISLANDS

IM/P/622-06

18th August 2006

Mr Kerry Leslie Donovan
P O Box 344

DEUBA

Dear Sir

I forward herewith permit to enter and reside in Fiji No. 2228/06 and permit to employ non-Fiji citizen No. 0725/06 issued in your respect valid until **07.07.2009**.

Please have the duplicate of 'Permit to employ a non-Fiji citizen' signed and returned to this office within fourteen (14) days from the date of this letter.

Also please note that should there be any extension thereafter; the application must be lodged two (2) months before the expiry of the permit and must be accompanied by local police and medical reports.

Yours faithfully



[J Nalewaba]
for **DIRECTOR OF IMMIGRATION**

Permit No: 0725/06



**PERMIT TO EMPLOY A NON-CITIZEN OF THE FIJI ISLANDS
(IMMIGRATION ACT, CAP. 88)**

Permission is hereby granted to PACIFIC BLUE FOUNDATION
(employer)

to employ: MR KERRY LESLIE DONOVAN
(employee's full name)

as: PACIFIC ISLAND COORDINATOR
(title of post)

to work in the Fiji Islands at premises in: PACIFIC HARBOUR

UNTIL 07/07/2009 (date)

Subject to the following terms and conditions:-

1. The employee shall be employed solely by the employer as stated above and on the duties set out in the application for the permit. Any variation shall require a written application to the Chief Executive Officer.
2. If the employer or the employee wishes to terminate the contract before the date stated above, notice must be given to the Chief Executive Officer as soon as possible and in case not later than 14 days from the decision to terminate the contract.
3. The employer will train a citizen(s) of the Fiji Islands in the work of the above post.
4. The employer will submit to the Chief Executive Officer within sixty (60) days of this permit being granted details of a training programme for the training of a citizen(s) of the Fiji Islands in the work of the above post.
5. The security bond (if accepted by the Chief Executive Officer) lodged with the application for a permit shall remain valid while the employee remains in the Fiji Islands unless the bond is surrendered by the Chief Executive Officer.
6. This permit shall become void on expiry or immediately on the breach of any of the condition stated on the application or on this permit. The permit **must be surrendered** immediately it becomes void.
7. The duplicate copy of this permit will be signed by the employer and returned to the Chief Executive Officer with ~~fourteen~~ (14) days of this permit being granted.

Signed: *[Signature]*
for Chief Executive Officer for Home Affairs
& Immigration



Date Permit Granted: 07/07/06

[Signature]
Signed: Employer

Date: 22/08/06

File No: IM/P/622-06
Fee Paid: \$650.00

No. 2228/06

FIJI

PERMIT TO ENTER AND RESIDE

Immigration Act CAP. 88

Permission is hereby granted to:

MR KERRY LESLIE DONOVAN

of

NEW ZEALAND

UNTIL

07/07/2009

To work as Pacific Island Coordinator for Pacific Blue Foundation, Pacific Harbour.



Signature of holder: *Kerry Donovan*

File No.: IM/P/622-06

HO 515

Subject to the items and conditions set out in this permit ONLY

[Signature] 07/07/06
Chief Executive Officer Date permit granted

To be valid, this permit must be signed by the permit holder.



TERMS AND CONDITIONS

1. The holder shall not behave in any manner prejudicial to peace, good order, government or morals.
2. The permit is valid until the date shown. It will however cease to be valid and must be surrendered on expiry or if the holder is in breach of the conditions or leaves Fiji (except for holidays).
3. Unless authorised the holder of this permit is not permitted to undertake employment paid in cash or kind.
4. EMPLOYEES shall not work for any other employer than the employer stated in this permit unless given expression permission by the Chief Executive Officer.
5. If the holder of his permit ceases for any reason to be employed by the employer named in this permit shall be deemed to have expired from the date of such cessation.

A. PERMIT RENEWED UNTIL

Signed: _____

Designation: _____

B. PERMIT RENEWED UNTIL

Signed: _____

Designation: _____

C. PERMIT RENEWED UNTIL

Signed: _____

Designation: _____



**MINISTRY OF FISHERIES & FOREST
P.O. BOX 3165
LAMI**

Ph : 3361122, 3361335 Fax : 3361184, 3363170

26th May 2006.

The Director
Immigration Department
Civic Tower
Suva.

Attention : Mr. Joe Nalewabau

Dear Mr Nalewabau,

We write to you on behalf of the Department of Fisheries, Yanuca Village Council and the Yanuca Island community to introduce Pacific Blue Foundation, a non-profit charitable organization, and to support their wishes to assist Fijian communities in marine ecosystem based management, and capacity building for the same.

The mandate of the Ministry of Forests and Fisheries is to ensure that the Fisheries and Forest Resources are developed and managed to its optimal potential for the benefit of all stakeholders, in the best possible sustainable way. The Government stance is to create and provide wherever possible the social and economic environment in which the private sector can flourish and develop forest and fish resources.

The Ministry's Policy and Strategy 2002-2004 include the following major goals :

- To manage marine resource in a way that maximizes resource owner and community benefit whilst ensuring bio-diversity and conservation issues are taken fully into account
- To improve food security in the context of availability, accessibility and affordability. Liaison with the traditional customary fishing right owners on the use, conservation and sustainability of marine species and the coral reef itself.
- To develop and provide any advice and financial assistance towards infrastructure of island communities

Source : http://www.fiji.gov.fj/publish/m_fish_forest.shtml web page for Ministry of Forests and Fisheries

In recent years the dwindling numbers of catchable fish outside the Beqa Lagoon has limited fishing to mostly inside the lagoon. This increased inshore lagoon fishing and increasing ecotourism activity has started to have an impact.

In May 2005, the Ministry invited Pacific Blue Foundation members, to make a presentation on Resource Status around Beqa Lagoon. Pacific Blue provided underwater photos and recommendations for Yanuca Village to consider the health and future of its *i qoliqoli* because it was attached to the Yanuca Village Council application for a FLMMA guided marine reserve to be established on the island.

The Pacific Blue Foundation and Yanuca Council participated in our open discussion workshop 26-27 May 2005, for “The Draft Plan for Amendments to Recreational Fisheries Legislation.” Five members of Pacific Blue and three members of the Yanuca Village Council attended and there were various other representatives from stakeholders and government.

Much of the talks focused on the marine area around Beqa Lagoon. Discussions addressed issues such as Aquarium Farming, Shark Diving, Marine Protected Areas, Monitoring of Commercial Fishing, Moorings, Restocking of Species e.g. turtle, clam, etc.

I listened to the Yanuca Island viewpoint for saving, protecting and managing their marine resource and Pacific Blue Foundation (PBF) members contributed as ecotourists who have visited our lagoon.

Yanuca community want to move forward to save, manage and sustain their beautiful area under Fisheries Department and other Fiji Government and NGO’s advice however there is considerable funding and expertise needed for:

- mandatory community surveys and education by professional personnel
- installing mooring buoys and outlawing anchoring immediately in the *i qoliqoli*
- establishing and monitoring the “no-take” marine reserve
- enforcing the “no-take” area by radar and patrol boat, employing trained wardens to prevent poaching
- monitoring the entire *i qoliqoli* to prevent over fishing, illegal fishing and irresponsible anchoring
- reducing ongoing human impact on the island such as sewage run-off, erosion, etc.
- educating every resident, business operator and visitor about the environment and their responsibilities for now and for future generations
- finding ways to replace fishing income with ecotourism and other means

The “no-take” marine reserve would protect coral habitat and breeding fish and very likely produce more sea-life and thus better subsistence fishing outside it. The value to ecotourism would be increased as the

ecosystem returned to its original balance of species and beauty. The benefit to the community seems both immense and immeasurable at this stage.

However Yanuca Village Council and community cannot afford the costs for an MPA nor have the skills, knowledge and infrastructure sufficient amongst them to ensure ongoing success. Pacific Blue Foundation has offered them its expertise in MPAs and funding.

From my observations of their participation at the May discussions, and communications with the Yanuca people and Pacific Blue Foundation people, both parties seem to have a good rapport and mutual understanding, and of course a common goal and my view is they have a great future ahead of them.

I therefore request the Immigration Department to support application for Kerry Donovan and Tanya Paton from Pacific Blue Foundation to have work permits to work in Fiji alongside Fisheries, FLMMA, other non government organizations and government authorities, and most importantly with the Yanuca community. We ask that the work permits allow them to assist immediately within our FLMMA program and to work towards a Memorandum of Understanding (MoU) mutually agreeable between PBF and the Fiji Government.

Vinaka Saka.

A handwritten signature in black ink, appearing to read 'Aisake Batibasaga', with a long horizontal line extending to the right. The signature is written over a dotted line.

Aisake Batibasaga

Principal Research Officer

for : Director Fisheries

for : Chief Executive Officer for Fisheries & Forest.

P.O. Box 13928,
Suva.
Phone: 331 8222 or 992 7835
22nd May, 2006

From Taito Tabaleka
Head Adviser of Yanuca Island Village Council
And on behalf of Yavusa Nukutabua - Yanuca Island
Serua

Director of Immigration,
Department of Immigration,
The Government of Fiji

Attention: Mr. Josua Nalewabau

Dear Mr. Nalewabau,

I am writing to you on behalf of the Yanuca Village Committee and the Yanuca Island community to introduce Pacific Blue Foundation (hereafter referred to as "PBF"), a non-profit charitable organization registered and chartered in the United States of America as a tax-exempt Private Operating Foundation under Internal Revenue Service statute 501(c)3. This letter supports the applications of PBF to assist us with investigating the merits of a Fiji Locally Managed Marine Area (FLMMA) under a Fiji Government Memorandum of Understanding and for staff of PBF to be granted Work Permits for their operational coordination.

The marine area surrounding our island in the Beqa Lagoon provides subsistence fishing, commercial fishing and ecotourism activities for many communities and stakeholders including our village. For many generations, we have harmonized with other people and communities in sharing what resources we have under our iqoliqoli.

In recent years increased in-shore fishing in the Beqa Lagoon, both by commercial and subsistence fishers, increased population on the islands and the nearby shore of Viti Levu, and increasing ecotourism activity have impacted significantly on living marine resource abundance, and diversity. In recent years we have noticed:

- overfishing and illegal fishing practice
- reef damage
- depleted marine life
- exploited use of the iqoliqoli
- more community members are moving away to the mainland for employment income yet they often lack the needed education to thrive in the modern economy

In 2003 and 2004 PBF members visited Fiji. At our request, they carried out surveys on our reefs and showed us digital photos of the marine area around Yanuca Island which highlighted many of the problems. After their return to the USA and in consultation with the University of the South Pacific, they sent us a Report with their scientific view of concepts for modern marine area management. Their report compelled the community to explore mechanisms for sustainable management of the living marine resources under the auspices of the Fiji Locally Managed Marine Areas Network (FLMMA) administered by Department of Fisheries and other government departments. We made an initial application in 2004 for a "no-take" marine reserve near Bird Island and attached the Report with recommendations that had been prepared by PBF.

PBF returned in May 2005 and the Department of Fisheries invited them and three members of our Village Council to attend their open discussion at Lami, 26-27 May, for the Draft Plan for Amendments to Recreational Fisheries Legislation. Other stakeholders and government officials attended with us and much of the discussion focused on the marine area around Beqa Lagoon. Discussions addressed issues such as Aquarium Farming, Shark Diving, Marine Protected Areas, Monitoring of Commercial Fishing, Moorings, Restocking of Species e.g. turtle, clam, conch, etc.

At this meeting, I presented the Yanuca Island viewpoint for conserving, managing and sustaining our marine resource with coordination and assistance by PBF and the government. The PBF visitors provided a valuable international perspective but also had a strong understanding of Fijian iqoliqoli customary fishing rights, and the FLMAA process. They were well received for their knowledgeable scientific views and their time given so freely.

The Yanuca community desires to move forward to save, manage and sustain our beautiful area. However, there is considerable funding and expertise needed for:

- FLMMA-mandated community surveys and education by professional personnel
- Installing mooring buoys and minimizing anchoring in the iqoliqoli
- Establishing and monitoring the proposed “no-take” marine reserve
- enforcing the “no-take” area by radar and patrol boat, employing trained yavusa Nukutabua members as wardens to prevent poaching
- Monitoring the entire iqoliqoli to prevent over fishing, illegal fishing and irresponsible anchoring
- Reducing ongoing human impact on the island such as sewage run-off, erosion, etc.
- Educating every Yanuca Island resident, business operator and visitor about the environment and their responsibilities for now and for future generations
- Supporting modern distance learning for yavusa Nukutabua children older than 8th grade so that those who immigrate to the mainland and cities have a better foundation for modern business
- Improving local agriculture and implementing mariculture to minimize our dependence on the declining resources on the reefs
- Finding ways to replace fishing income with ecotourism and other means

Scientific studies have demonstrated that some “no-take” marine reserves can protect the community ecology and improve biodiversity, thus supporting a more productive resource for commercial and subsistence fishing outside the reserves. The value to ecotourism from such reserves is greatly enhanced and we would expect strong revenue from scuba diving concessions in the reserve. PBF has informed us that in the Caribbean region more than 90% of tourist scuba divers choose to dive on a marine reserve or within a well managed marine protected area (MPA) where the abundance and bio-diversity of the reefs is superior to non-protected areas.

Yanuca Village Council and community at this stage do not have the funds and expertise to start, manage and administer the cost of an integrated marine and ecotourism program however we already have a marine conservation protected area in front of Yanuca Island Resort (owned by mataqali Batiluva of yavusa Nukutabua) – currently protected under customary Fijian law. Admissibly our marine resources are deteriorating at a faster rate.

PBF has offered its expertise in grant writing to international non-governmental agencies and national programs that allocate funding for preliminary studies, establishment of MPAs. It is also the intention of PBF to provide **capital for initiating ecotourism industries** that will benefit the people of Yanuca. Any ecotourism industry arising out of this endeavor will be majority owned by the people of Yanuca namely yavusa Nukutabua. PBF have proven very willing to learn details of Fijian customary fishing rights and they were very respectful of the Fijian culture and government rules and regulations during all their interactions with our village and at the Fisheries meeting in May 2005. At this time the Yanuca Village wants to move forward with PBF, within government rules and regulations, to establish a FLMMA and a marine reserve within our iqoliqoli.

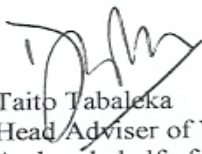
Therefore, on behalf of the community, I am seeking the Government of Fiji approve work permits for Kerry Donovan and Tanya Paton of PBF to work in Fiji alongside us and relevant government authorities. We ask that the work permits allow them to assist immediately with our FLMMA program and to work to achieve a Memorandum of Understanding that is mutually agreeable between the Yanuca Village, the Fiji Government and Pacific Blue Foundation.

The work permit for Kerry Donovan and Tanya Paton is to do with the establishment of a FLMMA and a marine reserve within our iqoliqoli and not to start a commercial eco-tourism industry.

