

FIJI

1990s

GEORGE BALAZS

FILE FOLDER

3 of 3



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

November 29, 1994 F/SWC2:ghb

Constable Arthur Paulino  
Police Station  
Rotuma Island  
Fiji

Dear Constable Paulino:

I am most appreciative for the detailed and interesting information that you supplied in your letter dated November 18. Thank you very much for your valuable assistance in educating me about the status of sea turtles at your island.

As I mentioned in my earlier letter, the Regional Marine Turtle Conservation Program of SPREP will eventually be sending you T-shirts as a small token of gratitude for reporting the tagged turtle. In the meantime, right now I am sending you the enclosed T-shirt, from my Hawaiian research program, as a token of appreciation for the informative letter that I just received from you.

I will be writing to you again soon with a few follow-up questions about Rotuma's sea turtles. If you have the opportunity to collect a small piece of the seaweed, eaten by turtles at Maka Bay, could you place a small piece between paper and mail it to me. Also, if at all possible, perhaps you could send a small piece of the seaweed growing close to shore in Noatau Lagoon. If I have small dried pieces here, in Honolulu, I will be able to scientifically identify them.

With best regards.

Sincerely,

George H. Balazs  
Zoologist



*Xerox of original*  
Police Station  
Rotuma

November 18, 1994

George H. Balazs  
National Marine Fisheries Service  
Southwest Fisheries Science Center  
Honolulu Laboratory  
2570 Dole Street  
Honolulu  
HAWAII 96822-2396

Dear Mr. Balazs:

Thanks for your letter of November 7, which I received on 15.11.94. I have gone through the material and am very excited.

In regards to the questions you asked, I have conducted verbal interviews with fishermen around the island and I hope that your questions are answered fully.

Fishermen use spearguns and spears to hunt the turtle. In the western side of Rotuma (Maka Bay) there is a weed that grows in the bay that the turtle feeds on. This weed is only found at Maka Bay. During the change of the tide from high to low, the weeds are swept into the open sea by the currents. The turtles wait outside the reef to feed although some turtles come into the bay. The fishermen use primitive outrigger canoes to hunt the turtle because of its stealth. Sometimes the canoes come alongside the floating weeds and the weeds acts as a camouflage. The unsuspecting turtle comes up to feed on the floating weeds and were harpooned. The canoes used have a length of about 8 to 10 feet.

In the southern side of Rotuma (Noatau Lagoon) the turtles are speared with spearguns. Fishermen work in pairs. One controls the engine of the small fibreglass outboard boat and the other stands in front and searches for the turtle. In Noatau Lagoon because it is

slightly deeper than Maka Bay, the turtles come at high tide to feed on a type of seaweed that grows near the shore. When a turtle is sighted the boat mounts a chase to exhaust the fleeing turtle or to come within spearing distance. The fleeing turtle makes for the passage but sometimes it is no match for a Yamaha 25 hp. Since the depth of the lagoon is only about 3 metres the fleeing turtle has a little chance of escape.

There are turtles caught that are bigger in size than that of S463. Fishermen hunt only the bigger size and S463 is the average size caught in Rotuma. I have estimated it to be around 50, the number of turtles caught last season. This number varies from season to season. Because of its size it is easy to monitor the number of turtles caught each season in Rotuma.

The most common species found in Rotuma is the green turtle and the hawksbill. I cannot distinguish a green turtle from a loggerhead, but one fisherman told me that there is another type of turtle that is found here in Rotuma. According to the fisherman there are two turtles that look alike but have distinguishing features like the shape of the shell and the head. I therefore cannot say whether the loggerhead is or is not in Rotuma. None of the fishermen I spoke to mentioned anything about the leatherback. However, I am very certain about the green turtle and the hawksbills presence in Rotuma. The hawksbill is avoided by fishermen because of its inferior meat and the belief that it is sometimes poisonous.

I spoke to a villager who informed me that sometimes in the 1970's a turtle with a brass tag on it was caught at Oinafa Bay. The turtle was eaten by the villagers who thought that the turtle belonged to the government and the fear of prosecution made them throw away the tags.

I am told that turtles nest on remote beaches in Rotuma. There are miles of sandy beaches in Rotuma. It was on 1.9.92 that I witnessed a turtle killed whilst nesting on Hatana Islet. This date was logged in our Station Report Book because it was on this date that I took two boats to rescue seven villagers stranded on Hatana. The turtle eggs were eaten by the villagers. Hatana is about 6 kilometres north north west of Rotuma, and is a well known nesting spot in Rotuma. The islet is also a seabird rookery. Its treacherous passage and the swift current renders the islet almost inaccessible.

The incident on 1.9.92 proves that the turtle do nest during the hunting season. Hunting turtles are only prohibited during the months of January , February, November and December. In this case the turtle killed whilst nesting might have been saved if the prohibition period includes the month of September. Villagers also stated that the turtles also nest during the month of March.

Turtle meat is the 'Chiefly Meat' in Rotuma. The turtle or 'HOI' as it is known in Rotuman, is given to Chiefs during feasts and ceremonies. It is a taboo to hide or steal turtle meat. Villagers believe that the meat is sacred and anyone who hides it will have an abnormal growth or tumor on the part of the body the meat is hidden. It is also forbidden to ask inquisitively about turtle meat.

Most of the turtle caught are sold to villagers. There are quite a number who do not touch turtle meat.

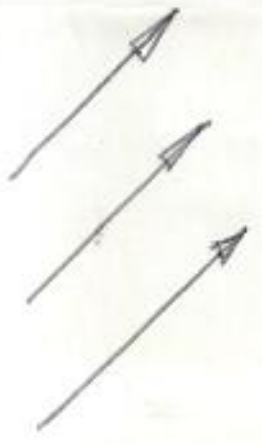
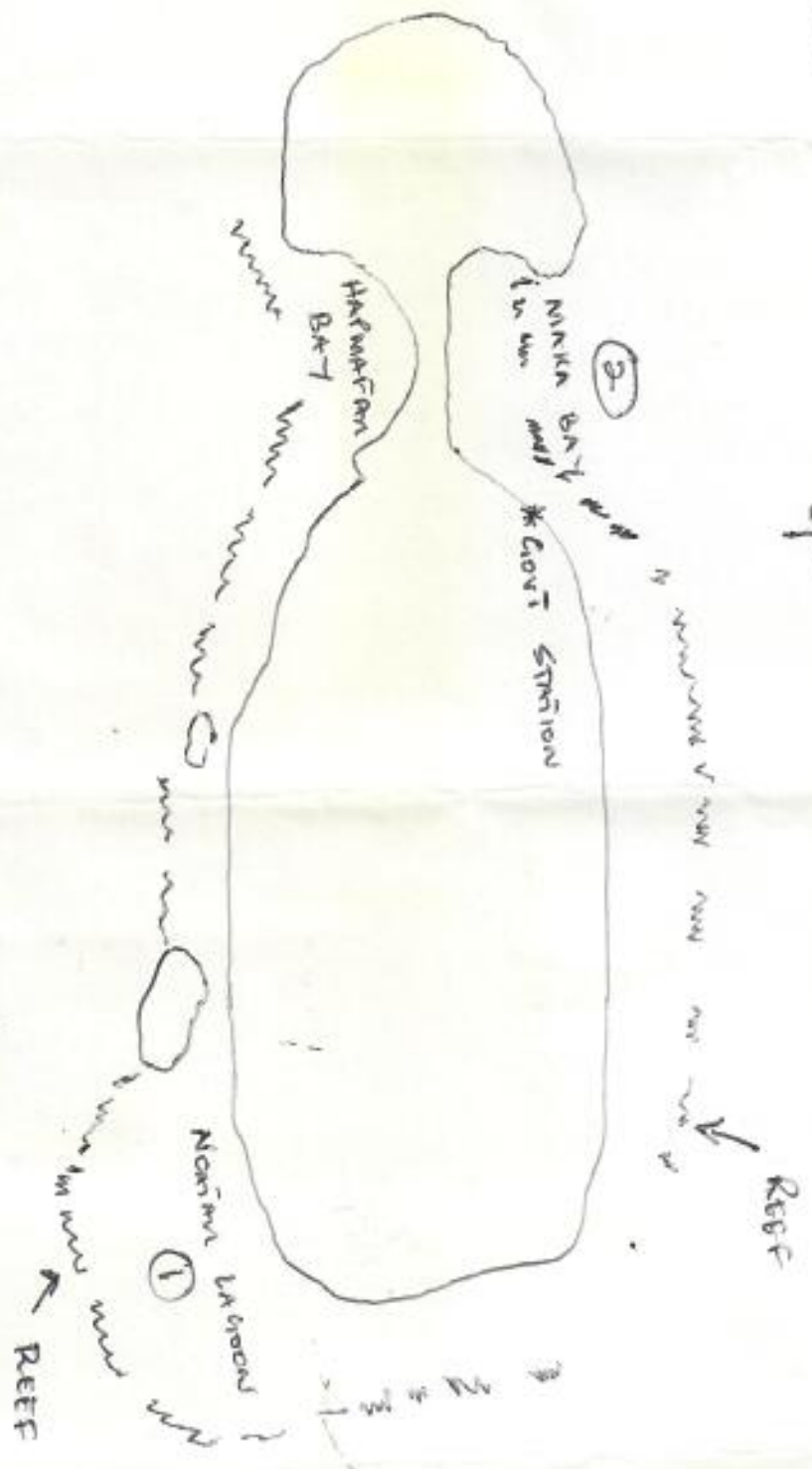
Attached is a crude map of Rotuma showing the turtle hunting grounds and Hatana islet.

Sincerely,

  
Constable Arthur Paulino  
.....