I (on behalf of Yanuca community and yavusa Nukutabua) will write to you, the Fiji Trades and Investment Board and the Fiji Islands Revenue and Customs Authority, and with relevant application forms should there be a development in commercial eco-tourism industry directly arising out of the marine reserve endeavor. For future reference any commercial endeavor will be a partnership between the Yanuca community and a Fiji registered commercial organization representing PBF or other registered companies for that matter.

Thank you for your assistance.

Yours faithfully



Taito Tabaleka
Head Adviser of Yanuca Island Council
And on behalf of Yavusa Nukutabua
Yanuca Island, Serua Province

cc. CEO - Ministry of Fisheries, Lami. Attention : A. Batibasaga
CEO - FIRCA
CEO - FTIB

IV. LETTER OF UNDERSTANDING

June 12, 2005
Bula Taito,

I trust you are having a pleasant Sunday as I am having today at Wainidubu Beach. The west breeze and sun are pleasant but the winds are not favorable for Frigate's surfing so my brothers and friends opted out of the visit. This allows me some time to reflect and offer you this letter of understanding based on a year and a half of mutually respectful enquiries of our goals and dreams.

You have mentioned your wish to have Yanuca Island 'branded' and to be a place known for an excellent, relaxed and healthful environment together with expanding economic opportunity for the Yanuca community. These draft planning concepts presented here combine your thoughts, and my own interests, to envision an excellent location to further both marine and cultural conservation integrated with creation of a productive and sustainable economy for the village citizens. The concepts we share have an underlying need for education, training, and applications of those in the real world work environment. I feel we both share a desire to motivate the Yanuca Village to join in a community-wide effort to brand your island as a place of education, and excellence in art, craft, engineering, construction, operations and most of all, relaxation!

These combined dreams can be fulfilled over time, but the initiation phase concepts must remain practical and build forward from what exists. Also, it seems very important that we take some smaller steps together to build trust and for my side to become more familiar with trying to execute in Fiji. Although some of our bigger dreams are a bit distant, I wish to propose that we keep 5-10 dreams as a low-level element of what motivates our 1-5 year planning.

Attached you will find a DRAFT of 5-year goals and a year 1 initiation phase. My hope is that the two of us will work together in the near future, with Kerry Donovan assisting in many details, to converge on a formal plan of cooperation and partnership that we can then use to write precise business plans and legal corporate structures. The Yanuca Village Council would then review these more precise plans before moving them forward to get formal business operational status. I look forward to expanding our dialog and our trust so that together we can achieve some very excellent dreams for the Yanuca Village, for Fiji, and also to truly serve as an example for the future of many island communities.

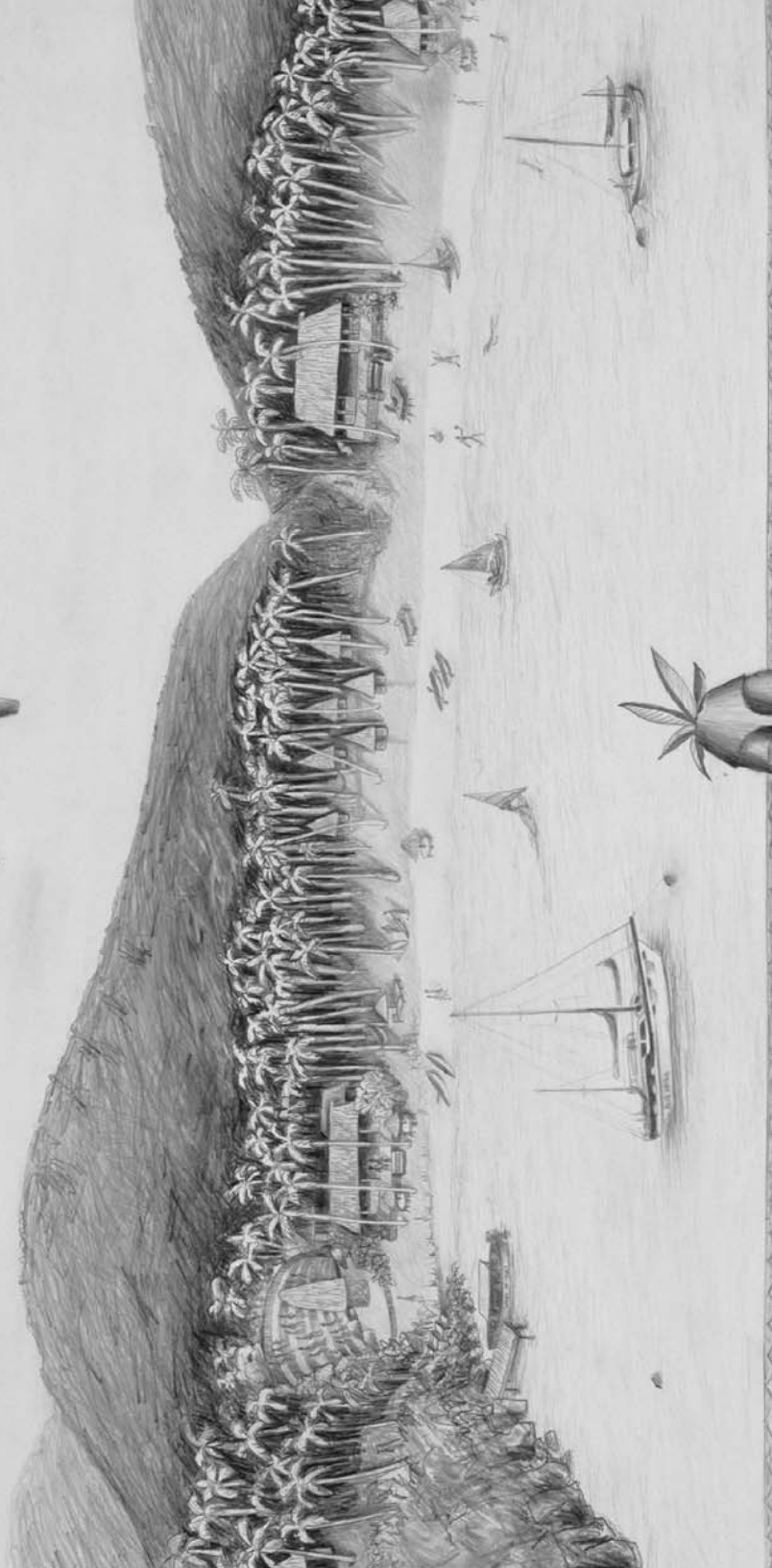
Vinaka vakalevu,

Greg Mitchell

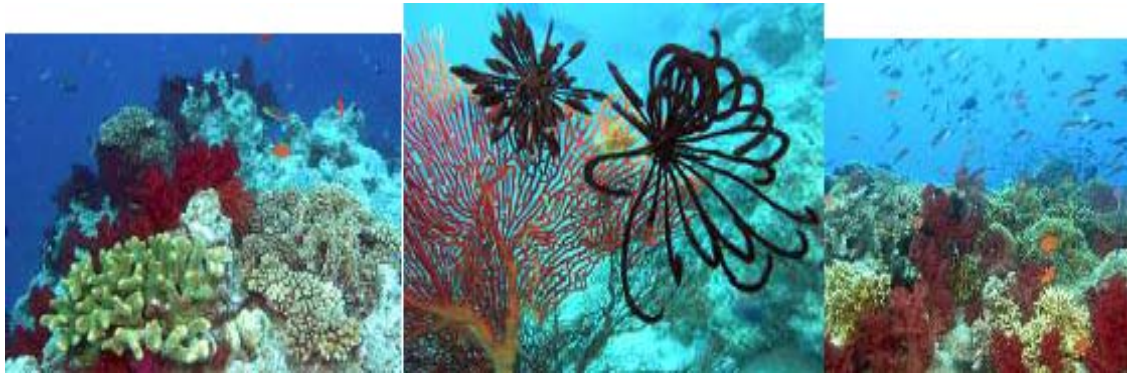


Korozevu

YANUQA ISLAND, BEKA LASSON.



V. CONSULTANT REPORTS



Cakau Nisici (Bird Island) Marine Reserve Recommendations

David Kline & Greg Mitchell

October 2004

Based on our observations of the coral reefs of Beqa lagoon we strongly suggest that a system of marine reserves be implemented for the Yanuca community to protect this vital resource. Healthy coral reefs are a valuable resource whose beauty attracts tourists for snorkeling and diving, they create waves for surfing, they protect the islands coastline from erosion loss, and they are a nursery and home to many food fish and invertebrates. Our initial surveys revealed several indications of reef decline that if not corrected could lead to continuing loss. In this report we outline the biggest threats to the coral reefs surrounding Yanuca Island. We then make recommendations to correct these problems and strongly advise the formation of the first Yanuca marine reserve centered around Cakau Ni Sici (Bird Island) and including parts of Yanuca Island.

Major Threats to Yanuca Coral Reefs:

- 1) Overfishing:** Harvesting of grazing fish such as parrot fish and surgeon fish has resulted in algae overgrowth of many reefs especially those around Cakau Ni Sici. Overfishing has also led to the loss of many fish critical to the coral reef food web. Further extractive fishing practices are causing major damage to these coral reefs by removing animals that provide vital functions. For example the removal of sea cucumbers (which are vital to clean the sand), shellfish such as tritons (which can be the natural predator to the

crown of thorn starfish that can be highly destructive to reefs), or the giant clam (which are important filter feeders that keep the sea water clean). We strongly urge that as much of the reserve be set up as “no take” to immediately begin to correct this problem.



photos: Algae overgrowing and killing coral; parrotfish.

- 2) **Anchor damage:** The regular dropping of anchors in reefs areas can destroy corals and cause damage that can take 10-20 years to recover. Extensive anchor damage including broken and damaged colonies were observed at several of the popular tourist diving locations, at Frigate reef a popular surfing location, at reefs commonly used for fishing, and at boat anchoring sites around the Yanuca Island. Enforcement of a no anchoring rule along with a series of mooring buoys at these popular anchoring sites would quickly minimize this major problem.



photos: anchor damaging coral; anchor rope breaking coral; broken corals

- 3) **Algae Overgrowth:** Algae are the main competitor with corals and in a healthy reef ecosystem the algae growth is kept in check by grazing fish and invertebrates (such as sea urchins). Many of the reefs around Yanuca Island have a major algae overgrowth problem with large areas of reef totally

covered with algae that smothers and kills the corals. Algae overgrowth is triggered by a combination of nutrient pollution from sewage that stimulates algae growth and the loss of major algae grazers from overfishing. A large no take marine reserve would be an important step toward alleviating this problem.



Photos: algae overgrowing reef and killing corals.

4) Coral Disease: Several corals were observed with diseases that can rapidly kill them. Coral diseases have caused massive damage globally and they are indicators of an unhealthy reef ecosystem. Sewage run off as well as other stresses to the coral reef ecosystem can accelerate many coral diseases. Better processing of human sewage on Yanuca Island is critical to reducing coral disease and algal over growth.



photo: Coral disease (white plague) killing a massive coral.

Recommendations:

- 1) **The Yanuca Island family councils should work with the Beqa councils to resolve and clarify the boundaries of the takina customary fishery rights (Qoliqoli).**
- 2) **The Yanuca Island Family Council should discuss the major problems and solutions for the management of their marine resources following the guidelines of the Fiji Locally Managed Marine Areas (FLMMA).**
- 3) **Immediately install Mooring Buoys and outlaw anchoring on Yanuca reefs.**
- 4) **Establish a no take marine reserve around Cakau Nisici (Bird Island) that is as large as possible.** This will set an important precedent to develop an integrated system of marine reserves around Yanuca Island to protect the coral reefs, marine resources, and the traditional fishing culture of the Yanuca community. This reserve system should be closely coordinated with the marine protection initiatives in the Beqa lagoon area.
- 5) **Enforce the no take reserve with land and boat radar surveillance and 24 hour patrol boat to prevent poaching in the reserve.**
- 6) **Conduct in depth surveys of the Yanuca reef to be utilized in the formation of the best possible reserve system.** Annual surveys would also be essential for monitoring the success of the reserve.
- 7) **Diving operators should provide a mandatory 5-minute environmental education talk before every dive to minimize diver damage to reefs.**



**A PRELIMINARY ASSESSMENT OF YANUCA VILLAGE, SERUA
PROVINCE, FIJI
MARINE CONSERVATION AND DEVELOPMENT NEEDS:
FINAL REPORT**

Prepared For:

Pacific Blue Foundation

Prepared By:

Ethnographic Inquiry

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November 2, 2006

A PRELIMINARY ASSESSMENT OF YANUCA VILLAGE, SERUA PROVINCE, FIJI

MARINE CONSERVATION AND DEVELOPMENT NEEDS: FINAL REPORT

Introduction

This report is a preliminary assessment of the conservation and development needs facing Yanuca village and includes socio-cultural and economic aspects of the terrestrial and marine environments. Leaders of the village approached Pacific Blue Foundation (PBF), an American-based NGO involved in development work in Fiji, to request assistance with their conservation, development, and resource management needs. After PBF conducted a preliminary coral reef study of Yanuca Island in 2004, it consulted with Ethnographic Inquiry in 2006 to conduct a preliminary assessment. Dr. Mark A. Calamia, principal investigator, conducted the assessment and write-up as presented in this final report. Fieldwork focused on a meeting at Pacific Harbor, Fiji where ideas for a community-based marine protected area were discussed among village leaders, a walking tour of parts of the island, and on a three-night marine awareness workshop held in Yanuca village. Several one-on-one interviews and a few focus groups were also held during this period on topics ranging from tourism to marine resource conservation and development. Towards the latter portion of the report, thirty-three suggested conservation and development measures are listed that are based on interviews with several Yanuca Island people and PBF personnel. Ethnographic Inquiry has also contributed to this list with many of its own recommendations. Finally, some concluding remarks are presented to point the way for further assessment of Yanuca Island community-based resource management.

Previous Work by Pacific Blue Foundation (PBF)

In their report entitled *Cakau Ni Sici* (Bird Island), Kline and Mitchell (2004:1-4) identify four major threats to coral reefs surrounding Yanuca Island: over fishing, anchor damage, algae overgrowth, and coral disease. Overfishing has contributed to the reduction of such grazing fish as parrot and surgeon fish and consequently has resulted in the algae overgrowth of many reefs especially those around Cakau Ni Sici. Moreover, fishing has led to the loss of numerous fish that contribute to the coral reef food web. By removing such crucial species through over harvesting, damage is caused to coral reefs by altering an important part of the marine ecosystem that provides essential functions for maintaining coral reef health. Such species include sea cucumbers (for removing and processing organic matter) shellfish, such as tritons (for predation on crown of thorn starfish), or giant clams (for filter feeding to keep sea water purified).

Anchor damage is caused by the regularized dropping of anchors from boats onto reef areas and often results in destroying corals which can take between 10 and 20 years to recover. A number of broken and damaged coral reef colonies were noted at several of the popular tourist diving sites, various reefs commonly used for fishing, numerous boat anchoring sites around Yanuca Island, and at Frigate reef—a popular surfing location within the Beqa Lagoon area. These broken reefs are most certainly due to anchor dropping behavior. The authors suggest that enforcement of a “no anchoring rule” along with a series of mooring buoys at popular anchoring sites would serve to abate this ongoing problem (Kline and Mitchell 2004).

Because algae are the primary competitors with coral populations, it is important to keep algae from eclipsing such populations through algal blooms. Thus, it is essential that

healthy reef ecosystems be maintained by algal grazing fish and invertebrates, e.g., sea urchins. The authors note that many of the reefs surrounding Yanuca Island suffer from severe algae overgrowth, resulting in large reefs areas that have died owing to coral polyp suffocation. The authors go on to note that algae overgrowth is caused by a combination of nutrient pollution from sewerage that serves as a super nutrient for algal growth and the loss of the algae fish grazers due to over fishing by human agency (Kline and Mitchell 2004).

The onset and acceleration of coral diseases of some corals surrounding Yanuca Island is direct the result of sewage run off and other factors along the coral reef ecosystem. A number of corals were observed with such diseases that would likely lead to their deaths. It is important to recognize that diseased corals serve as a biological barometer of an unhealthy reef ecosystem. Such diseases, as well as algal overgrowth, need to be kept in check through improved methods of human sewage treatment and management on Yanuca Island (Kline and Mitchell 2004).

Recommendations for Yanuca Island Marine Environment Improvement (Kline and Mitchell 2004:4-5).

1. Yanuca family councils work together with other Beqa Lagoon councils to resolve and clarify the boundaries of the tikina customary fishing rights area (Iqoliqoli).
2. The Yanuca Island council should address the major problems and solutions for the management of their marine resources following FLMMA guidelines.
3. Immediately install mooring buoys and prohibit anchoring on Yanuca reefs.
4. Establish an extensive “no take” MPA around Cakau Nisici.
5. Enforce the “no take” MPA with land and boat radar surveillance and 24 hour patrol boat service to thwart poaching in the MPA.
6. Conduct in-depth under water visual surveys of the Yanuca reef in order to identify optimum boundaries of the MPA. This would be followed by annual monitoring surveys to evaluate the success of the reserve.
7. Prior to diving in reefs areas, diving operators should instruct their tourist clients on coral reef protection in order to minimize impacts to these natural structures from diving activity.

The establishment of an extensive marine protected area (MPA) may help in eventually developing an integrated system of marine reserves around Yanuca Island to protect coral reefs, marine resources, and traditional fishing practices. The authors also note that “This reserve system should be closely coordinated with the marine protection initiatives in the Beqa lagoon area” (Kline and Mitchell 2004:5).

Meeting at Pacific Harbor at the Club Coral Coast Motel (May 20, 2006)

The objective of this afternoon meeting was to discuss the Yanuca community ideas for an MPA. The village was represented by the following individuals of the Yanuca Village Council: Sireli Kago (turaga ni koro of Yanuca Village), Taito Tabaleka Jr. (Telecom Fiji

Executive and village advisor), Ratu Panapasa Matia (chief (Tui Daga) of Yanuca Village), and Jiuta Lewanituvu (village public relation specialist). The chairman of the council, Akapusi Durusolo was not present. Others in attendance were Sirilio Dulunnaqio (Didi) (Wildlife Conservation Society based at Savusavu in Vanua Levu), Kerry Donovan (Pacific Blue Foundation), and Mark Calamia (Consultant for Pacific Blue Foundation). Several important points were made at this meeting concerning the needs for an MPA at Yanuca:

1. It is crucial to communicate with other surrounding villages in the Beqa Lagoon area about Yanuca's intention to establish an MPA. For this to be done properly, traditional methods should be employed to communicate to the outsiders this intention (Sireli).
2. It is essential that protocol be followed in keeping others out of the "tabu" or "no-take" zone of the MPA. This should be accomplished at inter-community workshops where outsiders can be informed about the new status of the area comprising the MPA (Didi).
3. The main point is that the community should have "capacity building" as its main focus so that the villages will have knowledge and skills on managing and maintaining an MPA once it is in place (Didi).
4. People from Yanuca village must approach other villages with a Sevusevu (traditional ceremony involving presentation of kava roots (Yaqona) to inform people of the surrounding villages about Yanuca village's prospective MPA. During these village visits, their hosts would be told about sanctions for violation of their "no take" zone, e.g., 1st offence entails confiscation of catch, 2nd offence entails confiscation of boat, and so on. Whether the outside people notified are their relatives or not, they should still be notified that even if subsistence (non-commercial) fishing is undertaken, they still need to respect the MPA. Problems were also mentioned about poachers coming from Suva and elsewhere from Viti Levu to plunder Yanuca waters (Sireli).
5. An example of MPAs of Vanua Levu was given to illustrate that everyone knows where they are and that no one is allowed to fish in these areas. Everyone seems to respect the tabu (Didi).
6. Briefly mentioned was the importance of employing traditional knowledge of the marine environment for local resource management (Mark).
7. When people come from the outside to fish in their iqoliqoli, they sometimes bring scuba to collect sea cucumbers. Other times they simply come to line fish from their boats. The chief, Tui Daga, typically gives permission to anyone who asks to dive in their iqoliqoi to collect sea cucumber. As an example, two Indo-Fijians regularly come from Viti Levu to fish in their iqoliqoli (Sireli).

Note: No one at this meeting spoke about the deceased sea cucumber scuba diver, Sikeli, who died on May 13th, exactly one week prior to this meeting at Pacific Harbor. The tragedy drives home the point for the need for the community to quickly manage their marine resources in a sustainable fashion so that future accidents, such as this one, can be averted. Most of the local fishers know that the use of scuba for fishing is outlawed by the Fiji Fisheries Act and compliance by local and outside people is essential if they are to have ample fish stocks available for the future (Mark).

Yanuca Village Statistics and Facts:

Mataqali (patrilineages) 3: Nukutabua, Batiluva, Lutuya

Households: 48

Population: 247 (Mataqali Nukutabua: 66, Mataqali Batiluva: 111, Mataqali Lutuya: 70)

Note: The mataqali Lutuya is actually based a Navutulevu Village in Serua Province, but for historical reasons its members reside in Yanuca village. There are many other people who are registered as members of the village, but reside in Suva and other cities in Fiji.

The Yanuca Island local economy is based primarily on subsistence-based crops and fishing. However, a substantial amount of income is derived from firewalking performances given at Pacific Harbor's Cultural Center and from revenue derived from a surf resort (Wainidubu, Yanuca Island Resort) owned by the Batiluva mataqali.

The recognized customary fishing rights owners of the Beqa Lagoon and their customary fishing grounds (iqoliqoli) may be seen on maps of CFRA 4 and CFRA 5 (see map attachments). The numbers correspond to the iqoliqoli owners by area shown on the attached map files (note that iqoliqoli 1,2,3, and 6 are not included as part of the attached maps): Salwau, Nacurumoce, Vagadra and Levuka (1); Kulu (2); Naduruvesi, Nacurumoce and Kulu (3); Naduruvesi, Nacurumoce, and Nukutabua (4); Nukutabua (5); Naduruvesi and Nacurumoce (6); and Raviravi. Prior to 1961 an eastern portion of the eastern iqoliqoli boundary of Nukutabua extended south to Nukatawai. Later, Nukutabua extended eastward to Kulu (Yavusa) because they are closely related kin. Today, the iqoliqoli belonging to Naduruvesi, Nacurumoce, and Nukutabua (4) is shared with Rukua, but not with any of the other villages of Beqa Island.

The chief of Yanuca Village is the Tui Daga (Ratu Panapasa Matia) who is from the chiefly lineage of Nukutabua. Because of historical reasons, he lives in Wainiyabia village in the District of Serua along the Coral Coast but maintains traditional authority over Yanuca. Once or twice a month he visits the village of Yanuca in order to discuss major issues or decisions where his input is required. The overall day-to-day management of the village, however, is conducted by Sireli Kago, the turaga-ni-koro, and partly by Tui Daga's brother Manassa Ratu Maidrue and the elders who have authority to make small-scale decisions. The Tui Daga makes decisions together with the 5-person village council, which includes Taito Tabaleka (also CEO Fiji Telecom) and Sireli Kago, the turaga-ni-koro. By making collective decisions in this way, protocol is followed. The actual line of decision-making that was given to me included the following: turaga-ni-koro, village council, Taito, and the Tui Daga, in that order.

General Concerns over Marine Resource Exploitation

Following interviews and focus groups with a number of people of Yanuca Village, several important issues concerning fishing and the use of the iqoliqoli came to light. First, is the concern over the use of their iqoliqoli by commercial fishers from the mainland that do not request permission prior to fishing. Second, they noted three Indo-Fijians that arrive on a regular basis to fish in their waters using an IDA license. Third, the aquarium live fish and commercial live coral trade (two days a week by outsiders) has been another source of exploitation of their customary fishing rights area. Fourth, is the ongoing harvesting of sea cucumber (beche-de-mer) by certain members of Yanuca village community.

Interests and Concerns in Establishing of a Community-based Marine Protected Area

Prior to the 3-day workshop held at Yanuca village in mid May, the Yanuca village council had already showed a strong interest in developing a community-based marine protected area in Yanuca's iqoliqoli to conserve its marine resources and biodiversity. The Yanuca Village Council has proposed that this protected area extend from the Caesar's Reef (Rock) on the far northern end of iqoliqoli No.5 and extend southwest to Cakaunisici Reef, which circumscribes Bird Island. The advantage of having the protected area in this place is that it is relatively close to Yanuca Village and can be patrolled and monitored without too much difficulty. The Council has already encouraged the residents of Yanuca to refrain from fishing in this location, and one informant reported that they have indeed noticed fewer boats there. It is possible that the people of Yanuca may eventually choose to extend the boundaries of the protected area further south past Kau Viti and up to the Naimotu diving site.

One very small marine protected area which has a "no take" area defined is just off the southwest side of Yanuca Island directly in front of the Wainidubu, Yanuca Island Resort. PBF was instrumental in helping the surf camp workers to establish this mini-reserve. This mini-protected (no take) area that is less than a hundred meters or so in length and extends about 35 meters out from shore has a few moorings in place so that fragile shallow corals will not be impacted by anchor damage. The mini-protected area was purposely located near the surf camp because it would be easy to patrol and protect from poachers who might come at night from the mainland. The "no anchor" and "no take" policy for this mini-reserve appears to be taking effect according to the manager of the resort. He remembers that in 2000 when he began working there not many fish could be observed in the area, but after only a year of the mini-reserve in place he has noticed a greater abundance of fish. He believes that this is because the local people have come to respect the "taboo" on fishing in the protected area. While snorkeling in the mini-reserve, I had the chance to observe how the residents and tourists followed the rules in this protected area in order to conserve the local corals and reef fish. Any animal that was collected from the sea for the resort was taken from outside of the protected area. To illustrate, I observed a lobster that was brought to shore by a surfer who collected it beyond the boundary of the mini-reserve.

The continuous harvesting of Yanuca village's iqoliqoli has raised the awareness of an overall decrease in marine resources and the need to revive them. For example, although there are still giant clams (*vasua*) in the southwest portion of the iqoliqoli, there has been a marked decrease in landings of sea cucumber and finfish. One of the key points mentioned in the establishment of a community-based marine protected area for Yanuca Island is the need to consider new stakeholders in a management plan and their participation in the management process. Issues of continued access and the needs of various fishing interests, including local subsistence and commercial fishing groups, and tourism ventures were mentioned. A point of concern is that by including many outside stakeholders, there may be resistance to change, particularly when considering the relationship between Yanuca and the mainland tourism industry on Viti Levu.

Tourism Interests and Concerns

Currently, there are two dive operators who take their clients to Beqa on a regular basis: Dive Connections and Scuba Hire. A third operator, Tropical Expedition, sometimes takes it tourists to the lagoon as well. The resorts in the Beqa Island area are as follows: Stuart Island (Royal Davui), Kulubay Resort, Lowaki Beach Cottage, Beqa Lagoon Resort (formerly Marlin Bay Resort), Lalati Beach Resort (for surfing and diving), and another resort that whose name was unknown.

On Yanuca Island there are two resorts. The Wainidubu, Yanuca Island Resort is as surf camp that emphasizes surfing, and it is owned by Taito's mataqali known as Batiluva. The other is known as Batiluva Beach Resort; it is on Batiluva owned land, but was recently leased to an American couple. Finally, the abandoned (2001 or 2002) surf camp is at a beach called Korolevu and is not in operation at this time. However, at this time bures are being refurbished and a new restaurant and kitchen are being built by the mataqali owners for day visitors. Because there are no outside investors and funding for this project is derived solely from family fundraising, the work is proceeding at a snail's pace (K. Donovan, personnel correspondence 10-23-06).

As part of the establishment of a community-based marine protected area, the various stakeholders or partners, including participating Yanuca village should establish agreements for increasing the levies for using the marine protected area for scuba diving, snorkeling, kayaking, and surfing. As part of this agreement, the placing of moorings needs to be identified, but funding for the moorings needs to be identified at an early stage in the planning process.

The Wainidubu, Yanuca Island Resort is a surf camp currently owned by the mataqali (patrilineage) Batiluva and has become an important part of the Yanuca Island economy and social life. The families of the Batiluva mataqali rotate and come to work at the camp. As an example, the women prepare meals in the kitchen while other work cleaning bures. The men typically keep the camp grounds tidy, load and unload the boats, and fill the shower and toilet basins with water. The small surf camp provides is an especially important income source for the mataqali. At this time, the camp is used only for surfing, snorkeling, swimming, and sea kayaking activities.

Unlike the resort, the entire village owns and has traditional rights to the fire walking venture and is represented by all three Yanuca village mataqali. An elected committee represents the firewalkers. The firewalkers perform weekly at Pacific Harbor's Cultural Center. The earnings from the fire walking are used to pay for building materials and other village costs. However, my informant pointed out that from June 2003 through December 2003 and from May 2004 to the present, the village derived more income from the resort than from fire walking. What was not made clear was how the resort income was distributed, if at all, within the village by the owning mataqali—Batiluva. It is important to note that the firewalking, traditional dances, and handicrafts all serve an important cultural function—that is they help to solidify group and individual identity as Fijian people that are members of their particular clan. To some extent, this also applies to the owning and managing of a resort, but not in the same way as the traditional cultural activities.

From the surf resort, the mataqali Batiluva provides service to their primary surfing attraction: Frigate Passage. The rights to surf at this passage are not exclusively held by any resort, such as the case with Tavarua in the Mamanuca area of Fiji. Frigate's waves are surfed by several other resorts in the area, specifically Beqa Lagoon Resort, Royal Davui, Kula Bay, Lauaki, Lalati, and a few resorts located at or near Pacific Harbor. The resorts that use Frigate Passage pay surfing fees to Batiluva mataqali that total between F\$150 to F\$200 per month. If individuals come to surf, they are charged F\$10 a head for each time they surf.