0

HATANA ISLET



S.E. TRADES  
 PREDOMINANT WINDS

Par avion

**AIR MAIL**  
PAR AVION



GEORGE H. BALAZS  
 National Marine Fisheries Service  
 South West Fisheries Science Center  
 Honolulu Laboratory  
 2570 Dole Street  
 HONOLULU , HAWAII 96822-2396

Air Mail

Par avion



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

January 17, 1995 F/SWC2:ghb

Constable Arthur Paulino  
Police Station  
Rotuma  
Fiji Islands


Dear Constable Paulino:

I send you my greetings and best wishes for this New Year of 1995. I hope that by now you have safely received my last letter, as well as the t-shirt that I sent.

With this letter, I am sending you a report that I prepared several years ago detailing sea turtles and their role in the culture of the Polynesian people of the remote Tokelau Islands. Perhaps there are some similarities you will be able to identify between Rotuma and Tokelau.

I am still interested in receiving small dried samples of sea vegetation that is eaten by sea turtles at Rotuma. I look forward to hearing from you again.

Sincerely,



George H. Balazs  
Zoologist and Leader,  
Marine Turtle Research Program







U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

MR. AISAKE BATIBASAGA  
TELEFAX FOR: MINISTRY AGRIC. & FISHERIES

DATE: 20 JUNE 1995 (YOST)

FROM: GEORGE BALAZS

FAX (808)943-1290  
TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

*Copy*

DEAR MR. BATIBASAGA: I AM PLEASED TO REPORT THAT THERE IS CURRENTLY INTEREST BY SUE MILLER, SPREP, AND MYSELF TO POSSIBLY ATTACH A SATELLITE TRANSMITTER TO A GREEN TURTLE NESTING IN FIJI. WE WOULD LIKE TO CONSIDER DOING THIS RESEARCH DURING THE LATTER PART OF AUGUST. I WOULD FLY TO FIJI, WITH SUPPORT FROM SPREP, TO ATTACH THE TRANSMITTER. WE WOULD THEN BE ABLE TO FOLLOW THE TURTLES MIGRATION WHEN THE NESTING SEASON IS OVER. ALL DATA ON THE MOVEMENT OF THE TURTLE WOULD BE REGULARLY FAXED TO YOU ONCE OR TWICE EACH WEEK.

WOULD YOU BE INTERESTED IN SUCH A COOPERATIVE RESEARCH PROJECT? THE PROBLEM THAT WE WOULD HAVE WOULD BE FINDING A NESTING GREEN TURTLE IN FIJI. DO YOU THINK THIS WOULD BE POSSIBLE? THERE ARE SEVERAL WAYS THAT THIS COULD BE APPROACHED. ONE WOULD BE TO CAPTURE A NESTING TURTLE BEFORE I ARRIVE IN FIJI. IT COULD BE SAFELY HELD IN A POND, OR ENCLOSURE OF SOME SORT. IT WOULD BE VERY IMPORTANT THAT WE PUT THE TRANSMITTER ON A TURTLE NESTING- AND NOT JUST ONE CAUGHT IN A FORAGING PASTURE. THE FORAGING PASTURE TURTLES WILL LIKELY NOT MIGRATE WITHIN THE BATTERY LIFE OF MY SATELLITE TRANSMITTER.

PLEASE, AT YOUR EARLIEST CONVENIENCE, FAX ME YOUR THOUGHTS/IDEAS ON THIS SUGGESTION.

- 1) WOULD YOU LIKE TO HAVE THIS RESEARCH (satellite transmitter on nesting green turtle) CONDUCTED IN FIJI?
- 2) WILL IT BE POSSIBLE TO LOCATE/CAPTURE A NESTING GREEN TURTLE SOMETIME DURING AUGUST? AT WHAT ISLAND IN FIJI MIGHT THIS MOST LIKELY TAKE PLACE.

ALOHA,

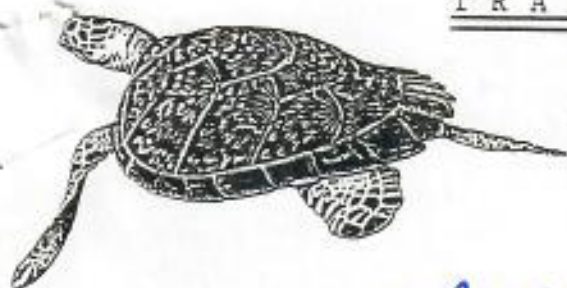
*cc SUE MILLER, SPREP*

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



URGENT COPY TO SPREP, SUE MILLER

TRANSMITTAL SHEET



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: MR. AISAKE BATIBASAGA

DATE: 23 JUNE 95

FROM: GEORGE BALAZS

FAX 808-943-1290  
TELEPHONE EXT: \_\_\_\_\_

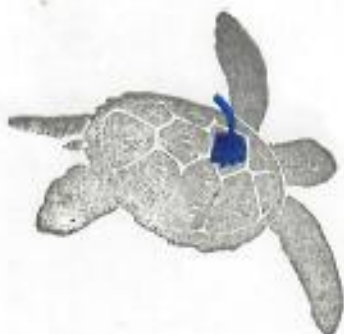
NUMBER OF SHEETS TRANSMITTED (including this page) 2

MESSAGE:

DEAR AISAKE:

I AM RE-SENDING THE FAX I SENT YOU TWO DAYS AGO, JUST TO BE CERTAIN YOU RECEIVED IT. I AM ANXIOUSLY LOOKING FORWARD TO HEARING YOUR OPINION ON THIS IMPORTANT ISSUE OF POSSIBLE SATELLITE TRACKING OF A GREEN TURTLE NESTING IN FIJI.

BEST REGARDS,



1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



Mr. and Mrs. Robert Stone  
P.O. Box 271, Pacific Harbour, Fiji Islands  
Fax No.(679)450 426

6 November, 1994

H.I.M.B.  
University of Hawaii  
Honolulu, Hawaii 96744  
U.S.A.

Dear Sir/Madame:

This tag came to us by way of a friend who took it off  
the necklace of John Ahkee. Supposedly this tag was  
recovered off of a turtle that was eaten in a village.  
That is the story but the fact remains that it was  
recovered in Savusavu on the island of Vanua Levu, Fiji.

Yours faithfully,

*L.A. Stone*  
Lisa Stone

TAG  
S-24 enclosed



U. S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Science Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396  
(808)943-1221 • Fax: (808)943-1290

November 25, 1994 F/SWC2:GHB:DHY  
STONE-13.GHB

Mr. and Mrs. Robert Stone  
P.O. Box 271  
Pacific Harbour  
Fiji Islands

Dear Lisa and Robert:

Thank you very much for your letter of November 11th with tag S-24 enclosed that was mailed to the Hawaii Institute of Marine Biology (University of Hawaii). We appreciate your taking the time to once again communicate valuable information on behalf of sea turtle conservation in the Pacific Islands.

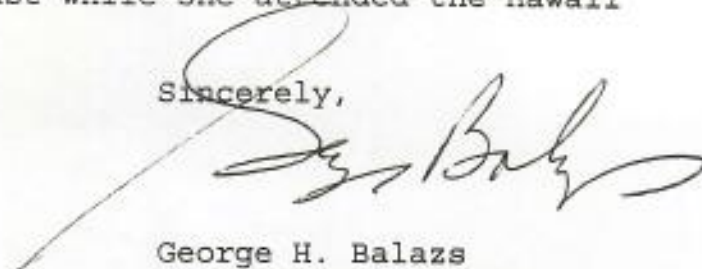
Tag S-24, along with tags S-23 and S-25, were attached to a 103 cm nesting green turtle (*Chelonia mydas*) at Motu Oia, Scilly Atoll, in French Polynesia on October 18, 1991. I participated in that expedition in collaboration with Philippe Siu and Jean-Pierre Landret of EVAAM Tahiti. The expedition to Scilly was sponsored in part by the Regional Marine Turtle Conservation Program of the South Pacific Regional Environmental Programme (SPREP) based in Apia, Western Samoa. A number of other nesting green turtles tagged on that trip to Scilly (as well as earlier and later ones) have subsequently been reported as taken by fishermen in the Fiji Islands. In addition, three nesting green turtles that I equipped with satellite transmitters at Rose Atoll, American Samoa, during 1993 all migrated to Fiji (see enclosed article).

Our records show that turtle S-24 was previously reported from Savusavu on 10/9/93 where it was sold to a Chinese restaurant. The turtle, said to weigh 261.8 kg when sold, had been caught in a net. This information was verbally relayed to me by a Hawaii resident that happened to be visiting Vanua Levu. However, until receiving your letter, we did not previously know the name of any of the fishermen that caught the turtle. At present, I am in regular contact with an expert fisherman living in Labasa on Vanua Levu who has also caught turtles tagged at Scilly Atoll. I hope to spend some time with him to learn more about Fijian turtles during the coming year, but at present the funding for such a trip remains uncertain.



I have enclosed some additional literature about the Pacific-wide campaign for "1995 Year of the Sea Turtle." I look forward to hearing from you again when you come across additional valuable information about Fijian sea turtles. Please give my best regards to Alice who participated in my sea turtle research project on the Kona Coast while she attended the Hawaii Preparatory Academy.