An interesting note deserving verification is that the agreements between Batiluva mataqali and all the resorts that use Frigates' passage are all oral agreements. At this time, there is a savings account used to deposit the earnings from the surfing camp; however, the fund is often debited to pay for needed items. In other words, there does not appear to be a long-term trust account in place to enable adequate interest to accrue for future needs. The resort also caters to scuba divers who wish to dive the passage and other areas in Beqa Lagoon.

On Beqa Island itself, the resorts are all owned by expatriates. However, Lawaki is a Fijian owned resort. In 1999, Beqa Lagoon Resort (formerly Marlin Bay Resort) tried to gain exclusive rights to Frigate's Passage and its reefs, but failed in its attempt to do so. There is a general agreement that the best way to surf Frigate's reefs is from Yanuca Island, not Beqa Island. The vast majority of the tourists that come to surf Frigate's Passage are from the coast of Viti Levu, not Beqa Island. In fact, very few surfers come from Beqa Island resorts to surf in Yanuca waters.

The primary issue regarding Batiluva mataqali and its connection to this iqoliqoli is the 1986 NLFC survey decision (see above) repositioning of the boundary line between two iqoliqoli in the south-central portion of Beqa lagoon, specifically an alleged traditional boundary line extending southward between Namara Reef and Nukutawai was erroneously changed. This issue needs to be addressed in much more detail with Taito and other elders of the mataqali Batiluva. Specifically, it will be important to inquire how the resettling of this boundary dispute with a contesting Beqa Island village will affect ongoing operations at Frigates reef, including dive operations as well as subsistence and commercial fishing activity.

With regards to scuba diving tourism, the reef area between Caesar's Rock or Reef on the north end of iqoliqoli 5 (see CFRA map) and extending southwest to Kau Viti is the location of 15 dive sites. As mentioned above, there is also diving at Frigate Passage. Other spots that are frequently used for diving in the area are Naimotu and Golden Arches. For diving, surfing, and sea kayaking activities only one monthly payment is made by the resort to the Yanuca Village Council. If divers are visiting spots near Beqa Island, then they pay the other two clans on Beqa that have customary rights to that iqoliqoli. Following diving trips, Divers are frequently brought from the mainland by diving operators to Wainidubu, Yanuca Island Resort for lunch and a rest before heading back out for another dive or back to Pacific Harbor on the Viti Levu mainland.

On the east coast of Yanuca Island are two basalt stone mokas, or Fijian fish traps that have eroded and become scattered across large portions of the intertidal zone. These traditional fishing devices are said to have been an ancient technology that were sustainable for fishing in the nearshore areas. Each moka consists of an alignment of basalt

rocks that have been manually strategically placed along the tidal flat to trap fish as the tides wane from the shore. The two mokas at Yanuca could be rebuilt with local labor and maintained as a traditional fishing device for tourists to view. Tourists could be invited to help maintain the mokas by replacing boulders in needed parts of the linear structures. In yet another capacity, tourists could help the villagers collect the catch at the ebb tide and cook them in a traditional Fijian earthen oven (lovo). This potential project could be organized by a Yanuca Island tourism committee.

The Cave of Qarakuvui is the final resting place of the warrior chief the Vunivalu of Serua who died fighting the chief of Namosi province over two hundred years ago. Some of the skeletal remains of the warrior chief and his 12 attendants along with wooden pallets on which the chief's body was laid by his defending warriors, can still be seen in the cave on the southeast coastal side of the island, not too distant from Yanuca village. The deteriorating ceiling in the cave and the impact from water erosion and humidity has destroyed some of the human skeletal remains; however, much of it could still be salvaged if the site was properly protected. The site does, however, require a careful archaeological excavation to properly recover the significant material culture and human remains that are still intact. The site could conceivably be developed into a tourism attraction for visitors to Yanuca Island, but this could only happen with the full consent of the people of Yanuca. The Fiji National Trust and Fiji Museum would have to be approached by Yanuca to assist with the data recovery and possible preservation and stabilization of the site. The Office of Fijian Affairs did send a small team to the village to visit the site about a year and a half ago and to collect oral histories on what was remembered of the story of the Vunivalu. As of this writing, none of the oral history transcripts or recorded tape interviews have been returned to the people of Yanuca Island.

Another terrestrial feature that could serve as a ecotourism cultural or archaeological site of interest is the ancient hill-top fortress of Delai. The ancient fortified village is situated at the top of one of Yanuca Island's peaks and is difficult to reach without a developed walking trail or track. The ancient village (site of the original inhabitants of Yanuca Island) is comprised of several house mounds and a small plaza surrounded by a fortified wall of stacked volcanic rocks. From the top, there are spectacular views to the east and southeast where the current village of Yanuca is clearly visible. The site would conceivably serve as an excellent visitor's point of interest and could be connected to the Cave of Qarakuvui by a developed trail. Such a trail would require not only its construction but maintenance if tourists are to have regular access to the sites.

The two terrestrial sites could provide an interesting complement and added form of revenue to existing tourism ventures on Yanuca Island. The National Trust of Fiji and the Fiji Museum could both provide assistance to the village in documenting and interpreting these sites as part of a culture/nature trail that would be available for local and outside visitors. Of course, the Yanuca Village Council would have to approve such a venture and might also consider appointing or electing a tourism committee to address this potential development.

Sea Cucumber (beche-de-mer) Harvesting and the Use of Scuba

As in most of Fiji, sea cucumber harvesting continues to be a major form of "quick cash" for the people of Yanuca Island. Unfortunately, the use of scuba has made this practice unsustainable and has led to many conflicts in other parts of Fiji, such as Kadavu (see

Calamia 2003). Two beche-de-mer operators have been very active in collecting sea cucumber using scuba, which is prohibited by the Fiji Fisheries Department. According to informants, in 2005 a man in his 20s from the Loma Viti group was paralyzed from the waist down after diving for sea cucumber in Yanuca's iqoligoli. Also in 2005, several men from Yanuca village were temporarily paralyzed on one half of their body following diving sea cucumber diving accidents, but eventually made a full recovery. Finally, one week before we arrived, a 28 year old beche-de-mer diver died while diving for sea cucumber in the Frigate Passage. His name was Sikeli Drivatiyawe. This man had only been diving for two months before his untimely death, and he leaves behind a 5-year old son. My informant said that Sikeli had been diving in a very strong current that day and his dive partner surfaced because the dive was too deep but remembered seeing bubbles issuing from where Sikeli was below. Another person told me that Sikeli was diving with a buoyancy compensation device (bcd) that was not working properly.

One well known leader of a Yanuca Island sea cucumber diving gang is Duru who also sits as chair of the Yanuca Village Council. He has been very active for almost a year in collecting sea cucumber with scuba, but has been extremely reluctant to cease harvesting operations using this unsustainable technology. Even after the death of Sikeli and the dissatisfaction by most of the village members in the use of scuba for harvesting, Duru has persisted in his relentless pursuit of beche-de-mer in both Yanuca and Beqa iqoligoli.

Obviously these types of accidents can be easily prevented with proper training in the use of scuba. However, the proper training of divers also presents another dilemma: the increased capacity itself will enable people to dive to access more areas, which in turn will further deplete the fishery. Thus, if such training is to be conducted then it must be coupled with environmental awareness and marine conservation workshops that describes the local marine environment, the important role sea cucumbers play in the marine ecosystem, but also the important role that humans play and how it impacts the fishery. At this time, only 2 or 3 of the 20 Yanuca sea cucumber divers are certified in the proper use of scuba, and virtually no marine awareness training has been done on Yanuca, except for the three-night workshop that was conducted as part of this initial assessment.

One of the primary concerns raised about these dive operators is that Scuba Hire and Dive Connections have been supplying compressed air to the sea cucumber divers who are diving illegally for beche-de-mer. To effectively stem the harvesting of sea cucumber with scuba, these dive operators will have to cease supplying compressed air to the sea cucumber divers. If this is done, the type of sociocultural disruption—as described in the following anecdote—can be avoided altogether.

During the first week of May 2006, Duru and his gang of sea cucumber divers (two boat loads or 16 dives total from the clan Nacutabua) were found illegally (without permission) diving for sea cucumber in the iqoligoli of the Beqa Island village of Naceva and were promptly vanquished by the people of Naceva village. To ostensibly show good will toward the Naceva people, the chief of Yanuca (Tui Daga) sent a tabua (ceremonial whale's tooth) to them. The chief of Naceva village (Tui Kula) initially agreed that Duru could dive in their waters after he received the tabua carried by an elder named Eliko who then requested permission for Duru to resume his sea cucumber harvesting near Naceva.

The Naceva village turaga-ni-koro heard of this arrangement and called a village meeting to raise the issue of Duru's resumption to use scuba to collect sea cucumber in their

customary fishing rights area. At this point, the entire community of Naceva expressed their opposition to the decision made by the Tui Kula and his elders to allow Duru to resume diving in their waters. In terms of Fijian custom and protocol, this was expressed by the tabua being returned to the people of Yanuca, an act that is very rarely done in Fijian society. The Tui Kula had decided that he should follow the wishes of his people and agreed to this act of protocol.

Following this event, the Tui Daga wrote a very strongly worded letter to the Tui Kula (and the people of Naceva), on Duru's behalf, stating that he was saddened that Naceva had chased Duru's men away from their iqoliqoli and chose to return the tabua. This had the effect of angering many of the people of Naceva who felt strongly about banning Duru from exploiting their sea cucumber. The elders and the Tui Daga of Naceva did not want to receive the tabua and said that "once a tabua is given it cannot be given back," whether or not Naceva allowed Duru to dive their waters again. Naceva believed that whether or not they returned the tabua, they would not be jeopardizing their existing relationship with Yanuca. So Naceva kept the Tabua and both communities reconciled their difference on the matter through traditional practice, i.e., drinking yaqona (kava) and having "talanoa" or story sharing. For the time being, Duru appeared to have accepted Naceva's decision not to allow him to dive for sea cucumber in their waters. It is also possible that the Tui Daga is receiving a portion of the income from each beche-de-mer harvest, which also explains why he was so adamant about supporting Duru's diving in Naceva's waters. While in Kadavu, I observed several village or district chiefs reaping large monetary benefits from sea cucumbers collected by scuba divers, with many of these divers coming from the chief's village or district (Calamia 2003).

Because the people of Yanuca are very closely related through blood and marriage with those of Naceva village in Beqa, the people try to maintain their ties through ceremony revolving around the life cycle as well as through other means. This important anecdote reveals the incredible strain that such illicit diving activity has on important historical social ties that are crucial for cooperation as well as the successful establishment of a community-based marine protected area. For this reason, it is essential that these two communities be included in any marine protected area management planning and monitoring. It would be a mistake not to include Naceva in this process.

As of November of 2006, Duru and his divers are alleged to have encroached on the shared iqoliqoli with Beqa, and the Beqa villagers are have objected so vehemently that they apparently have filed a court action on the matter. It was not clear from the recent correspondence whether this was the same iqoliqoli discussed above with Naceva or another one. As evidence of the over harvesting, the locals are reporting that lately their yields of sea cucumber are now very low; so low in fact that it is not uncommon for seven divers in one week to collect only six sea cucumbers and spear zero finfish (K. Donovan, personal correspondence 10-23-06).

It is entirely possible that the local sea cucumber fishery and the upper trophic coral reef finfish populations are in serious decline. If the residents of Yanuca Island are to prevent a total collapse of these fisheries, then they will have to soon put into place some new management tools to conserve their marine resource base. One attempt to correct this trend is to install official sea wardens that have been trained at workshops in Suva. These people are trained by the Fiji Fisheries Department to properly patrol, monitor, and issue citations and, if need be, sanctions, to people that illegally fish in another clan's iqoliqoli. In other

words, these wardens have certain police powers that they can exercise to ensure protection of local marine resources.

As of this writing, Pacific Blue Foundation has sponsored three Yanuca men that have now been trained to be honorary fish wardens. Recent reports indicate that Duru, and other gang members, sometimes have arguments with the local sea cucumber fishers because the wardens feel guilty they are preventing Duru from “making a living” by asking him to cease using the illegal scuba for fishing sea cucumber (Kerry Donovan, personal communication 10-23-06). This is a common issue in other parts of Fiji as well. That is to say that local people find it difficult to serve as honorary fish wardens and to exercise their police powers to enforce the law when kith and kin are involved. This same social phenomenon was also observed when I conducted my fieldwork in Kadavu in 1998-2000. This issue will take time to work out on Yanuca, but in the interim the environmental benefits of having regular patrols and monitoring of the local iqolqoli should exceed the social costs.

Marine Awareness Workshop

On three consecutive nights marine workshops were held at the old abandoned 1910 church in Yanuca Village. The workshop was held there on the evenings of May 22, 23, and 24, 2006. The first evening 22 residents, including 10 women, of Yanuca participated. The second night a total of 18 people, including 7 women, showed up, and on the third and final night 13 people, including 6 women, attended the meeting. Each night the group self-divided into several smaller gender-based groups with about 4 to six people per group. Kerry Donovan of Pacific Blue Foundation and the Yanuca village turaga-ni-koro, Sireli Kago, assisted Dr. Mark Calamia workshop presentation and translation.

The first night of the workshop a transect diagram representing the geographical cross-sections of coastal ecosystems or habitats ranging from deep water to deep water and beaches and mangrove areas were identified (Walters et al. 1998). The specific habitats listed on the chart were as follows: farm, mangrove, beach, tidal flat, seagrass bed, lagoon, reef, and deep water. For each of these habitats, the participants working in small gender-based groups were asked to identify the following items: use, opportunities (potential or existing benefits), problems/issues (potential or existing challenges). The turaga-ni-koro translated Dr. Calamia’s instructions for the exercise into the local Fijian dialect. All responses from the working groups were in Fijian and have been documented in a notebook (Ethnographic Inquiry retains these workshop data). The exercise offered the Yanuca people an opportunity to share for the first time their aspirations and concerns regarding their iqolqoli. It also was the basis to aid their understanding of the importance of establishing a community-based marine protected area by which they could conserve biodiversity and increase marine resource productivity for their future generations as well as for themselves. Many of the responses are interwoven in the suggestions given below pertaining to development and conservation of island terrestrial and marine resources.