Sincerely,

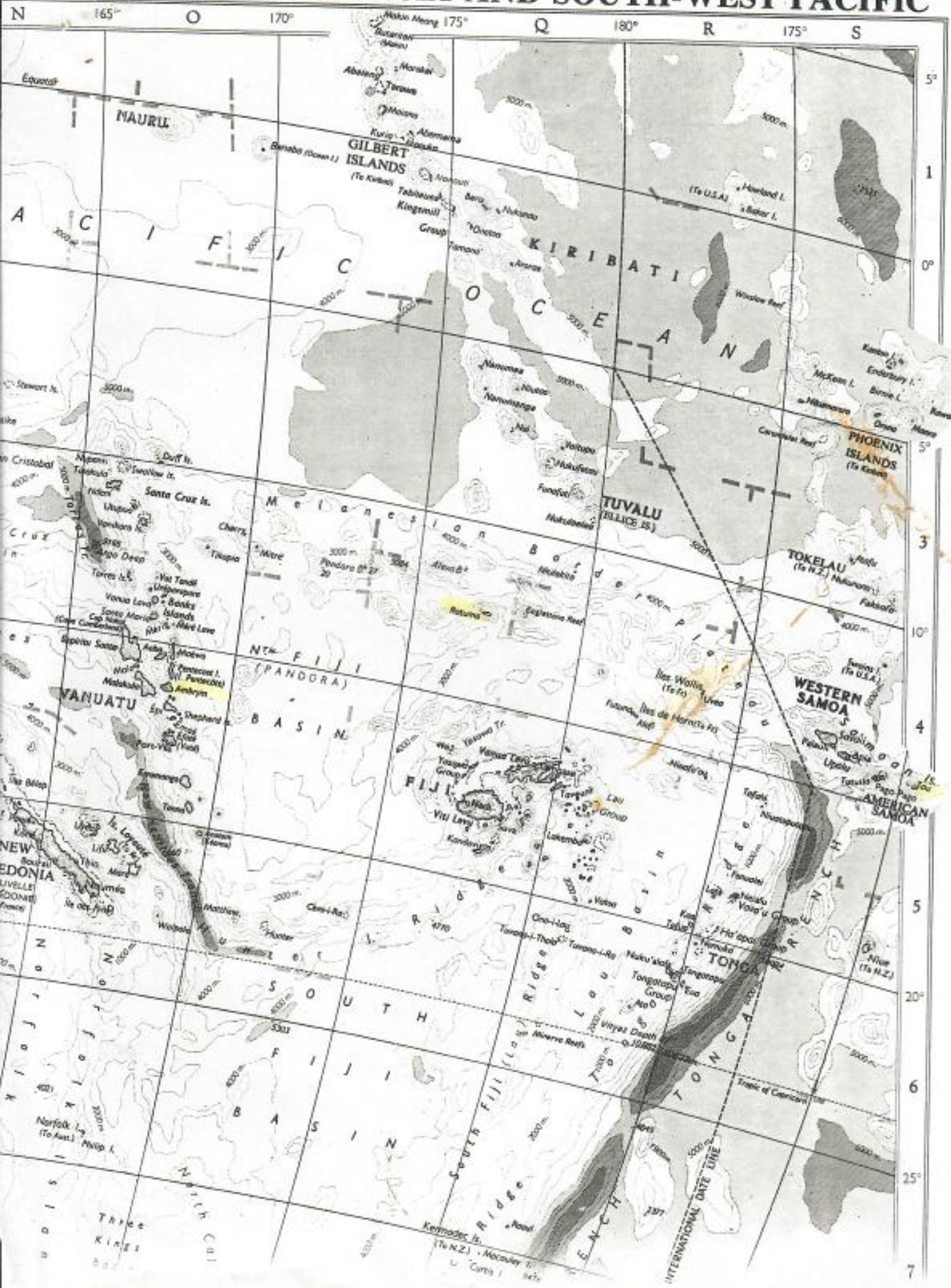


George H. Balazs  
Zoologist and Leader  
Marine Turtle Research Program

Enclosure

cc: Sue Miller, SPREP (w/o enclosure)  
Philippe Siu and J.-P. Landret (w/o enclosure)  
C. Limpus (w/o enclosure)

# AUSTRALASIA AND SOUTH-WEST PACIFIC



P. FIJI (continued)

VII. Lomaiviti Group

1. Koro
2. Makodroga (Makondronga)
3. Makogai (Makongai)
4. Wakaya
5. Cakau Momo (Thakau Momo)

6. Batiki (Mbatiki)
7. Nairai
8. Gau (Ngau)
9. Mambulica Reef (Mambulitha Reef)

VIII. Moala Group

1. Moala
2. Totoya

3. Matuku

IX. Kadavu Group (Kandavu Group)

1. Kadavu (Kandavu)
2. Galoa (Ngaloa)
3. Matanuku
4. Namalata Reefs
5. Ono
6. Vurolevu
7. Yabu (Yambu)
8. Bulia (Mbulia)

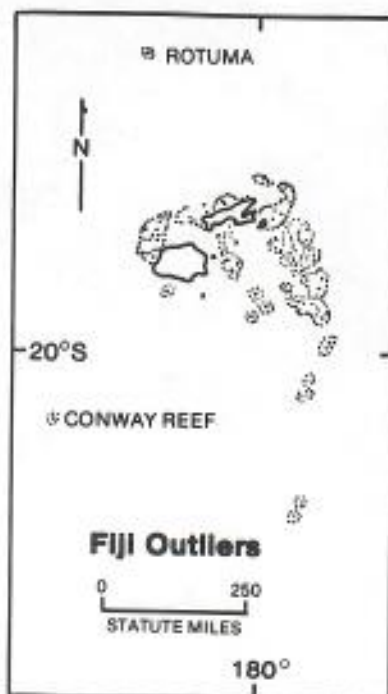
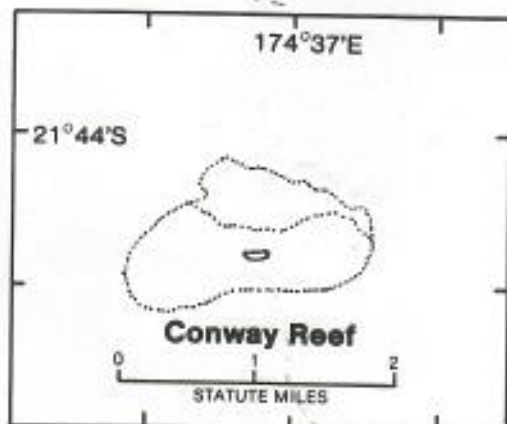
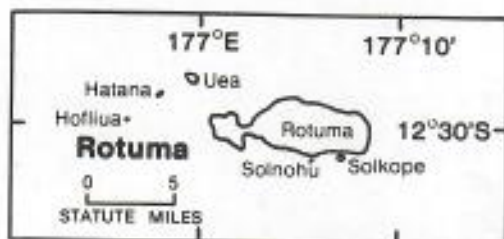
9. Yaukuvelailai
10. Yaukuvelevu
11. Namara
12. Dravuni (Ndravuni)
13. Vanuakula
14. Great Astrolabe Reef
15. North Astrolabe Reef
  - a. Solo

X. Fiji Outliers

1. Rotuma Group

- a. Rotuma
- b. Solkope
- c. Solnohu
- d. Hofliua
- e. Hatana
- f. Uea

2. Conway Reef (Ceva-i-Ra/Theva-i-Ra)





Ministry of Agriculture, Fisheries, Forestry & ALTA  
**FISHERIES DIVISION**

P.O. Box 358, SUVA, FIJI  
TEL: +679 361122 FAX: +679 361184

**FACSIMILE TRANSMISSION**

*If any pages of this fax is not clear please advise us for resending*

**TO:** Dr George Balazs Date: 26/05/95  
Company: U S Department of Commerce NOAA - NMFS Page 1 of  
Country: South West Fisheries Centre - Honolulu Lab.  
Fax: 808 - 943 - 1290  
**FROM:** Aisake Batibasaga File Ref:  
Title: For Director of Fisheries  
**Subject:** Sattelite Tagging for a Green Turtle in Fiji.

Dear George

Greetings, Ni sa bula vinaka.

I was away, and have just received your fax of 20 June, 1995.  
Yes, Fiji will be very interested in such a research project. However, let me clarify on a few points:

- 1) Nesting in Fiji only commences from November each year - hence August as proposed will be too early. ← SUE
- 2) There is only one last Green turtle nesting area in Fiji - that is, in the uninhabited islands/sand isles North of Taveuni (positions: 16deg 43' 15" S-16deg 18' 00" S and 179deg 16' 30" - 179deg 24' 30" W). Nestings, even of Hawksbills, have previously taken place after December. The Nesting seasons in Fiji are from November, and through to February, each year. This is also during the peak cyclone seasons in Fiji. ← SUE
- 3) The islands are quite isolated, and will require nesting site monitoring. It might be good if we can get assistance from SPREP to support this. ← SUE
- 4) It will be a good idea for the Fisheries to monitor nesting sites, and in the process capture a nesting Green Turtle. Once, a Green is captured, then we could ask for you to come over and apply the tag. In my opinion, the project will depend alone on the capture of a nesting Green Turtle.



I had previously made a proposal paper to the South Pacific Commission (SPC - Noumea) to help us fund an extensive Sea Turtle Research in Fiji this year in which we will monitor this Green turtle nesting sites from November 1995, plus other species. So far, nothing has been finalised from SPC. We may send the proposal to SPREP now.

SUE



5) The islands of the Hemskercg and Ringgold Reef's (North of Taveuni) have been proposed by my Department as a sanctuary site, as has also been proposed by Bustard and Guinea from the 1980's. This was to protect sea turtles that nests there.

I will leave this to you to decide. Will look forward to your reply.

Vinaka, Aloha.

[Aisake Batibasaga]  
for Director of Fisheries

TRANSMITTAL SHEET



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: SUE MILLER

DATE: 27 JUNE 95

FROM: GEORGE BALAZS

TELEPHONE EXT: 808-943-1290 FAX

NUMBER OF SHEETS TRANSMITTED (including this page) 3

MESSAGE: URGENT

TO: SUE MILLER SPREP

HERE IS THE RESPONSE I RECEIVED. WHAT IS YOUR OPINION? NOVEMBER MAY BE A BIT LATE, BECAUSE THE TURTLE (SATELLITE TAGGED IN NOV.) MAY NOT START TO MIGRATE UNTIL JAN. OR FEB. 96. BUT I AM PREPARED TO DO THIS, IF YOU ARE. PLEASE GIVE THOUGHT. PLEASE ADVISE. ALOHA, George

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



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U.S. DEPARTMENT OF COMMERCE  
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NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: ROBERT STONE

DATE: 27 JUNE 95

FROM: GEORGE BALAZS

FAX 808-943-1290  
TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

DEAR ROBERT; MY GREETINGS FROM  
THE HAWAIIAN ISLANDS. I AM

FAXING YOU TODAY TO ASK FOR INFORMATION.