In general, the people were adamant about allowing the sea cucumber an opportunity to reproduce and reestablish their population in their traditional fishing rights area through natural recruitment. They all recognized that the use of scuba is unsustainable for harvesting sea cucumber and that it has a negative impact on the collection of finfish as well. Almost all workshop participants in attendance said they would be willing to speak to others in the community about the issue of over harvesting beche-de-mer with scuba and the need to promote sustainable fishing practices such as free diving (holding one’s

breath while diving) or the use of “the bomb.” The bomb is a buoy that floats on the surface of the water but has a long nylon chord attached to it, and at the other end is a weight with a barbed metal point—similar to a mini-harpoon—used to pierce the sea cucumber and haul it to the surface from very deep levels. The people would say repeatedly that “if this generation over-harvests their beche-de-mer, then there won’t be any left for the next generation.” This expression of knowledge of basic conservation and management practice reflects a value system the people have concerning their marine resources and the need to conserve them. With such a value system in place, it becomes easier to begin the process of teaching people the technical aspects of adaptive resource management and sustainable practices that can be the foundation for a successful community-based marine protected area. In general, the workshop participants were in agreement for the need to have some form of a marine conservation tool, such as a marine protected area, in place. The turaga-ni-koro indicated that this would be an important observation to share with the Yanuca Village Council.

Other important issues that were raised at the workshop included the over-harvesting of finfish by local people as well as outsiders, especially poachers who come from Suva and Pacific Harbor. Other issues raised were the deposition of rubbish on the island and in the iqoliqoli waters. On the northern area directly adjacent to Yanuca’s iqoliqoli a company has an underwater shark feeding show for tourists who wish to observe this spectacle in shallow water while donning scuba gear. The Yanuca people mentioned that they have seen very large shark, including tiger shark, in the area as result of this practice and are concerned that if they were to fall overboard or have their punt capsized from harsh waves in this area the outcome would be tragic, to say the least. Another point raised was the destruction of coral reefs along the west and northwestern part of Beqa Lagoon. This is the area where they often fish and where they like tourists to scuba dive and in Frigates passage area to surf. The primary cause of reef destruction is the dropping of small and large boat anchors. The need to address this problem with properly built moorings has already been discussed above. Finally, many of the people in Yanuca, especially Taito, believe that a portion of their iqoliqoli was denied them because of a change in the southern eastern boundary of their shared iqoliqoli, which took place in the 1960s. It was then resurveyed in 1986 by the Native Land and Fisheries Commission (NLFC) and mapped. According to Kerry Donovan, a man from Beqa Island has recently taken it upon himself to challenge this NLFC boundary decision by taking the matter to court. He claims that his village on Beqa Island owns the entire shared iqoliqili and that Yanuca does not have any right over even the shared portion (K.Donovan, personal communication 10-23-06).

Fiji Agencies and Development Assistance

The National Trust of Fiji (TNTF): This is a statutory organization in Fiji devoted to conservation of public resources. The trust was created in 1970 by the National Trust Act of Fiji. The Trust administers the country’s six national parks and various historical sites. The primary purposes of the Trust are the preservation of historical and natural resources, promotion and augmentation of the amenities to those resources, conservation of flora and fauna, and provision of access to the historic and natural resources for the public. Their sister agency is the Fiji Museum, which has an active research and oral history and archaeological/historic preservation program. Both agencies are under the Fiji Department of Culture and Heritage.

Partners in Community Development Fiji (PCDF): Founded in 1978, PCDF began its operation with a focus on nutrition. The organization has steadily grown and today its projects encompass health and community awareness, the sustainable management of marine and forest resources, small-business development, disaster relief, human rights and good governance. PCDF has a skilled group of community outreach workers and technical experts who utilize participatory tools in their community work. Their mission is to empower people to make informed decisions and to work in partnership with communities to achieve equitable, holistic, and sustainable livelihoods.

Non-Profit Organizations and Consultants for Development & Conservation Assistance

SeaAid. This is a 9-month old nonprofit organization founded and staffed by anthropologists who want to give something back to the small villages that have given so much for research. Their primary mission is to design, fund, and implement short term appropriate technology projects in rural coastal communities worldwide. Their philosophy is that simple, inexpensive projects implemented at the community level can provide the most cost-effective and sustainable solutions to many human health and environmental problems in the developing world. SeaAid specializes in the design, introduction, and building of three technologies to assist remote coastal communities: (1) solar water purification stills to convert sea water to freshwater and/or purify existing water supplies, (2) composting toilet systems that dramatically reduce disease vector exposure while simultaneously protecting fragile reef systems, and (3) solar cooking ovens. All of these technologies are introduced and developed only with the interest and approval by the communities themselves. Typically, a pilot project will be initiated to ascertain whether or not the local residents will fully accept and use and maintain the facilities long after SeaAid has left the area. Project costs are about U.S. \$10,000 or less.

Global Greengrants Fund. This small fund (about U.S.\$5,000) supports grassroots groups working for environmental justice and sustainability around the world. Their grants fund grassroots action in some of the world's despoiled and impoverished places. Their grassroots groups help to solve persistent problems and stopping or reversing the cycles of poverty, powerlessness, and environmental destruction. Their grants work to provide assistance to the communities where other sources of support are unavailable. They have a Pacific region, but do not accept requests for assistance from other NGOs.

Ethnographic Inquiry. This is a one-person consulting firm that conducts applied anthropological research and assessment of community-based conservation and development projects involving indigenous peoples. This firm has working with indigenous Fijians (including those of Kadavu and Yanuca Islands) and with Native American groups in the U.S. Southwest on natural and cultural resource preservation issues. Where feasible, the Ethnographic Inquiry facilitates the integration of traditional ecological knowledge (TEK) with contemporary adaptive management regimes. Much of the work involves environmental awareness workshops and networking to locate funds for marine resource conservation and development projects, including ecotourism ventures.

The New Iqoliqoli Bill and its Implications for Resource Management

The following is abstracted from the PCDF Submission on the Iqoliqoli Bill (PCDF 2006). The government of Fiji has proposed a recent Iqoliqoli Bill. The aim of the bill is to transfer the proprietary rights and interests in the iqoliqoli areas from the State to the iqoliqoli owners and to establish the Iqoliqoli Commission while providing for its

functions and powers for the purposes of regulating fisheries resources and the iqoliqoli rights within the iqoliqoli areas and for related matters... (Qoliqoli Bill 2006, Bill No. 12 of 2006). As it stands, this bill recognizes the right of Fiji's marine resource owning communities but does not empower them to take responsibility and control over the usage and control of the management of their marine resources. To illustrate this point, placing management and control of the iqoliqoli under the Native Land and Trust Board (NLTB) would act would deter resource custodians from developing important business and management skills.

Historically, the NLTB's goal is to issue leases for native land and to provide payments to land owning units (mataqali); however, the primary objective of the new iqoliqoli trust should be to fund the management and protection of the iqoliqoli and to provide funds for community development, rather than cash to iqoliqoli owners.

The Iqoliqoli Bill presents a useful means to resolve disputes over iqoliqoli boundaries and chiefly control rather than the current form similar to the NLTB structure. As an example, there are many cases in which the present custodial chief who receives fees for fishing licenses did not have a traditional role in the management of the iqoliqoli, while those who did have been effectively removed from consideration. It should be noted that there has been no assessment of the present system, and of potential conflicts that may be created through the passing of the Iqoliqoli Bill.

This is not to say that the government does not have a valid and important role to play in iqoliqoli management, which is absent in this document. That is to say there is no provision to ensure that corruption is kept to a minimum. For example, promotion of good governance is missing altogether in the qualification of members.

At the moment, there are other NGOs working in partnership with the government's Ministries of Fisheries, Office of Fijian Affairs, and Department of Environment that have in recent years pointed the way to recent breakthroughs of iqoliqoli management. Such experiences serve as models to replace the dated, top-down, money-driven management system and model of legalistic, centralized government control proposed in the Bill.

A new draft Bill should be prepared that has wider consultation and is based on outcome of this process. In addition, the Government should explore other options to fund the Iqoliqoli Bill process, such as the European Union's EDF10 facility and not create more taxes for the local citizenry.

If the present Bill is passed without the above considerations being implemented, then it could negatively impact the good work of many communities now engaged in marine resource conservation and management, the NGOs, the universities, government and tourism industry, and the solidarity and prosperity of the Fijian people rather than the intended aims, not to mention the added economic and social cost to Fiji.

In its current draft, the Iqoliqoli Bill could further damage interethnic relations by fueling resentment among non-indigenous people to whom it offers no benefits, and among iqoliqoli owners when their expectations of richness are not met (Fiji Times, November 1, 2006a). If passed in its current form, the Bill could mean that the outsiders might have to pay a fee to walk or sit on the beach, swim, dive, or surf, or fish. The implication is that the Indo-Fijian population might also have to pay a fee for using such areas to fish.

The military feels that the Fijians have always treated the issue of inheritance pertaining to land and sea with very sensitive emotion and have been easily swayed by the powers at be to break the law when these resources are at stake. Some military officials also feel that tribalism can easily contribute to ethno-nationalism orchestrated by political leaders and extremists can incite emotions connected to the land and sea leading to the national security and sovereignty. The military espouses its belief that good governance for all citizens of the country should remain the responsibility of any elected official. The Iqoliqoli Bill, as it is written, aims to privilege the indigenous Fijians at the expense of non-ethnic Fijians and therefore put national sovereignty at risk. Furthermore, the military is calling for a proper consultation process because it believes that Fijians have not been fully appraised of the Bill's implications. (Fiji Times, Oct 20, 2006b).

According to the Fiji Island Hotel and Tourism Association (FIHTA), the Bill is unfair, selective, completely uncommercial and will permanently damage Fiji's reputation as an attractive tourism investment destination. The Association went on to say that in its present form, the Bill would severely harm Fiji tourism. Specifically, the Bill, if enacted, would remove rights and interests of investors and hotel operators and will detract from confidence and security for tourism while promoting disputes among indigenous people between Fijians and operators. Proprietary rights transfer is being considered and will potentially create significant negative publicity from an investment perspective. The message the Bill sends to tourism developers is that the Fijian government does not value the tourism sector; rather, it is intending to change the rules and remove investor rights (Fiji Times, October 20, 2006c).

Once the legal ownership of specific bodies of water on the foreshore are identified, the Bill should stipulate that the responsibility of keeping the area free of pollution will rest directly with the owners themselves and not with the government. This is based on concept of property ownership, and the ownership of iqoliqoli estates would be no exception. But the question remains: Has the government in fact actually passed responsibility to the iqoliqoli owners by this proposed law, or has it simply found another way to obtain taxes from the owners to serve its own self-interest?

In terms of Yanuca Island Village Council and its interest in promoting tourism on the island, the potential exists for conflict to erupt with non-Fijian tourism operators who have current leases on Yanuca Island as well as with any operator wishing to use Yanuca's iqoliqoli for recreational activities. The existing fee structures for iqoliqoli usage that are currently in place could also change dramatically once local owners assert their full proprietary rights. Moreover, the potential for corruption would be increased given the illicit use of scuba gear to collect sea cucumber as well as the surfing venture activities that currently exist. Finally, the establishment of a community-based marine protected area would have to be undertaken with little or no government assistance. The legal owners would have to assume full responsibility in its management. If boundary disputes were to arise following the establishment of the protected area, the disputing parties would likely have to settle the issue on their own without government involvement. The potential for NGOs to be fully effective in partnerships with local representatives concerning development and conservation initiatives might be diminished.

Suggested Conservation and Development Measures to Assist Yanuca Village

The following suggestions address several core issues regarding development and conservation in Yanuca village of Beqa Lagoon, Fiji. The issues involve the need for sustainable employment that allow for steady income generation while encouraging the conservation of critical land and sea resources. The suggestions emphasize possible solutions that can be implemented by the people of Yanuca community, together with the help of Pacific Blue Foundation (PBF) and other possible NGOs and consultants. Ethnographic Inquiry strongly believes that for long-term positive changes to become effective, the community members be given latitude to have ownership of salient development and conservation concepts involving their island and village. In other words, local acceptance of outside ideas and concepts must take place through a gradual but consistent shift in the community's values and belief system. One approach for initiating such a shift is listed below as the first item. The suggestions are listed in priority based on the most immediate needs identified during the field visit from May 22-24, 2005 and through discussions with PBF representative Kerry Donovan who accompanied me before, during, and after this field period.

1. While other workshops for environmental awareness and conservation planning are conducted, an emphasis should be placed first on the change of consciousness involving core spiritual values and beliefs concerning the ecological processes and availability of resources. One important measure might be to bring local Methodist ministers from the Fiji's Methodist School of Theology who are recently trained in a new course entitled "eco-theology." These ministers could be encouraged to speak as part of local workshops on environmental ethics and conservation.
2. Provide local Yanuca village sea cucumber divers with the proper training needed and certification needed in the use of scuba. This training could be done in tandem with marine awareness workshops in marine ecology and biology, marine biodiversity enhancement, conservation, and ecotourism. This training would serve as the basis of reorienting the focus from "quick money" from sea cucumber harvest using scuba (which is banned by Fisheries Act) to using new scuba training for underwater tourism. Of course, this would necessitate the agreement of the village council to establish a community-based marine protected area.
3. If sea cucumber harvesting is to be sustainably practiced, the village council will have to enforce the current government legislative ban on use of scuba altogether for sea cucumber harvesting while allowing only free diving and the use of the "bomb"—a line with a buoy attached at one end and a piercing tang attached to a lead weight at the other. In addition, they council will have to address the supply of air for diving tanks. The supply is coming from other dive operators and resorts in the vicinity of Beqa lagoon. Once this is accomplished, there is a greater chance for the reduction of illicit sea cucumber diving.
4. Help local people of Yanuca village to redefine the purpose of Australian built Rotary House at Pacific Harbor. If ecotourism were to become established on Yanuca, then Rotary House could serve as a "portal" for prospective tourists to learn more about Yanuca. In that regard, Rotary House could be remodeled to have attractive pictures of Yanuca Island, the village of Yanuca, the underwater realm of Beqa Lagoon, and historical features such as the cave of Qarakuvui and the ancient fortified village of Delai at the top of one of Yanuca Island's peaks.

5. Establish a distance learning program on Yanuca Island involving computer literacy training through a diploma program offered by the University of the South Pacific. The model for this in Fiji has already begun on the Nagigia surf camp off of the Nabukelevuira village on the far west end of Kadavu province. There, special instructors have been hired to teach children and young adults the basics of using information technology. Harley Jones, who is the owner of the resort, is a highly skilled web page designer and builder and could serve as a guide for how to begin a similar diploma program on Yanuca Island.

6. As part of the distance learning program, a Telecom microwave facility should be established on the island to facilitate broad band and narrow band communication with the mainland of Viti Levu and beyond. The facility would have to be maintained by local people properly trained for repairs and other maintenance work.

7. Marine-oriented tourism could conceivably be the largest employer for local Yanuca residents. People of Yanuca village who are now living in the cities could be contacted and encouraged to contribute to an ecotourism enterprise on Yanuca using successful marketing strategies.

8. Create better infrastructure at Wainidubu, Yanuca Island resort. At this time, the resort caters primarily to surfers who visit Frigate reef. If this resort were to be refitted with newer sewerage, water, and electric facilities, then the potential would exist to develop the surf camp into a small to medium scale resort involving local residents. If this were accomplished, the resort could provide scuba diving in addition to surfing, snorkeling, sport fishing, and sea kayaking opportunities. Marketing this resort as a multi-adventure experience at Rotary House could potentially attract many visitors to the island.

9. Initiate a training program in ecotourism resort management that is targeted to local residents of Yanuca Island. Rather than seeking to employ local people primarily in the service sector or as traditional firewalkers, seek to engage in capacity building by bringing in Fijian experts in hotel, resort, and tourism management to properly train local people in resort management, including book keeping, accounting, financial planning, and business management in general. Ensure that profits stay in the village and are not subject to external leakage through the next listed item.

10. Develop a trust fund for investment of profits from ecotourism resort. The trust could be used to ensure that financial wherewithal is available for the resort but most importantly for the management and patrolling of the community-based marine protected area.

11. Develop a proper sewerage system that does not impact the local sea grass areas as is currently the case. A carefully designed system that allows for proper disposal of waste water is essential for habitat protection.

12. Seek to develop both terrestrial and marine resources so that adequate amounts of food are available for both subsistence and for resort support. This will require the development of a comprehensive management plan for the island's resources.

13. Establish a large community-based marine protected area (mpa) that would include parts of Yanuca's iqoliqoli as well as parts of other iqoliqoli of the entire Beqa Lagoon area. This would involve the collective work of all communities in the Beqa Lagoon area.

However, a marine protected area specific to Yanuca can be developed through concentrated involvement by NGOs, such as PBF, and the community. A series of workshops focusing on environmental awareness, biodiversity, socioeconomic issues, mpa planning, management, monitoring, patrolling, and evaluation are all essential if a community-based mpa is to be successful. Local community must establish its own process for selecting honorary fish wardens. Most importantly, however, is the necessity of allowing local Fijian institutions and protocol to drive the process.

14. As part of a combined community-based marine protected area and ecotourism plan, the reconstructing of the two “moka” or traditional stone fish traps in the mud flat and intertidal zone. If properly constructed and maintained the moka could (1) provide a sustainable source of fish protein for the community and (2) provide an added tourist attraction as they witness a vestige of Yanuca’s past serving present subsistence needs.

15. Replanting of new mangroves will ensure that there is sufficient habitat of nurseries for marine organisms to grow as well as added shore protection from large waves.

16. Develop an ecotourism hiking trail that would connect the “moka” with the Cave of Qavakuvui and the ancient hilltop village fortification of Delai. Knowledgeable local people that are fit for long-distance walking and can speak a reasonable amount of English could serve as guides for interested tourists.

17. Local community committees could be set up to manage ecotourism, the mpa, and the development needs of the village but all should eventually be guided by a comprehensive resource management plan.

18. Offer incentives, such as scholarships, for those students and adults who excel in environmental awareness, biodiversity protection, and resource conservation.

19. Work closely with other interested NGOs that have a common goal regarding sustainable resource management, conservation, and development on Yanuca Island.

20. Continue to develop an honorary sea warden program on Yanuca Island. By training more people to become responsible protectors of their iqoliqoli it will have the effect of resource conservation and, at the same time, instill a sense of pride for their iqoliqoli.

21. Include the people of Naceva village from Beqa to participate in the development of a community-based marine protected area. Because of the strong kinship links that these two communities share it is important to include them in marine or environmental awareness workshops that PBF may sponsor in anticipation for establishing a marine protected area for Yanuca village.

22. Assist Yanuca village write a letter requesting the assistance from the Partners in Community Development of Fiji (PCDF) to improve the overall quality of life in their village and

23. Assist Yanuca village write a letter to the National Trust of Fiji requesting assistance in developing an ecotourism venture for the island.

24. Assist Yanuca village write a letter to the Fiji Museum to request assistance in developing an oral history program to document the incredible ethnographic and archaeological resources on the island.
25. Assist Yanuca village write a letter to the nonprofit organization known as SeaAid to assist in the development of the island and protect its terrestrial resources. Specifically, the village can request assistance with the establishment of composting toilets, solar water distillers, and solar cooking ovens.
26. Assist Yanuca village write a letter to the Pacific Island Region advisory board of Global Greengrants Fund to assist them in funding an ecotourism venture on Yanuca Island.
27. *Ethnographic Inquiry* could write grant proposals to obtain funds for marine conservation and eco-tourism development as well as write letters to Fijian agencies and non-profit organizations for village assistance.
28. *Ethnographic Inquiry* could conduct a socioeconomic household survey of Yanuca village to obtain baseline data on material needs and current measures of social capital and quality of life.
29. *Ethnographic Inquiry* could continue to facilitate Yanuca Island in the establishment of a community-based marine protected area for resource conservation and marine ecotourism, including a community effort to rebuild the two existing moka remnants in the intertidal zone.
30. Graduate students from the University of North Texas could be provided that are willing to fulfill their master's degree (applied cultural anthropology) practicum requirement on specific projects that Pacific Blue Foundation has in mind involving conservation, development, or management issues on Yanuca Island.
31. SeaAid could introduce solar water purification systems, composting toilet systems, and/or solar cooking ovens to the community of Yanuca and work with the community in development and maintenance of these technologies.
32. Continue to seek outside funds for basic and applied research on community-based marine protected areas while including a strong capacity building component in the grant proposals.
33. Write a grant application to Sea Ecology (conservation NGO) to obtain a boat with a dual 45 hp engines or better to patrol Yanuca's iqoliqoli and proposed marine protected area.

Concluding Remarks: Possible Approaches to Community-Based Resource Management

This report has described the findings of a focus group meeting in Pacific Harbor, several one-on-one interviews, and the general results from a three-night marine awareness workshop held at Yanuca Island Village in the Fiji Islands. In the preceding section, the report lists 33 suggested Development and Conservation Measures to Assist Yanuca Village. The remainder of this report will address some general approaches and concepts

for participatory natural resource management in the Pacific Islands. These concepts apply directly to the Yanuca Island case and could be considered as part of a framework or toolkit for undertaking further assessment of Yanuca Island resource management and human-based needs.

Addressing unsustainable resource use and environmental degradation continues to be a central challenge for people of the Pacific Island region. There have been many programs that have grappled with such issues as nature conservation, climate change, sustainable use of marine and land based resources, and waste management. The crucial lessons that have emerged from this recent history are as follows: (1) Natural resource management programs in the Pacific Islands generally have a much greater chance of success if they engage and work closely with the people and groups that have a strong stake in the resources. (2) As well as engaging stakeholders, our interventions should be based on a sound understanding of the causes of resource management problems, and their relationship to key social, cultural, and economic conditions. Without these two foundations, there is little likelihood of achieving lasting and equitable change towards sustainable development (Mahanty and Stacey 2004).

The South Pacific Biodiversity Conservation Program is one example of a program that during the late 1990s attempted to apply a participatory approach to natural resources management, based on the idea that efforts to protect resources from degradation in the Pacific and many other parts of the world are often ineffective and inequitable without the involvement and willingness of local people. The need to engage local stakeholders in resource management were seen as particularly important in the Pacific because (1) Local people often depend on natural resources for their livelihoods; (2) Local communities own land and sea under customary systems of tenure, and this is recognized by governments; and (3) There are many examples of functioning customary rules and bodies that manage people's access to and use of natural resources (Read 2002).

Two approaches that are currently being used in the Pacific Island region to address unsustainable resource use and environmental degradation are the Community Resource Conservation and Development (CRC) toolkit developed by the World Wide Fund for Nature and the Locally-Managed Marine Area (LMMA) Network Learning Framework. Both approaches and their basic concepts are summarized below.

The CRC is a model for natural resource management in the Pacific Island countries. It aims to support and strengthen the ability of rural communities to make informed decisions about their own futures and manage their natural resource base sustainably. The toolkit introduces CRC and offers practical activities for conducting the process, using technologies and materials that are readily available throughout the rural Pacific Island region. Information is supported by real examples, diagrams, drawings, sketches, and photographs. The aim of the CRC process is for rural communities to find a voice in the wider debates about the use and misuse of their resources. It is also the intention of the CRC that governments, environment, and community organizations will recognize the essential importance of placing the community and the sustainable use of resources at the center of any long-term future for the Pacific Island region (WWF 1996).

The LLMA Network is collectively attempting to determine the conditions under which a locally managed marine area strategy works best and why. Each project team uses an LMMA strategy that has questions about whether they are applying the approach more

effectively to reach their goals. In addition, project staff may have only limited information about how best to learn about and adapt their use of an LMMA through time. To address these needs, each participating project team in the Network goes through a learning process that involves first describing the conditions at their site, what actions they will take to change these conditions, and what information they will need to collect to monitor the results of their actions. Each project in the network then is expected to collect, analyze, and communicate this information so that project teams can check whether their actions worked as they had intended, judge whether their assumptions underlying LMMA use were valid, and decide whether changes need to be made in the project design to improve results. Through this group process, each project team is expected to learn about the actions they are taking, i.e., what work well, what doesn't, and why (LMMA 2004).

Finally, a short discussion on the need for socioeconomic research for coral reef management will round out this final section of this report. Coral reef managers often strive for balance between sustainable use and reef conservation. Hence, the relations between human behavior and reef ecosystems are critical. Reef health is affected by human activities, but also the livelihoods and economic well being of people living in coastal tropical areas depend on the condition of the marine resources. Therefore, coral reef uses, reef management and reef ecology must be considered as an interconnected system. Not surprisingly, there is a close link between how people use coral reefs and their socioeconomic background. Understanding the socioeconomic context of reef stakeholders is essential for assessing, predicting, and managing reef use. To balance sustainable use and reef protection, reef managers need to know (1) the status of the reef and changes in the health of coral and fish species; and (2) the people that use and affect the reef, including their use patterns, perceptions of reef management, and characteristics. The *Socioeconomic Manual for Coral Reef Management* (Bunce et al. 2002) and the *Socioeconomic Monitoring Guidelines for Coastal Managers in Southeast Asia: Socomon Sea* (Bunce and Pomeroy 2003) are two excellent references to guide managers and practitioners in conducting socioeconomic studies of communities that depend on reefs for their livelihoods. It would be helpful to consult these resources while assisting the Yanuca community in reef management.

Acknowledgements

As the principal investigator and owner of Ethnographic Inquiry, I, Mark Calamia, would like to acknowledge the kind assistance of Mr. Sireli Kago, turaga-ni-koro of Yanuca Village, for my first visit to Yanuca a very productive and enjoyable experience. Sireli, his kind wife, and family provided me with lodging and food in his house during the 3-day workshop period. To him and his family and all the people of Yanuca Village, I wish to say a very special Vinaka Vakalevu! In addition, Taito Tabaleka Jr. and Jiuta Lewanituva were very helpful in offering information and making necessary contacts for my meetings to take place at Pacific Harbor and Yanuca Island. Thank you both for your help. My appreciation also goes to the Tui Daga for accepting our *sevusevu* and allowing me to visit his wonderful village to conduct our workshop. I also want to thank Kerry Donovan of PBF for all his kind assistance in helping prepare for my arrival to Pacific Harbor and Yancua Village, as well as in assisting me with the many tasks that needed to be undertaken before, during, and following the workshop and individual interviews. Thank you Kerry for all your hard work and for helping me become well from my stomach ailments during our fieldwork! Finally, I wish to say how much I appreciate the opportunity to have consulted with Pacific Blue Foundation on this project and extend a

Vinaka Vakalevu to PBF director Dr.Greg Mitchell for his sponsorship in making this trip to Yanuca Island possible. Thank you very much Greg for all your support!

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CFRA 4

REPUBLIC OF FIJI



DUPLICATE

FIJI
REGISTER OF NATIVE CUSTOMARY FISHING RIGHTS

VOL. 1

FOLIO 4

The Yavusa Naduruvesi and Nacurumoce of Rukua village in the District of Sawau (island of Beqa) and Yavusa Nukutabua of Yanuca Island in the District of Serua the members of which are enumerated in the Register of Native Land-owners of the Province of Rewa, Tokatoka Nos. 532-545, 554-556 and the Province of Serua, Tokatoka Nos. 22-25-----

are

recorded as the proprietary unit owning the Fishing Rights situated and contained within the following boundaries commencing at the outer edge of Kavukavu or Cakaubalavu Reef (Point 45) thence following the outer edge of the said reef southwest, northwest and north to the northerly point of Beqa Reef at the south side of Dorokavu (Frigate Passage from thence directly to the west tip of the reef in the centre of the entrance to the said passage (Point 40), thence around the north edge of the reef following the southern boundary of Yavusa Nukutabua Fishing rights in a direction of 083°(M) to the south-eastern corner of the said Fishing Rights (Point 41) in a direction of 230°(M) to the eastern most tip of Namara Reef (Point 44) thence following the northern edge of the said reef to its western extremity thence in a direction of 162°(M) direct to the western edge of Nukutawai (Sandcay) on Kavukavu or Cakaubalavu Reef thence continuing in the same direction to the outer edge of the reef (Point 45) the point of commencement:

being more particularly delineated and marked 4 in the plan NFC 001 kept at the office of the Native Fisheries Commission.

at Naitonitoni on the 14th day of February, 1961
Approved at the Native Fisheries Commission inquiry held

IN WITNESS WHEREOF I have hereunto affixed my signature this _____ day of _____ 19 _____

(sgd) Penaia Ganilau
Native Fisheries Commissioner

(NLC/61)

Native Fisheries Commission
Suva, Fiji

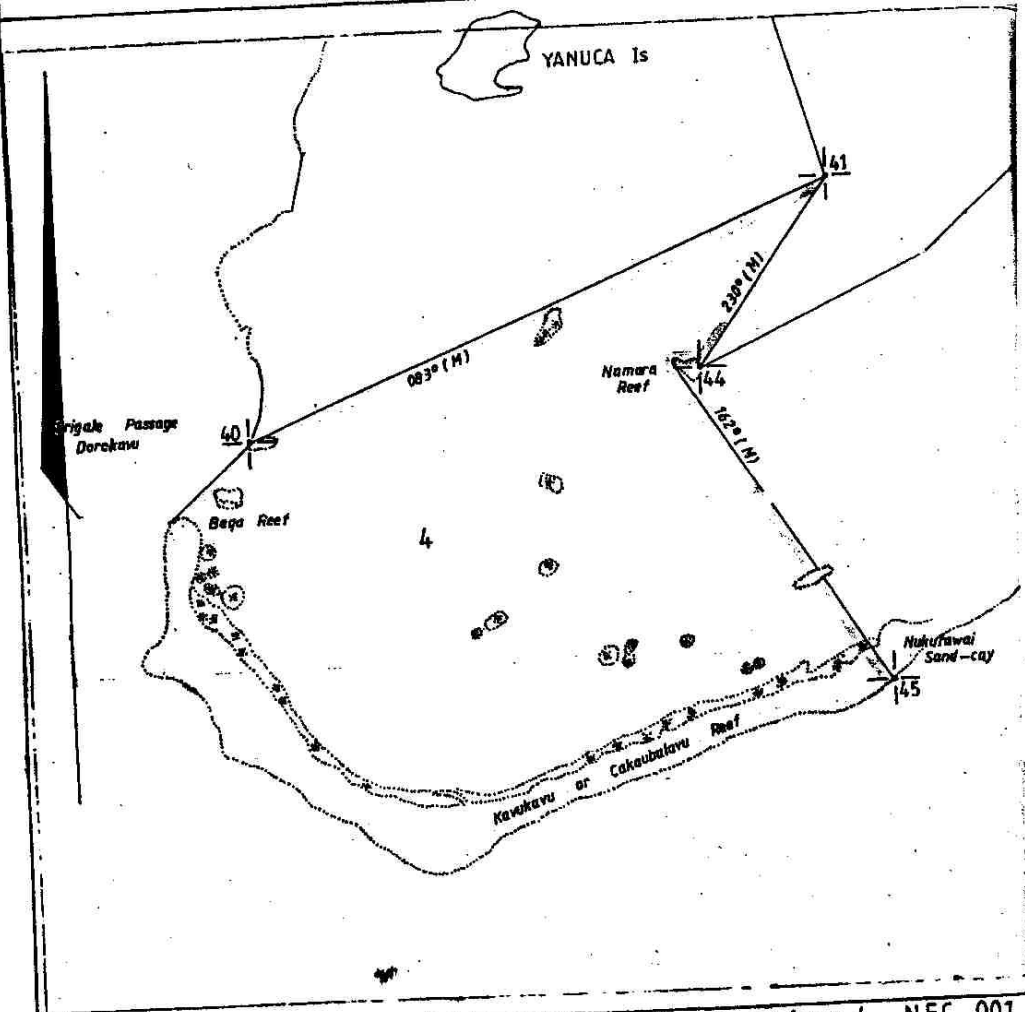
PLAN OF NATIVE CUSTOMARY PASSENGER RIGHTS

Ownership: YAVUSA : NADURUVESI,
NACURUMOCE,
NUKUTABUA.