CURRENTLY IT IS BELIEVED THAT THE SOLE  
NESTING BY GREEN TURTLES THROUGHOUT ALL OF  
FIJI OCCURS IN N. LAV. SPECIFICALLY

NANUKU LEVU. CAN YOU PLEASE CONFIRM

THIS FOR ME, BASED ON YOUR EXTENSIVE  
EXPERIENCE AND TRAVELS THROUGHOUT THE

FIJI ISLANDS? WHERE MIGHT YOU  
KNOW THAT GREEN TURTLES NEST? AND

DURING WHAT MONTHS? WE ARE INTERESTED

IN PLACING A SATELLITE TRANSMITTER ON  
A NESTING GREEN TURTLE IN FIJI.

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative

ALONA, George



TRANSMITTAL SHEET



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: ROBERT STONE

DATE: 6 SEPT. 95

**FAXED**  
9-7/12:30  
1PG/SKKM

FROM: GEORGE BAUZS

TELEPHONE EXT: \_\_\_\_\_

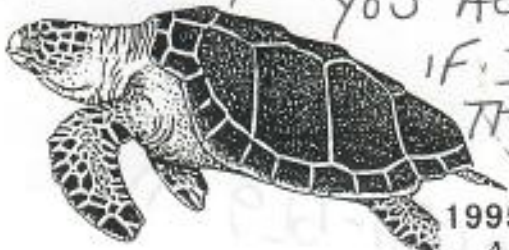
NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

DEAR ROBERT:

I SEND MY APOLOGIES FOR NOT HAVING  
ACKNOWLEDGED YOUR FAX OF 30 JUNE. THANKS  
FOR THE INFORMATION ON NESTING GREENS ON  
DUFF REEF AND NUKU CI KOBIA. I APPRECIATED  
YOUR RAPID RESPONSE. AT PRESENT THE  
SPREP ORGANIZATION HAS DELAYED SATELLITE  
TRACKING WORK IN FIJI UNTIL EARLY  
NEXT YEAR, JANUARY OR FEBRUARY.

WHEN WE GET CLOSER TO THAT TIME,  
I'LL CONTACT YOU AGAIN. AND  
I CERTAINLY LOOK FORWARD TO SEEING  
YOU AGAIN IN PERSON,  
IF I GET DOWN  
THERE. ALOHA,



1995. THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative

Copy



To: GEORGE BALAZS  
From: ROBERT STONE

Bula:

Turtles nest for sure on

Nth of  
U. Balavu →  
East of  
U. Balavu →

1. Duff reef (one tree sand cay)
2. Nukucikobia sand cay.  
(I have tagged greens here)

Other sand cays in Southern Lau could also have nesting greens. I do not fish that area and areas are isolated so no real information. Nesting in summer months  
Nov - Feb.

I can probably arrange accommodation and transport to Nukucikobia if you give me enough time. I have a friend with a plantation on Vanua Balavu.

Robert.

Date: Fri, 30 Jun 1995 15:17:13 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: Sue Miller <sprep@pactok.peg.apc.org>  
Subject: Urgent message for Sue Miller at SPREP in Western Samoa

Urgent message for Sue Miller from George Balazs

Aloha Sue: Well, yes, that was quite a shocker to hear a figure of US\$4,000. I had no idea. I suspect that Dr. Cheng spoke too soon about this, as the figure, when he learned it, must have come as a shock (and likely embarrassment) to him also.

You are correct that I am going to Taiwan 2 to about 13 August as his guest to help again deploy satellite tags he has purchased in his program. Yes, I would be most willing to accept the donation, wearing my SPREP "hat." And yes, the \$4K would cover the cost of a transmitter (with \$0.5K remaining for attachment supplies, misc. etc. I think this is a reasonable and appropriate use of the money. I propose we use the transmitter for the possibility of Fiji, or elsewhere, later in the year. The company that builds the transmitters requires 2-3 months. So it would not be possible for the Tinian idea, if indeed that idea has support from you and we end up pursuing it (as per info I faxed you earlier today).

I propose that you contact Taiwan and request presentation of the award via me, representing SPREP. I wonder if this means I have to take my suit and tie to Taipei for the ceremony?! I hope not.

I share with you the astonishment of their proposing to visit Apia to present such a (relatively) trifle amount. I had always assumed they were talking about several 10's of thousands. So much for hasty assumptions.

Aloha, George

---

George H. Balazs	Phone: (808) 943-1240
National Marine Fisheries Service	Fax: (808) 943-1290
Southwest Fisheries Science Center	Email: gbalazs@honlab.nmfs.hawaii.edu
Honolulu Laboratory	
2570 Dole Street	
Honolulu, HI 96822-2396	

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**SPREP**South Pacific Regional  
Environment Programme**PROE**Programme régional  
océanien de l'environnementP.O. Box 240, APIA, Western Samoa. Tel.: (685) 21 929  
Fax: (685) 20 231, E-mail: sprep@spectok.pag.apc.org

Fax no.: USA 1 808 943 1870  
 To: George Balazs, NMFS  
 From: Sue Miller  
 Date: 29 June, 1995  
 Subject:

No. of pages: 2 (including this one)  
 Authorised by: [Signature]  
 File: AP2/15/3  
 Budget: XB102UA27BL



1995 year of the sea turtle

Dear George,

Talofa! Hope you are now well and fit!

I have received a reply from Dr Cheng. The total amount that Rotary will fund is USD\$4,000 and they want to support the turtle research scholarship. Please note the following and I would like your opinion on the best way to proceed.

1. The amount is not enough to support the turtle research scholarship.
2. The figure approximates the cost of a satellite tag.
3. The cost, time and effort of a visit to SPREP would be more than the grant itself!
4. I understand that you are going to Taiwan to work with Dr Cheng shortly. I propose that the monies are given to you as a representative of the SPREP Regional Marine Turtle Conservation Program for use in the satellite tag work. They can be kept informed on progress in this project which as you know is a great public awareness component.

What do you think?

Finally, American Samoa are also looking for money for a satellite tag - if you do not need this for the Fiji or other work it could go for this work.

I do not want to appear ungrateful for their support but I know the effort and cost in hosting a Rotary visit and am not prepared to do this for only \$4,000USD.

Please give me your thoughts.

Kind regards,

[Signature]  
 Sue

Date: Fri, 30 Jun 1995 08:22:09 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: Sue Miller <sprep@pactok.peg.apc.org>  
Subject: URGENT MESSAGE FOR SUE MILLER AT SPREP FROM G. BALAZS

MESSAGE FROM SUE MILLER AT SPREP FROM GEORGE BALAZS IN HONOLULU

Dear Sue: Thanks for your recent fax about our continuing dilemma on our multi-task (research/education/public awareness) satellite tracking project for yost. It's clear now that all of this needed more careful thought, mainly by me, when formulated a year or more ago.

The components of the task are at odds with one another, given the time of the year we are now at. In the best of all worlds, it should have been done (transmitter deployed on the turtle) during the southern-hemisphere breeding season for green turtles (Nov.-Feb.). That way when the turtle started to migrate at the end of the season the time would fall within yost and the school year. But, of course, the start of yost was delayed, other events were planned for the starting months, so that plan may not have been as feasible as it sounds talking about it now! And, as we've been discussing, waiting to deploy until the end of 1995 will almost certainly give us a turtle that doesn't start to migrate until 1996. That would be the case in Fiji, assuming a nesting green turtle can be found.

You're the leader with the money in this matter, but my thought at this point is that we don't want to back out of Fiji altogether. It's too important of a place, emphasis and encouragement is needed there, etc.etc. And I'll bet that any project funded by sprep in Fiji going to Fiji government biologists, could easily double-up with other important turtle things that include keeping an eye out for a nesting green to put a transmitter on. But do you/we want to gamble the whole tracking project on this, since we won't know if it will be successful (the deployment part) until so late, late in 1995? I wouldn't think so.

What we need is a northern-hemisphere green turtle that's nesting now. I don't believe there's any "inbetween" easily accessible in seasonality between the two hemispheres. It's either now (north) or much later (south). In searching and thinking I have come up with a feasible "north" for you to consider. Right now there's monitoring/tagging going on of a small (10-20 females) nesting colony on Tinian Island in Saipan. I'm told by the woman (Susan Pultz) that got the project going for the locals out there that the season (based on sightings last year) will go through July, and then will end or won't be much of anything in August. That of course means all the turtles will have left to migrate by mid-August the very latest. There is a yost educational effort going on out there run by a Donna O'Daniel. Susan (who works for the US Fish and Wildlife Service here Honolulu) tells me that the people out there would likely be very excited about sprep putting a transmitter on a turtle. However, contacts would have to be made and approved first by local authorities (Ben Sablan is one such person, whom I met years ago when he was a student interested in turtles, but haven't seen him since).

So the above is what you need to think about. The plus side is that people are monitoring the beach, there is support in that regard to help me deploy, they are tuned in to yost education, and the turtles will/should migrate before 1996. And also we have genetic material to eventually determine stock id there. On the perhaps minus side, Saipan is a U.S. affiliate, and the school year hasn't started (and Tinian is where the Enola Gay departed when her A-bomb ended WWII (is that plus or minus these days!)).



I can go out there for 4-5 days before the end of July, but it will be a tight one for my schedule. But I'm willing to make it work. Aloha, George

---

George H. Balazs	Phone: (808) 943-1240
National Marine Fisheries Service	Fax: (808) 943-1290
Southwest Fisheries Science Center	Email: gbalazs@honlab.nmfs.hawaii.edu
Honolulu Laboratory	
2570 Dole Street	
Honolulu, HI 96822-2396	

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**SPREP**South Pacific Regional  
Environment Programme**PROE**Programme régional  
océanien de l'environnementP.O. Box 240, APIA, Western Samoa. Tel.: (685) 21 929  
Fax: (685) 20 231. E-mail: [sprep@pacok.pog.apc.org](mailto:sprep@pacok.pog.apc.org)

Fax no.: Hawaii 808 943 1290  
 To: George Balazs, NMFS  
 From: Sue Miller  
 Date: 27 June, 1995  
 Subject:

No. of pages: 5 (including this one)

Authorised by:   
 File: AP2/15/3  
 Budget: XB102UA27BL



1995 year of the sea turtle

Dear George,

Talofa!

Yes, I have received Aisake's fax yesterday.

Fiji is obviously out for August. I think that you need to weigh up how important doing the work in Fiji is as opposed to elsewhere is at this time. In either case SPREP can assist with the cost of logistics.

November/December is more difficult for my involvement in the awareness part of the exercise i.e. the regional 'guess where the turtle goes' competition as I am going to be away at the Conference of the Parties to the Biodiversity Convention and tied up with preparatory work for most of November and then on home leave in December. Awareness work is probably not best timed around the Christmas season. Also school holidays are at this time so there is no chance of piggybacking on classroom activities in the competition which was a significant part of the American Simon success.

From reading Aisake's fax it appears that November could be early as on the database for green turtles in Fiji nesting is Nov-Feb but peaks in Jan. I thus suggest December is likely a better time.

Finally, cyclone season poses an extra risk.

Taveuni is a popular dive site/resort area so getting boat access to the islands off Taveuni should not be a problem.

I have quickly scanned through the database and suggest that the other 'Augustid' possibilities are:

French Polynesia (October, Raiatea in the Tuamotus) -

PSM - see attached sheet.

Marshall Is - see attached sheet.

PNG - see attached sheet (harvest issues)

Vanuatu

At present I believe that a French territory is a not good choice for a special work focus for obvious reasons.

In all, I am happy to work in with what suits your programme best. Fiji is still a worthwhile focus as this work would still help consolidate the reasons for maintaining the turtle ban and highlight these issues elsewhere.

I look forward to hearing from you.

Sue

## MARINE TURTLES IN THE MARSHALL ISLANDS

Summary - November 1992

Species

Green turtles are commonly sighted in the Marshall Islands. Hawksbills and leatherbacks are sighted occasionally.

Nesting

Bikar Atoll is regarded as the most important green turtle nesting site in the Marshalls. Nesting has also been recorded on Jemo, Taongi, Arno, Kwajalein, Ujelang, Erikub, Taka, Enewetak, Jaluit and Bikini Atolls (Groombridge & Luxmoore 1989).

Fosberg (1969) surveyed Jemo between 18-22 December and sighted 22 tracks. He also surveyed Bikar Atoll between 6-12 August 1952 and sighted 596 tracks, stating that the majority of turtles were sighted on Bikar Islet. Thomas et al. (1989) recorded 264 pairs of tracks on Bikar, 53 on Jemo, 49 on Erikub, 34 on Rongerik, 24 on Taka, and 8 on Wothe during the 1988 survey. Pritchard (1981) states that 3-4 or 6-8 turtles may nest nightly on Erikub Atoll. Puleoa (pers. comm.) tagged 48 nesting green turtles on Bikar Atoll and 8 nesting greens on Jemo in 1992.

Hendrickson recorded one nesting hawksbill track on Bikar (Pritchard 1981).

Nesting is believed to occur during most of the year in the Marshall Islands, with a peak between April and August (Smith 1992).

Utilisation

Meat and eggs are eaten by the islanders, and there is some local trade in turtles, as Pritchard (1981) cited a report of a boatload of turtles being landed on Kwajalein for sale. Thomas et al. (1989) state that Taka, Jemo, Wothe and Erikub Atolls all had signs of human visitation and the removal of eggs and turtles.

Fijian Customs reports indicate the export of some worked tortoiseshell items to the Marshall Islands in 1974 (Groombridge & Luxmoore 1989).

Methods of capture

Nesting turtles are turned on their backs, and there was a net fishery at Ebon Atoll (Pritchard 1981). Alfred (1992; cited in Smith 1992) states that turtles are caught while diving and grabbing them, or by diving down and securing them with a line attached to a hook.

Migration

A green turtle nesting at Gialop Island, Yap was recaptured in the Marshall Islands in 1992 (Kolinski & Hachiglou 1993).

Legislation

The Marshall Islands are not a party to CITES. Until November 1986 the US Endangered Species Act applied to the Marshall Islands. Now the islands have their own legislation, based on the Trust Territory Code.

## MARINE TURTLES IN THE FEDERATED STATES OF MICRONESIA

Summary - November 1993

### Species

The green turtle is the most common species in Micronesia. Hawksbill, leatherback and olive ridley turtles have also been sighted.

### Nesting

Green turtles nest on many of the islands in the FSM. Substantial numbers are believed to nest on the islands of Ngulu, Ulithi, Gaferut, Olimarao, Pikelot, West Fayu, Gielop, Iar and Elato (Yap), East Fayu (Chuuk) and Oroluk (Pohnpei). It is believed that there is one remote beach on Kosrae where some turtles nest (Johannes 1986).

Kolinski (1991) states that 33 adult green turtles (27 female, 6 male) were tagged at Olimarao Atoll in 1990, 416 green turtles (416 female, 2 male) and 2 nesting hawksbills were tagged at Gielop Island in 1991 (Kolinski 1992), 73 adult greens (70 female, 3 male) were tagged at Ngulu Atoll in 1992 (Kolinski 1993a), and 38 adult green turtles (36 female, 2 male) were tagged on Elato Atoll in 1992 (Kolinski 1993b).

Herring (1986) reports that small numbers of green turtles utilise Oroluk Atoll as a nesting area. McCoy (1991) states that about 40-100 females nest per year on Oroluk, and Herring (1986) estimated 50 nests between April and October.

Smith (1992) states that nesting occurs all year round in the FSM but peaks between April and August. Kolinski (1993b) states that there are two nesting peaks on Elato Atoll, the main nesting occurring from March to July, and a second smaller peak occurring from October to December. Nesting occurs from May to September on Oroluk Atoll (Herring 1986).

Hawksbills are believed to nest in small numbers on some islands in Chuuk lagoon and the lower Mortlock islands of Etal, Lukunor and Satawan (Pritchard 1978). There are unconfirmed reports of leatherback turtles nesting at small islands adjacent to Ulithi Atoll (Smith 1992).

### Feeding

Both green and hawksbill turtles are found on and around the reefs and seagrass beds of atolls and high islands within the FSM (Smith 1992). Turtles are said to be plentiful on Elato, Olimarao (McCoy 1974) and Chuuk lagoon (Pritchard 1978).

Green and hawksbill turtles were tagged in the feeding ground at Elato Atoll in 1992 (Kolinski 1993b).

### Utilisation

Turtle meat is an important source of protein for those people living on the outer islands of Micronesia. Tortoiseshell is used to produce fishing hooks and jewellery, as well as the lava-lava belts worn by outer island women in the western Carolines.

### Species

Six of the seven species of sea turtles occur in PNG waters, although only the green, hawksbill and leatherback turtles are believed to nest.

### Nesting

The green turtle is the most abundant species, and it is distributed along both north and south coastlines and most of the islands of PNG (Sinba 1980). Nesting especially takes place on Long, Hermit, Purdy and Sabbeen Islands.

30 tracks were recorded on Long Island in 1977 and 19 tracks in 1978 (Spring 1983). 350 turtles were tagged on Long Island from July 1980 August 1981 (Sinba 1980), and 92 nesting females and 2 males were tagged in October 1991 (Vui 1993b). The nesting season on Long Island occurs throughout the year with a peak between September and January.

During the 1992 survey, 20 tracks were recorded on the Sabbeen Islands and 16 tracks from the Hermit Islands (Vui 1993a). The nesting season occurs between May and September (Vui 1993b).

Hawksbill turtles nest occasionally on Long Island (Spring 1983).

Leatherback turtles nest near Tulu village in Manus province (Spring 1981), Maus Suang in Morobe province (Quinn et al. 1985), and in small numbers on Long Island (Spring 1983). There is estimated to be a population of 125-200 females at Maus Suang (Quinn et al. 1985). One turtle was tagged and seven nests observed in December 1992, and an interview with a local resident indicated the declining number of turtles in the area (Vui 1993b).

Nesting occurs between November and February (Lae International Primary School Kids 1988).

### Feeding

There are many feeding grounds where turtles are captured for food, such as the Warrior Reef complex.

### Utilisation

Turtle meat and eggs are eaten in most areas. Hawksbills were used for their tortoiseshell which was used to make jewellery, fish hooks and spoons. Leatherback turtles are also eaten (Spring 1981).

Markets selling turtle meat are common in Daru, Port Moresby, Lorenga Koki, Lusuia, Rabaul, Kavieng, Wewak, Madang and Lae (Sinba 1980). Limpus (1980; cited in Kwan 1989) estimated that in the order of 1000 turtles are harvested annually from the Warrior Reef area. Sinba & Ba (1981; cited in Sinba 1980) state that approximately 1096 green turtles are killed annually at Long Island, which differs from the estimate given by the Chairman of the Wildlife Management Area Committee, who suggests it is more like 1405 turtles (Spring 1983). Sinba (1980) also

## MARINE TURTLES IN VANUATU

Summary - November 19

**Species**

Green and hawksbill turtles are the most common species in Vanuatu. Leatherback turtles may occur in small numbers, but are not common (Pritchard 1981). There have been no confirmed sightings of the olive ridley turtle in Vanuatu.