Villages: RUKUA,
SULIAGA,
YANUCA.

District: SAWAU & SERUA. BEQA Is.

Province: REWA.



Scale: 1 : 100,000

Map Ref: Area 4 NFC 001

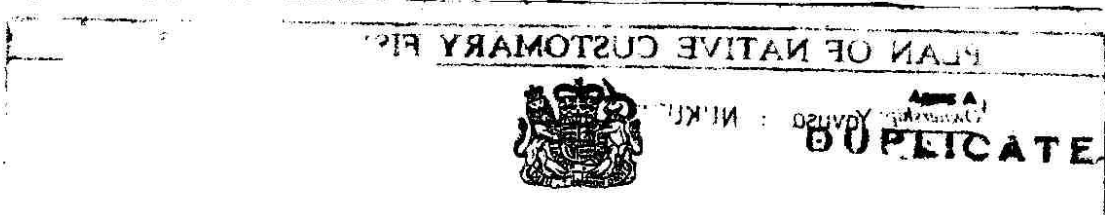
This plan has been produced at the Hydrographic Office, Suva under the direction of the Hydrographer.

R. W. D.

Certified Correct

M. A. ...

CFRA 5



FIJI
REGISTER OF NATIVE CUSTOMARY FISHING RIGHTS

VOL. 1 FOLIO 5

The Yavusa Nukutabua of Yanuca Island in the District of Serua the members of which are enumerated in the Register of Native Landowners of the Province of Serua, Tokatoka Nos. 22-25-----

are

recorded as the proprietary unit owning the Fishing Rights situated and contained within the following boundaries commencing at the western tip of the reef in the centre of Dorokavu (Frigate) Passage (Point 40) thence around the north edge of the reef following the northern boundary of Yavusa Nukutabua and Yavusa Naduruvesi and Nacurumoce Fishing Rights in a direction of 083°(M) to the north-east corner of the said Fishing Rights (Point 41) thence in a direction of 001°(M) following the western boundary of the Yavusa Naduruvesi and Nacurumoce Fishing Rights to the eastern edge of Caesar Reef (Point 39) thence following the north-western edge of the said reef in a south-westerly direction to Cakaunisici Reef thence along the western edges of Cakaunisici Kauviti and Nayamotu Reefs to the point of commencement at Dorokavu (Frigate) Passage:

being more particularly delineated and marked 5 in the plan NFC 001 kept at the office of the Native Fisheries Commission.

Approved at the Native Fisheries Commission inquiry held
at Naitonitoni on the 14th day of February, 19 61

IN WITNESS WHEREOF I have hereunto affixed my hand and seal this
of 19 day

1/NLC/87

(sgd) Penaia Ganilau
Native Fisheries Commissioner

Native Fisheries Commission
Suva, Fiji

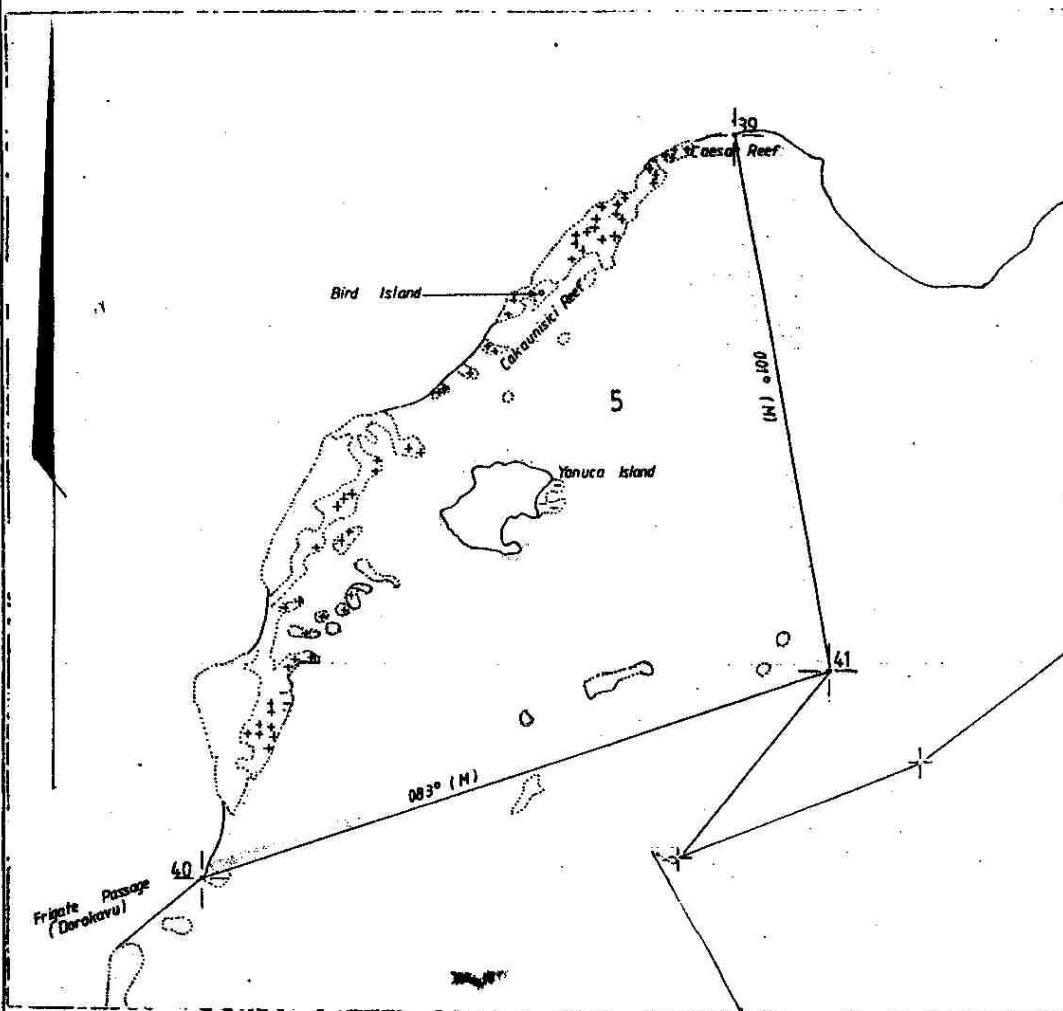
PLAN OF NATIVE CUSTOMARY FISHING RIGHTS

Chiefdom: YAVUSA : NUKUTABUA.

Villages: YANUCA.

District: SERUA

Province: SERUA



Scale: 1 : 100,000

Map Ref: Area 5 NFC 001

This plan has been produced at the Hydrographic Office, Suva under the direction of the Hydrographer.

Certified Correct

R. W. L.

[Signature]

BOAT TRANSPORT DRAFT REPORT

Dave Murline visit 2-8 September.

Purpose: To ascertain boat types and mooring requirements. Dave to furnish final report to Greg at end of visit.

Kerry and Dave, As summarized in earlier email, I prefer that Dave move forward with any and all information gathering on moorings and boats, and coordinate that with Kerry and the two of you integrate and make a final summary report by end of Dave's visit. Thanks. Greg

Index

1. Beqa lagoon description
2. PBF activities
3. Kerry comments
4. Steve Ussher comments
5. Greg's 2 step process

1. Beqa Lagoon 40 mile ring reef containing five islands, Beqa (the larger) and Yanuca next largest (484 acres, $\frac{3}{4}$ sq mile). Other islands are Ugaga, Nanuku, and Cakau Ni Sici (Bird Island). Ugaga, 5 acres, lies ssw of Beqa and is leased by Royal Davui Resort. Nanuku is on Navua side of Beqa. Cakau Ni Sici is about $\frac{3}{4}$ mile NNW of Yanuca and is within northern end of proposed mpa. 7 miles from Pacific Harbour to Yanuca Island, south of SSE 5 miles from Yanuca Island to Frigates, south 12 miles PH to Frigates Prevailing wind E-SE Mar-May, ESE-SE/S June – Oct, ESE trade and variable W-NW Nov – Feb. Prevailing storms from west associated with cold front, usually 3-5 days Cyclone season Nov - April

2. PBF Activities (Greg) ...How to optimize small boat operations that could serve multi purpose. It may be that the best strategy is different boats for different jobs, but if Pac Blue had a narrow goal of

- setting and maintaining moorings
- operation of surf charter part time out of Pacific Harbor
- transport of supplies and school kids to from island
- (Kerry's addition), mpa night patrol ? then what single boat format would be the recommended one ?

3. Kerry- comments

- one boat could multitask as supplies/people ferry am and pm, surfers daily and night patrol. It could become a scheduling nightmare though especially if motor or hull breakdowns, protracted repair time. Moorings could need separate type of boat depending on method: large concrete block or drill and insert stainless steel pole in bedrock. Former concrete block method needs heftier boat. Latter mooring method can be done from small fiberglass boat, Maintenance later of ropes and buoys can be accomplished by diving from smaller boat. Therefore, if latter mooring method is used, smaller fiberglass boat seems ok. Former method takes time and may not dovetail in with other daily schedules. Deck space is important if to multi-use. Could incorporate collapsible tank holders for diving, remove and replace with

folding or portable clip-in seating for daily ferry and surfers. Surfers need time all day at break from say 8am to 3pm so allows just the one ferry run PH to island depart 6am, dep island to Frigates 7am. Return from Frigates 3pm, deep island to PH 4pm, safe arrival b4 nightfall. Question is “ How does it work as a dive vessel if busy as a supply/people/surfer ferry all day?” Dive business is a long way off unless fast-tracked by Fijians or momentum gained from First Step therefore leave that task out of multi-use assessment for now?

-Sea conditions can be rough on Beqa Lagoon MANY days of year from stronger trades, choppy, so argument for monohull clean cutting into chop seems strong but Dive Connection's 7m Divemaster had atrocious seaworthiness; too light and kicked around, used a lot of fuel. However twin hulls can slap hard into larger chop and we experienced it on another boat there already but they ‘park’ well. Height of Lalati boat keeps it above chop, cleaner drier ride, smoother parking at sometimes bumpy Frigates mooring thus giving a better surf photo platform, but its a bigger boat and will cost more money to purchase and operate. Still you (Greg) say you could look at a better value boat and resell easier later.

Outboards are retractable for shallow parking at island, repair on boat or transport to Suva. Inboards need repair on boat.. Cabin or spray covers essential to keep passengers and items dry. Sun cover (bimini) essential, can be added on. Running costs include fuel, regular servicing, repairs, slipping for hull, crew salary, survey, administration. Impending Oil production vs supply crisis points to higher fuel costs hence we need a comparison survey for diesel and petrol, and 2 stroke vs 4 stroke (latter more expensive to purchase motor but have heard more economical to operate than 2 stroke) life-jackets, radio, flares, radar ?, ... details easy to complete.

4. Steve Usher comments, New Zealand surfer/boat captain (at Frigates, YIR Oct 04) -----
Original Message----- From: Steve Ussher [mailto:bayachtservices@yahoo.co.nz]
Sent: Tuesday, December 14, 2004 2:04 PM To: B. Greg Mitchell Subject: RE: Boats in Fiji

Greg,

In my opinion, the ideal vessel for Yanuca Transfers/ Village requirements at this stage, will have the following qualities:

- Must have enough sea keeping capability for lagoon storm conditions or up to 5 nautical miles, open ocean (outside lagoon).
- Around 30 to 35 ft.
- Shallow draft.
- Forward Pilot House, Forepeak Cabin V Berth.
- A large aft deck with fairly low bulwarks, a big loading door for carrying heavy equipment eg. building materials, generators etc,
- Capability to carry heavy loads.
- Towing capacity up to say 10 tons.
- A couple of bunks in pilot house.
- Must be beachable in case of cyclone/ storm conditions (for islanders to still have vessel on island), there must be safe mooring areas around Pacific Hr., however vessel will be more secure on high ground in extreme conditions. Therefore, light enough to be dragged by a group of Men or hauled up using a winch on board, fastened to a point on land, e.g. tree, or hauled high ashore using a vehicle.

In order for beach loading (boat backed in using mooring or anchor), or operations described above the vessel will require:

- A retractable stern leg (must not ever touch the ground) if inboard engine is implemented, or out boards, or jet system.
- Fitted Ice Hold For fish or food etc.
- Seats to accommodate passengers.
- A catamaran configuration seems to fit these requirements.
- All equipment aboard (e.g., engines/ electronics) must have agents in Fiji to facilitate any maintenance/warranty issues.
- All systems must fit existing knowledge/ technique of Islanders on Yanuca to allow easy evolution to operating a different type of vessel.

I hope all is well with you. Will give further thought to this.

Steve.

5. 2 step process

I think we should envision a two step process:

Boat-1. Get a solid, good value, utility boat. The Panga-type format is simple, repairable, and if we go outboard, easily serviced (even if expensive) and pretty darned fast and seaworthy. That is why they dominate the format of boats in region. As a first step, I am inclined to go with a larger sized panga, maybe 24', with larger engine, maybe 75 hp, with a 25 hp spare engine always on board. Rig this with a good canopy system, and maybe have a forward area that is well covered or sealed to keep things like camera gear, etc. dry in rough situation. This type of boat can handle much of what we want to do in short term, is a common commodity (and thus relatively affordable)

Boat-2. Explore a more complete boat option. In my view, boats are essential, so having a solid, inexpensive, reliable utility boat (Boat-1 above) gives back up to any more complete boat option we may go for later.