**Nesting**

Green and hawksbill turtles are known to nest in South West Bay (Lambor Beach), the Maskelyne Islands (Seior, Laifond and Sakao) in Malakula, Reef Island in the Torres group, and the southeast of Epi Island (McElroy & Alexander 1979). One leatherback was reported to have nested in the Maskelynes about two years ago (Vanuatu Environment Unit 1992).

The annual nesting population of South West Bay is estimated to be 40-120 (McElroy & Alexander 1979). The estimated nesting population for the Maskelyne Islands is 15-25 (Geermans 1992).

Thorsell (1989) lists Malakula and the Maskelynes as areas of regional and international importance for turtle nesting, and Anatom reefs, Cook reef and Reef Islands as areas where turtle nesting occurs.

The nesting season for both green and hawksbill turtles occurs between September and January (McElroy & Alexander 1979).

**Feeding**

Green and hawksbill turtles have been captured while feeding on the reef and in shallow seagrass areas. (Geermans 1992).

There is evidence that about 200 turtles were caught at Mocu Lava in the Torres Islands in the first six months of 1979 (Pritchard 1981), but there is no indication as to the particular species, or whether these turtles were nesting or feeding.

**Utilisation**

Both green and hawksbill turtles are exploited for their meat and eggs on Vanuatu. However, meat and eggs are not for sale in the markets.

Japanese Customs reports indicate that a small amount of tortoiseshell was imported from Vanuatu in 1980 (Groombridge & Luxmoore 1989a).

Although whole turtle shells were once sold at the market, this is no longer the case (Dickinson 1981; cited in Groombridge & Luxmoore 1989b).

A small amount of tortoiseshell jewellery is available for sale in the tourist shops of Port Vila (Geermans 1992).

McElroy & Alexander (1979) estimated the annual catch of turtles in the Maskelynes to be 60-120, evenly split between green and hawksbill species. Geermans (1992) estimates that 50 turtles are killed annually in the Maskelyne Islands, predominantly for the yam harvest celebrations.

**SPREP**South Pacific Regional  
Environment Programme**PROE**Programme régional  
océanien de l'environnementP.O. Box 240, APIA, Western Samoa Tel: (685) 21 929  
Fax: (685) 20 231 E-mail: sprep@pactek.pog.apc.orgFax no.: USA 1 808 943 1820<sup>290</sup>  
To: George Balazs, NMFS

No. of pages: 2 (including this one)

From: Sue Miller  
Date: 3 July, 1995  
Subject:Authorised by:  
File: AP2/15/3  
Budget: XB102UA27BL

1995 Year of the Sea Turtle

Dear George,

Talofa!

1. I have copied you my response to Dr Cheng and now await his reply.
2. Satellite tagging work.

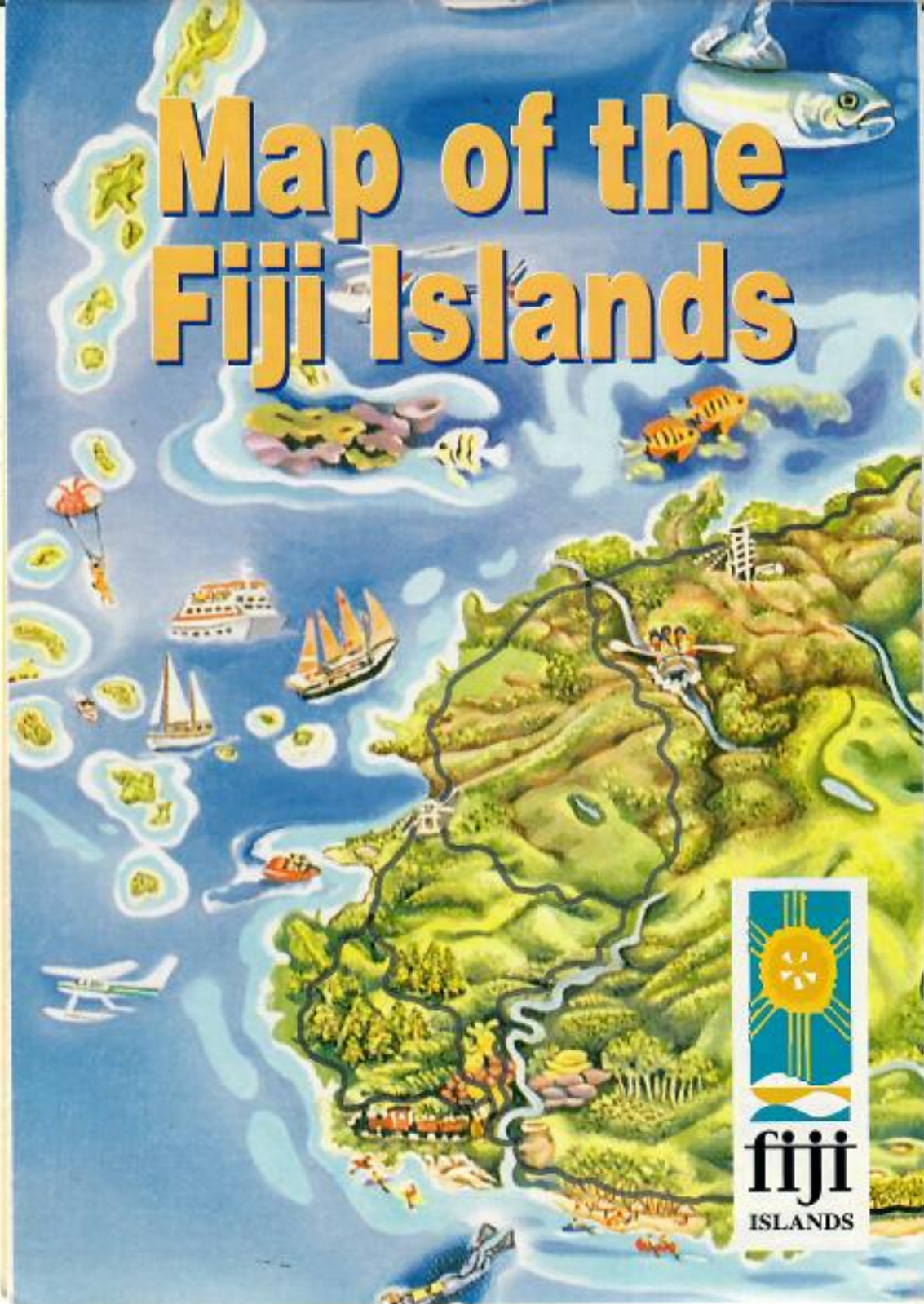
I have just had a fax from Peter Craig regarding proposed work with you at Rose Atoll in October. We could do the tagging there and have the regional awareness competition 'tagged' to this exercise. If successful at a regional level we could then schedule the work in Dec/Jan in Fiji.

We have active turtle campaigns in both states (Fiji, American Samoa) and not in Timian, although I have been working with Donna and made contact with a few government people. I am concerned that without an active national base the awareness exercise will not be as successful as in a country where there is active work on turtles. I would like to get greater participation for this area of the Pacific, but my experience in Tonga and Vanuatu indicates that I would need to work in-country for at least 1 week to help achieve this. I cannot schedule work in Timian in the foreseeable remainder of 1995. I would prefer that Taiwan funds are used for the American Samoan exercise and I am sure that I can access funds to support the Fiji work.

What do you think? I need to respond to Peter Craig so I look forward to hearing from you. One final question is "What are you/American Samoa gaining out of a further tagging exercise at Rose Atoll for green turtles in terms of information needed to better manage turtles and address management needs."

Fol  
Sue

# Map of the Fiji Islands





# Fiji Sea Turtle Conservation Strategy Meeting

Tuesday, 31 October 1995

## PROPOSED AGENDA

- 9:00am** Welcome and introduction  
the meeting, the participants, the agenda
- 9:30am** An action plan for conservation of turtles in Fiji  
general discussion and agreement on the proposed outline and process
- 10:00am** Proposed strategies  
preliminary definition of a comprehensive and integrated set of strategies or programs for the Action Plan
- 10:30am** Break for coffee
- 11:00am** Proposed actions  
planning the actions required under each strategy
- 12:30pm** Break for lunch
- 1:30pm** Continuation of proposed actions required for each strategy
- 2:30pm** Break for coffee
- 2:45pm** Review of draft action plan
- 3:45pm** Break for coffee
- 4:00pm** Continuation of review of draft action plan  
list research and management priorities
- 4:45pm** Closure  
Goodbyes, list of contacts for future work, clear understanding of next steps

## VENUE

Conference Room, Institute of Applied Sciences  
The University of the South Pacific, Lower Campus, Laucala Bay

## COORDINATOR

Rick Thorpe  
WWF South Pacific

fax. +679 315410 tel. +679 315533 e-mail 100245.3405@compuserve.com

BUDGET ACCOMMODATION

## CLUB MASA LODGE

P.O BOX 710, SIGATOKA, FIJI ISLAND

Dormitory \$16.50 - Camping \$11.50 - Double Cabin \$21.50  
These prices include Breakfast and Dinner



### AT THE SIGATOKA SAND DUNES

Club Masa Lodge is dedicated to the Budget Traveller and Sports Enthusiast. We offer clean and affordable accommodation, camping and a restaurant and bar with prices, that can't be beaten.

The Lodge is situated on a 89 acre beachfront coconut plantation with ocean and river access. The conditions are great for all types of watersport.

#### LOCATION

The Lodge is on the main island of Viti Levu just 45 minutes drive from the Nadi International Airport. There are buses and taxis servicing the area and Lodge regularly.

Take the Queens Highway towards Sigatoka Town. Turn onto Kulukulu Road which is 2 miles west of Sigatoka Town. Follow the signs of the Club Masa Lodge. Park your car at the Parking Lot and walk down to the Lodge.

#### THE SURF AND THE BEACH

The secluded 2 mile long beach at Club Masa is one of the most scenic on the island. The majestic 60' high sand- dunes line the coast while the seaswells pound the shore. The surf is primarily a rivermouth pointbreak with numerous beachbreaks down the beach. Great for surfing, windsurfing, bogy boarding and canoeing.

The happy and friendly "Locals" that visit the Lodge are always ready to help you with information or local customs.

At the Club Masa Lodge you can do your own thing or be a part of a group or new found friends. **COME AND JOIN THE FUN!**

Visit

*The Famous*

## SIGATOKA SAND DUNES

Where you will find a  
**2 MILE SECLUDED  
BEACH**

Stay overnight at the 89 acre

### CLUB MASA LODGE

Dormitory \$16.50 per night  
Camping \$11.50 per night  
Cabins \$21.50 per night  
These prices include breakfast and dinner

#### A great place for

- PRIVATE SUNBATHING
- SURFING AND BODYSURFING
- WINDSURFING AND WAVE JUMPING
- BEACH BON FIRES AND PARTIES
- PICNICS AND BBQ'S
- FISHING AND HORSERIDING
- ANCIENT ARCHAEOLOGICAL SITE EXPLORING

#### DIRECTIONS

Queens HWY 2 Miles out fo Sigatoka Town towards Nadi turn on to Kulukulu Rd. Follow signs to Club Masa Lodge near Kulukulu village. Park your car in the Parking Lot and walk down to the Lodge

**Kulukulu Bus 35¢  
Taxi from Town \$3.00**



## KADAVU ACCOMMODATION

meals \$25. Reservations: Phone: 315889, Fax: 315992, P.O. Box 15447, Suva.

**Malawai:** This small, exclusive resort caters for dive and gamefishing enthusiasts or for those seeking peace, quietness and relaxation. Guests accommodated in colonial style plantation cottages. Rates on application. Malawai phone: 520102, fax: 305060 or Suva phone: 361159, fax: 361536 or write P.O. Box 1277, Suva, Fiji.

**Nukubalavu Adventure Resort and Dive Centre:** Surrounded by the "Great Astrolabe Reef". Tariff: Deluxe bure with private facilities, single \$35, double \$55, extra person \$25. Beachfront bure, share facilities: Single \$18, double \$30, extra person \$12. Dormitory, share facilities \$9. Tent site \$5. 3-meals \$22 per day. PADI certification and various dive packages. Trekking. P.O. Box 686, Suva. Phone: 314554. Fax: 302212.

**Reece's Place:** Situated on Galoa Island. Tariff includes accommodation and meals at \$29. \$12 for bed only and tents at \$4. P.O. Box 6 Vanuisea, Kadavu. Phone: 315703 (island).



## KADAVU DIVING

**Dive Kadavu Matana Resort:** Adventure greets divers less than 15 minutes from the Resort along Namalata & Tavuki reefs at such places as Yellow Wall, Canyons & Blue Tang. Full service dive shop with 4 boat dives daily, night dives & shore dives. PADI courses, equipment rental, E6 photo processing & video services available. Phone: 311780, Fax: 303860.

**Galoa Island Divers:** Located at Reece's Place. Introductory lesson - free. Single dive \$30, double dive \$50, Shore dive \$15. Tanks and weights included. Other

courses from \$260 to \$300 with all gear included. P.O. Box 6, Vanuisea, Kadavu. Phone: 315703.

**Malawai:** Dive the offshore reefs of Malawai and the only wreck (210 feet long, 675 tons) in Kadavu and one of only a few in Fiji. Hard and soft corals, swim throughs, overhangs and abundant fish life. See the "Coral Garden" by night. PADI Instructor, top class dive gear and aluminium boats including the "ADI LEE" 32 feet, twin Cummins powered. Malawai phone: 520102, fax: 305060 or Suva phone: 361159, fax: 361536 or write P.O. Box 1277, Suva, Fiji.

**Naiqoro Divers:** Based at Albert's Place. A small diving operation run by divers for all levels and catering for groups of up to six divers without gear and nine divers with gear. Rates include single boat dive \$35, double boat dive \$65, shore dives \$20 and night dives add \$10. Phone: 302896.

**Nukubalavu Adventure Resort and Dive Centre:** Located on eastern Kadavu island. In close proximity to the "Great Astrolabe Reef". Accommodation available. Discover scuba course \$75. Dives from \$40. Daily equipment rental \$15. Multi day dive packages available from \$225. PADI instruction for open water certification (4-6 days) \$295. Advanced certification, Rescue Diver cert, Dive Master cert also available. Phone: 314554, Suva, or island 520089. Fax: 302212. P.O. Box 686, Suva.



## KADAVU GAMEFISHING

**Malawai:** Fish the Kadavu waters on board the 32 ft, twin Cummins powered, fully equipped "Miss Conduct". Charter rates include full day at US\$500, half day US\$350. Or troll light tackle off the Malawai reefs on "Taki Mai". Phone: 520102, fax: 305060 or Suva phone: 361159, fax: 361536 or write P.O. Box 1277 Suva, Fiji.

# ISLAND OF VANUA LEVU

Savusavu/Off Savusavu: Namenalala/Buca Bay/Labasa/Off Labasa: Nukubati Is

**Airports:** Savusavu and Labasa

**Getting there:** Sunflower flies to Savusavu twice daily from Nadi, at 8am and 12.30pm - fare is \$110 one way per person. Phone 723408.

Air Fiji flies to Savusavu daily from Suva, at 7.30am - fare is \$77 one way per person; and daily from Nadi, at 7.50am - fare is \$110 one way. Phone 313666.

Sunflower flies to Labasa twice daily from Suva, at 8am and 4.30pm - fare is \$82 one way per person; and twice daily from Nadi at 9am and 3.30pm - fare is \$110 one way per person. Phone 723408.

Air Fiji flies to Labasa five times daily from Nadi at 7.20am, 9.30am, 3pm, 4.45pm and 5.45pm. Phone 313666.

Dredrolagi hydrofoil departs Lautoka Monday to Saturday for a round trip Lautoka/Savusavu/Lautoka, departing Lautoka 7.30am and returning at 5.00pm. Phone Beachcomber Cruises on 661500.

Bus connections from Nadi to Lautoka, Labasa to Savusavu, and Suva to Natovi are \$5 one way. Phone: Beachcomber Cruises on 661500. You can also travel by car ferry.

The ANZ Bank, Westpac and National Bank of Fiji have branches in Savusavu and Labasa.



with 850460, Fax: 850344. Eco Divers, P.O. Box 264, Savusavu.

**Daku Estate Resort:** Six bure (Family bure sleep five), 3 self contained villas. Tariff: \$50 p.p. share twin. Meal plan available at \$38.50 per day. P.O. Box 18, Savusavu. Phone: 850046.

**David's Holiday House:** Tariff: Twin/double at \$8.50 and triple accommodation at \$7.50 plus breakfast.

**Hot Springs Hotel:** 43 rooms. Tariff: Single \$37-\$50, double \$45/\$60 and triple accommodation at \$50/\$65. Phone: 850195, P.O. Box 208, Savusavu.

**Kontiki Resort:** 16 Bure Units. Tariff: Single \$99, double \$165, suite \$220. Twin \$165, triple \$182.50 and family \$198. For 7 nights stay \$200 p.p. refund on food and beverage. Maximum two persons per bure. Phone: 850262. Fax: 850355. Private Mail Bag, Savusavu.

**Mumu Resort:** On the ocean, accommodation from \$11-\$17.50 p.p., great snorkelling and dive. 15 mins. from Kontiki. Phone: 850416. P.O. Box 240, Savusavu.

**Namale Resort:** 8 bure. All inclusive tariff from \$525 per couple per day. All activities except scuba diving, complimentary. Tennis, fresh water pool, kayak, water skiing, windsurfing, local tours etc. Phone: 850435. Fax: 850400.



## SAVUSAVU ACCOMMODATION

**7 Nights Accommodation/Dive Packages:** Eco divers in conjunction with local hoteliers offer the following options. All include 7 nights breakfast and a 10 tank Dive Packages.

-**David's Place:** (Backpacker Option) Priced based on double/twin share p.p \$450 FJD.

-**Daku Resort:** Price based on double/twin share p.p \$724 FJD. Phone: 850122.

at \$35 (children under 12-50% discount). Free non motorised watersports. Day excursions to Fiji's old capital Levuka. Packages available include free domestic airfares Nadi/Nausori for 7 nights longer. Stay for 7 nights, pay for 4. Phone: 312069/302057. P.O. Box 12539, Suva.

**Leleuvia Island Resort:** Family operated island resort. Bar, shop. Activities include scuba diving, snorkelling, night entertainment, night fishing. Tariff: Bures (share facilities): single \$23.10, double \$44. Dormitory (share facilities): \$19.80. Bungalows (own facilities): single \$28.60, double \$57.20. Three meals per person daily included in tariff. Transfers: bus leaves Suva daily except Sundays, for Bau Landing, and launch connection to Leleuvia Island. Transfers to Leleuvia: \$30 pp return. Transfers via Levuka: \$36 pp return. Phone: 313366 Suva, or 301584 Island. GPO Box 14810, Suva.

## OFF OVALAU DIVING

**Nautilus Dive:** Located on Leleuvia Island, this dive-centre provides world class diving in the Lomaiviti Group. One double-dive \$66 (vat incl.). Padi certification \$297 (dive students get discount on accommodation). We teach in English and in German. Phone: Island 301584, Suva: 313366.