This more complete boat will cost more to purchase, to maintain, and to operate. Therefore, I believe we should explore the options for this sort of boat now, but defer a final decision until we have operated more with a simpler utility boat for awhile. This more complete Boat-2 should be able to have the flexibility to set moorings, transport significantly more supplies than Boat-1, easily carry up to 10 passengers (standing) from island to PH, handle up to 6 divers or 8 surfers, have safety gear (radio, flares, rescue board for Frigates, etc.).

Since a boat is essential to do anything, we must make a decision soon. Therefore, I feel that the best plan will be to find a very good value on a used Boat-1. Identify the best quality in the 22-28' panga or similar class that is available in abundance in the Fijian market. I prefer to focus on a single high quality manufacturer that we know has a good reputation and that has many used boats in the Fijian used boat market. If there are many on the market, it will be very easy to learn the relative value of the boat in the market, then we will shop for a fair deal and then try to get best value by offering a cash deal to close quick. The biggest issue will be the outboard motor if we go this route. I am almost inclined to buy the boat only, and buy a new outboard. We could get really screwed buying a boat at good value that has a motor that got swamped the week before. The motor will be about as expensive, maybe more, than the boat.

This approach allows us to define immediately a good value utility boat that is larger, drier, more capable than the typical Yanuca boat, but that is not super expensive and is one that we can easily find in the used boat market in Fiji. Furthermore, if we do buy at a good value price point, such a boat will hold value for a few years.

Boat-2 will take more effort to specify, and will entail more risk for PBF. Therefore we need to take more time to decide if such a boat is really needed.

Based on my present thinking about options and needs, I would like you and Dave to exchange correspondence with each other and cc to me focused more on Boat-1 details with dialog about Boat-1 being more conceptual. As for the format for this exchange, I think a worksheet would be a hassle. Why not just create several categories of specifications under each category with a list bullet with three levels of priority:

1. What we need, the boat must have this
2. Would be nice. Bonus if the boat has it but we can upgrade later
3. Wish list for upgrade once we acquire a boat; may be needed only for certain types of work, but not essential for initial operations.

So categories might be engine, size, form, storage, communication, rigging, back up engine, safety gear, etc. Then under each, 3 levels of priority.

It is essential right away to determine how Pacific Blue, as a Fijian Charitable Trust, can qualify for tax benefits on purchases, duty free imports, hiring of staff, etc. For example, if we Fijians can get a tax benefit by donating to a Charitable Trust, can we find someone who will DONATE a boat?? Work this angle, and all other angles!

VI. RESUMES

Brian Gregory Mitchell

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PROFESSIONAL PREPARATION:

University of Texas at Austin, Aquatic Biology with honors, 1977 B.S.
Special Honors in Botany University of Southern California, Biology (Biological Oceanography), 1987 Ph.D.
University of California San Diego, Scripps Institution of Oceanography, Postgraduate Researcher, 1987-1988

APPOINTMENTS:

2000-Present Research Biologist, Senior Lecturer Biological Oceanography UC San Diego, Scripps Institution of Oceanography 1994-2000 Associate Research Biologist, Lecturer Biological Oceanography, UC San Diego, Scripps Institution of Oceanography
1990-1992 Program Scientist, Ocean Biogeochemistry Program, NASA Headquarters, Washington, D. C.; Program Scientist, SeaWiFS
1988-1994 Assistant Research Biologist, UC San Diego, Scripps Institution of Oceanography
1987-1988 Postgraduate Researcher, UC San Diego, Scripps Institution of Oceanography

PROFESSIONAL SOCIETIES:

American Society of Limnology and Oceanography,
American Association for the Advancement of Science,
The Oceanography Society, American Geophysical Union, Sigma Xi

SCIENTIFIC LEADERSHIP:

US JGOFS Principal Investigator; Member of SeaWiFS, SIMBIOS, NASDA GLI Science Teams; Principal Investigator for GLI standard products (chlorophyll-a, K490 and CDOM); Editor Coastal Zone Color Scanner special issue of Journal of Geophysical Research; Service as reviewer for numerous science journals and research agencies; Member of Ocean Studies Board of the National Research Council 1995-1998; Planning Committee for National Ocean Carbon Program Coastal Margins initiative.

AWARDS:

1970 National Merit Scholarship Letter of Commendation
1977 University of Texas Special Honors in Botany
1998 Finalist for Provasoli Award, Phycological Society of America.
2001 Award of Excellence 2nd Place for paper presented at the XVI International Seaweed Symposium

PUBLICATIONS:

More than 50 articles in peer reviewed scientific journals and more than 100 conference proceedings or abstracts of work published for national or international scientific meetings

TEACHING

University of California San Diego Senior Biology Lecturer, advisor of 4 PhD and 3 MS students who have matriculated and 1 PhD candidate; committee member for 10

matriculated PhDs students and 4 PhD candidates; innovative educator for undergraduate research with more than 15 students advised; lecturer in K-12 classes in the San Diego Unified School District.

SELECTION OF PEER-REVIEWED ARTICLES (out of more than 50)

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Education

SCRIPPS INSTITUTION OF OCEANOGRAPHY, UCSD, Ph.D. Winter 2005: with Dr. Nancy Knowlton. Thesis "The Effects of Anthropogenic Stress on the Coral Holobiont: New Insights into Coral Disease" GPA 3.9

CARLETON COLLEGE, Northfield, MN Bachelor of Arts degree in Biology, graduated **Summa Cum Laude** June 1996. GPA in major **3.96**; Overall GPA **3.90**; Deans List 1992-93, 1993-94, and 1994-95. Sigma Xi, Phi Beta Kappa, and Distinction on senior thesis.

Experience

Head Teaching Assistant for Scripps, Center for Marine Biodiversity and Conservation IGERT Summer Course 2004 Helped organize and run an intensive graduate classroom, lab, and field course on the Biology, Economics, and Policy of Marine Biodiversity and Conservation.

Teaching Assistant- OTS Tropical Field Studies Course 2003. Teaching assistant for a three month tropical ecology field course on coral reefs, mangroves and seagrasses.

Guest Lecturer- Florida International University Tropical Field Course 2003, Panama.

Teacher's Guide for the IMAX Coral Reef film. 2002. Co-author on teacher's guide written with the Birch Aquarium's educational department.

Designer of the Caribbean Coral Reef Exhibit at the Birch Aquarium 1999-2002: Designed and built a Caribbean coral reef tank working with a Birch aquarist, and transported live corals from Panama for the exhibit. Helped write and design educational material for the exhibit.

Educational Outreach Coordinator and Intern with Coral Forest: a San Francisco based non-profit coral reef organization. Helped write a coral reef Teacher's Guide for K-12 students and organized and gave coral reef lessons to underfunded schools. August 1996- August 1998.

Honors and Professional Activities

Smithsonian Marine Science Network Postdoctoral Fellow: 2005-2006: Recipient of 1.5 years of funding to study the effects of anthropogenic stress on coral disease transmission in Panama and Belize.

Invited Participant in the Oceans and Human Health Working Group: May 2005. Participated in an invited meeting about the future of marine biodiversity sponsored by the Center of Marine Biodiversity and Conservation

IGERT Fellow: 2003-2004. Recipient of an IGERT training grant to support my research in biodiversity and conservation.

Coauthor on NSF Biological Oceanography 3 year grant (OCE01-37748)

20022004 Coauthored a \$340,000 NSF grant that supported much of my graduate research

International Coral Reef Symposium, Okinawa, Japan 2004. Talk titled ``Coral Mortality Caused by Road Asphalt and Roofing Tar``.

Fourth International Symbiosis Congress, Halifax, Canada, 2003. Talk titled ``Coral-associated bacteria are energy limited" .

Sherwood sponsored scuba diver 2003-2004. Sherwood Scuba provided complete dive gear for myself and assistant to support my research.

Beyster Family ``Young Scientist Grant``: 2003. Received a \$5,000 grant to support my field work in Panama.

Smithsonian Predoctoral Fellowship: 2002-2003 provided support for research with the Smithsonian Tropical Research Institute in Panama.

Scripps Hubbs Hall Graduate Fellowship: 2002, provided support for field work and research.

International Society for Reef Studies Meeting, Cambridge England, 2002.

Talk titled ``New Tools for the Study of Coral Disease``.

World Bank Meeting on Coral Disease, Akumal, Mexico, 2002. Invited speaker and participant. Talk titled: "The role of the associated microbial community in coral disease."

UCSD Latin American Studies Tinker Fellow: (Provided support for field work in Panama and Puerto Rico in 2001)

National Defense Science and Engineering Graduate Fellow (NDSEG). (provided full funding 1998-2001)

National Science Foundation (NSF) graduate fellow (awarded 1998)
Participant in the 1996, 8th International Coral Reef Symposium in Panama.

Ad Hoc Reviewer for: Marine and Freshwater Research, Marine Ecology Progress Series

Publications

Kuntz, N.M., Kline, D.I., Sandin, S.I., and F. Rohwer. 2005.

Pathologies

and mortality rates caused by organic carbon and nutrient stressors in three Caribbean coral species. Marine Ecology Progress Series **294**: 173-180.

Levitan, D, Fukami, H, Jara, J, Kline D, McGovern, T., McGhee, K., Swanson, C., and N. Knowlton. 2004. Mechanisms of Reproductive Isolation among Sympatric Broadcast-Spawning Corals. Evolution **58(2)**: 308-323.

Wegley, L., Yu, Y., Breitbart, M., Casas, V., Kline, D.I., and F. Rohwer. 2004.

Coral-associated Archaea. Marine Ecology Progress Series **273**: 89-96.

Casa, V., Kline, D., Wegley, L., Yu, Y., Breitbart, M., and F. Rohwer. 2004.

Bacterial communities associated with healthy and white band Type diseased acroporid corals. Environmental Microbiology
doi:10.1111/j.1462-2920.

- Kline, D. 2004. Molecular Characterization of the *Montastrea annularis* Species Complex from Bocas del Toro, Panama: Satellite DNA, Molecular Discrimination, and Rates of Molecular Evolution. In Review Caribbean Journal of Science
- Kline, D., Kuntz, N., Breitbart, M., Knowlton, N., and F. Rohwer. 2004. The Critical Role of Elevated Organic Carbon in Coral Reef Decline. In Review Nature.
- Kline, D., J., Bryant, G., Rohwer, E., Kisflaudy, F., Nostropaur, J., Grayson, and F. Rohwer. 2004. The Aquatic Automated Dosing and Culturing System (AADACS). In Review Limnology and Oceanography: Methods.
- Kline, D., Grayson, J., Knowlton, N., and F. Rohwer. 2004. White Band Disease contagion is influenced by environmental conditions. In preparation for Ecology Letters.
- Kline, D., J., Kuntz, N., Knowlton, N., and F. Rohwer, Coral Mortality Caused by Road Asphalt and Roofing Tar. Proceedings of the Tenth International Coral Reef Symposium, Okinawa, Japan.
- Kline, D., Breitbart, M., Kuntz, N., Grayson, J., and F. Rohwer. 2003. Coral-Associated Bacteria are Energy-Limited. Abstract. Proceeding of the Fourth International Symbiosis Congress.
- Kline, D., Breitbart, M., and F. Rohwer. 2002. New tools for the study of coral disease. Abstract. Proceedings of the International Society for Reef Studies, European Meeting.
- Kline, D. 2000. A non-destructive coral gamete trap. Abstract. Proceedings of the 9th International Coral Reef Symposium, Bali.

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D.O.B. 13.9.1951

Career Objective

To enhance the financial well-being, health and lifestyle of others in an eco-sustainable way.

Skills

Proficient in financial planning, budgeting and organising detailed business affairs, risk management and investment strategy. Comfortable dealing with large financial amounts. Excellent sales skills on phone or in person. Very good at written and verbal communication. Organised, tidy and attentive to detail. Implement work tasks effectively and to procedural requirements. Excellent proofreader, high English skills. Internet and Microsoft Word/Excel.

Education

1964 – 1968 Tauranga Boys College, Tauranga, New Zealand- University Entrance exam passed

1988 New Zealand Institute of Management (NZIM), Auckland, New Zealand
Certificate in Sales

1994 – 1996 Diploma of Business Studies (Major in Financial Planning) Massey
University, Palmerston North, New Zealand

Personal Qualities

Easy going, friendly, trustworthy, enjoy helping others, enthusiastic. Can work well alone or in a team. Quick learner, tidy, organised, attentive to detail, ambitious and motivated to succeed. Enjoy meeting new people and different cultures. Well travelled – United Kingdom, USA, Hawaii, Brasil, the Philippines, Indonesia, Samoa, Tonga, Fiji and Tahiti. Recent medical check shows perfect health and weight.

Career Overview

February 2004 – August 2005 Construction Maintenance

New building final clean and presentation to developers, gardening and landscaping

July – Dec 2003 Business Development Manager, Yanuca Island Resort, Fiji

Created full business plan with cash flows and marketing strategy and designed brochure and web site. Repaired, stocked and staffed premises then managed the surf resort including sales, guest hospitality and staff training. Established new travel agent relationships.

July 1993 – Oct 2002 Financial Adviser/Planner, Money Managers, New Zealand

Responsible for up to 150 clients and combined investment worth \$15 million. Sales from post seminar and cold call interviews, then assessed client situation, problems, goals and sold investment solution through comprehensive written plans along FPIA (was IAFP) guidelines. Implemented all client investment and followed up customer care on a six-monthly basis. Certified Financial Planner (CFP) and member of FPIA during employment.

1986 – 1992 Managing Director, “Swerve Design”

Owned and operated successful retail designer clothing business in Parnell, Auckland, NZ. Prime role in retail sales, accounts, wages, GST, and overseeing production.

1969 – 1995 Skilled Fibreglass Worker

Various employment within the surfboard and boat building industries. Self-employment in fibreglass mould making and fibreglass component production.

Special Achievements

Established a surfing club for easier overseas holidays with the website www.letsgosurfing.co.nz Developed the web site for Yanuca Island Resort www.frigatesreef.com Production of race windsurfer hulls for Olympic Gold medalist Bruce Kendall.

Interests

Surfing, swimming, scuba diving, fishing, watching rugby and tennis. Languages – school French and Latin, conversational in Indonesian, Samoan, Portugese and some Fijian.

Other Training

First Aid certificate, NZ Boatmaster’s certificate, Celestial navigation certificate, PADI Advanced open water certificate, Shiatsu Massage.

Referees

Alex Clark – Money Managers, Mt Maunganui, NZ (written reference) Ph 0274445541
Roger Brockelsby or Peter McAdam – Money Managers, Tauranga, New Zealand
Phone 001164 7 5716300
Taito Tabaleka – Yanuca Island Resort, Fiji (written reference) Ph 00679 9927835