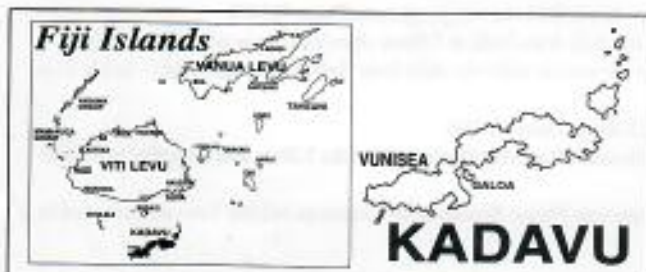
## ISLAND OF KADAVU

### Kadavu/Galoa Is

**Airport - Vunisea.**

**Getting there:** Sunflower Airlines flies to Kadavu daily from Nadi, at 1pm - fare is \$76 one way per person. Phone 723408. Air Fiji flies to Kadavu from Suva on Sunday, Monday, Wednesday and Friday, at 12 noon - fare is \$59 one way per person. Phone 313666. You can also travel by inter-island ferry. The Whippy ferry departs Millers Old Wharf in Suva bound for Kadavu on Tuesday and Friday at 6am. Phone 340015/311507. The Kadavu ferry departs Wednesday & Friday. Phone 311766.

There are no banks on Kadavu. Money should be exchanged before leaving the mainland.



## KADAVU ACCOMMODATION

**Albert's Place (formerly Plantation Hide a Way):** Tariff: Room only (twin share basis) \$12, breakfast \$4, lunch \$6, dinner \$8, room with three meals \$30, campers without meals \$3.50. Two PADI dive instructors and that we do dive courses. For further information and bookings write to: - Albert O'Connor, Plantation Hide-away, C/O P.O. Naleca Kadavu, Phone: 302896.

**Dive Kadavu Matana Resort:** Accommodation in traditional Fijian bures, surrounded by lush tropical gardens each equipped with modern comforts and facilities. Tariff: From US\$24 for standard beachfront (share bathroom) Activities include scuba diving, watersports, volleyball, cycling, mountain treks. Optional meal package US\$40 per day. Call for standby & local rates. Phone: 311780 or Fax: 303800.

**Jona's Paradise Resort:** Traditional Fijian bures located directly on white sandy beach with deep water. Fijian meals with fresh fruit, seafood and vegetables are served family style. Explore the islands of the Great Astrolabe Reef, visit a Fijian village, fish in the lagoon, snorkel and cliff dive in the inlet. Scuba diving is available at a neighbouring resort. Transport by resort boat from Vunisea Airport, \$25 per person. Tariff: Beachfront bure plus three meals \$40pp. Tent sites plus three



## Levuka - A venture through time

Daily, Air Fiji departs Nausori Airport for the majestic island of Ovalau. Although only 12 minutes in flying time, you will be transported nearly 150 years in historical time.

Indeed, when you reach Levuka, the historic first capital of Fiji, you may well believe you have travelled through a time tunnel.

Upon arrival in Levuka, you will be met by one of our representatives, and following morning tea and a short introduction, you will embark on a guided walking tour of this quaint and remarkable 19th century town. From Nasova, the first governor of Fiji's residence and the location of the signing of the Deed of Cession in 1874, you will stroll along the oceanfront promenade of Beach Street to Queen Victoria Memorial Hall and Fiji's first school,

Levuka Public School. Marist Convent, Mission Hill and our nation's first hotel, the famous Royal Hotel, are among the numerous historic locations you will visit.



Following your tour and lunch, you are free to browse and explore or to arrange an afternoon tour or trek. Your transportation to the airport

departs from Air Fiji's office at 3:30pm to connect with your flight back to the 21st century. Your full day's excursion is only \$99.00 VIP and covers return airfares, ground transfers to and from Levuka, morning tea, lunch and your guided walking tour. This excursion is available Monday through Saturday and quaint, comfortable accommodation can also be arranged.

For further information and bookings, contact your nearest Air Fiji office or :



**Ovalau Tours & Transport**  
P.O. Box 149, LEVUKA  
Tel: (679) 440 611 Fax: (679) 440 405



## KADAVU ACCOMMODATION

meals \$25. *Reservations:* Phone: 315889, Fax: 315992, P.O. Box 15447, Suva.

**Malawai:** This small, exclusive resort caters for dive and gamefishing enthusiasts or for those seeking peace, quietness and relaxation. Guests accommodated in colonial style plantation cottages. Rates on application. *Malawai phone:* 520102, fax: 305060 or *Suva phone:* 361159, fax: 361536 or write P.O. Box 1277, Suva, Fiji.

**Nukubalavu Adventure Resort and Dive Centre:** Surrounded by the "Great Astrolabe Reef", Tariff: Deluxe bure with private facilities, single \$35, double \$55, extra person \$25. Beachfront bure, share facilities: Single \$18, double \$30, extra person \$12. Dormitory, share facilities \$9. Tent site \$5. 3-meals \$22 per day. PADI certification and various dive packages. Trekking. P.O. Box 686, Suva. Phone: 314554. Fax: 302212.

**Reece's Place:** Situated on Galoa Island. Tariff includes accommodation and meals at \$29. \$12 for bed only and tents at \$4. P.O. Box 6 Vunisea, Kadavu. Phone: 315703 (island).



## KADAVU DIVING

**Dive Kadavu Matana Resort:** Adventure greets divers less than 15 minutes from the Resort along Namalata & Tavuki reefs at such places as Yellow Wall, Canyons & Blue Tang. Full service dive shop with 4 boat dives daily, night dives & shore dives. PADI courses, equipment rental, E6 photo processing & video services available. Phone: 311780, Fax: 303860.

**Galoa Island Divers:** Located at Reece's Place. Introductory lesson - free. Single dive \$30, double dive \$50, Shore dive \$15. Tanks and weights included. Other

courses from \$260 to \$300 with all gear included. P.O. Box 6, Vunisea, Kadavu. Phone: 315703.

**Malawai:** Dive the offshore reefs of Malawai and the only wreck (210 feet long, 675 tons) in Kadavu and one of only a few in Fiji. Hard and soft corals, swim throughs, overhangs and abundant fish life. See the "Coral Garden" by night. PADI Instructor, top class dive gear and aluminium boats including the "ADI LEE" 32 feet, twin Cummins powered. *Malawai phone:* 520102, fax: 305060 or *Suva phone:* 361159, fax: 361536 or write P.O. Box 1277, Suva, Fiji.

**Naiqoro Divers:** Based at Albert's Place. A small diving operation run by divers for all levels and catering for groups of up to six divers without gear and nine divers with gear. Rates include single boat dive \$35, double boat dive \$65, shore dives \$20 and night dives add \$10. Phone: 302896.

**Nukubalavu Adventure Resort and Dive Centre:** Located on eastern Kadavu island. In close proximity to the "Great Astrolabe Reef". Accommodation available. Discover scuba course \$75. Dives from \$40. Daily equipment rental \$15. Multi day dive packages available from \$225. PADI instruction for open water certification (4-6 days) \$295. Advanced certification, Rescue Diver cert, Dive Master cert also available. Phone: 314554, Suva, or island 520089. Fax: 302212. P.O. Box 686, Suva.



## KADAVU GAMEFISHING

**Malawai:** Fish the Kadavu waters on board the 32 ft, twin Cummins powered, fully equipped "Miss Conduct". Charter rates include full day at US\$500, half day US\$350. Or troll light tackle off the Malawai reefs on "Taki Mai". Phone: 520102, fax: 305060 or Suva phone: 361159, fax: 361536 or write P.O. Box 1277 Suva, Fiji.

# ISLAND OF VANUA LEVU

Savusavu/Off Savusavu: Namenalala/Buca Bay/Labasa/Off Labasa: Nukubati Is

**Airports:** Savusavu and Labasa

**Getting there:** Sunflower flies to Savusavu twice daily from Nadi, at 8am and 12.30pm - fare is \$110 one way per person. Phone 723408.

Air Fiji flies to Savusavu daily from Suva, at 7.30am - fare is \$77 one way per person; and daily from Nadi, at 7.50am - fare is \$110 one way. Phone 313666.

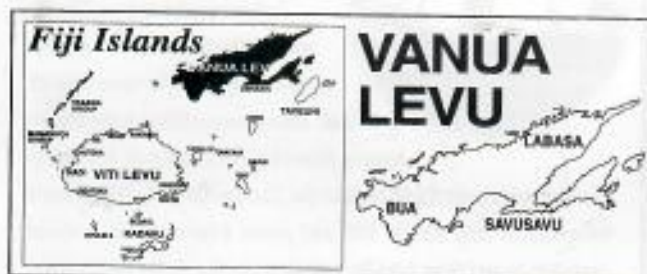
Sunflower flies to Labasa twice daily from Suva, at 8am and 4.30pm - fare is \$82 one way per person; and twice daily from Nadi at 9am and 3.30pm - fare is \$110 one way per person. Phone 723408.

Air Fiji flies to Labasa five times daily from Nadi at 7.20am, 9.30am, 3pm, 4.45pm and 5.45pm. Phone 313666.

Dredrolagi hydrofoil departs Lautoka Monday to Saturday for a round trip Lautoka/Savusavu/Lautoka, departing Lautoka 7.30am and returning at 5.00pm. Phone Beachcomber Cruises on 661500.

Bus connections from Nadi to Lautoka, Labasa to Savusavu, and Suva to Natovi are \$5 one way. Phone: Beachcomber Cruises on 661500. You can also travel by car ferry.

The ANZ Bank, Westpac and National Bank of Fiji have branches in Savusavu and Labasa.



## SAVUSAVU ACCOMMODATION

**7 Nights Accommodation/Dive Packages:** Eco divers in conjunction with local hoteliers offer the following options. All include 7 nights breakfast and a 10 tank Dive Packages.

-**David's Place:** (Backpacker Option) Priced based on doubletwin share p.p \$450 FJD.

-**Daku Resort:** Price based on doubletwin share p.p \$724 FJD. Phone: 850122.

afn 850460. Fax: 850344. *Eco Divers.* P.O. Box 264, Savusavu.

**Daku Estate Resort:** Six bure (Family bure sleep five). 3 self contained villas. Tariff: \$50 p.p. share twin. Meal plan available at \$38.50 per day. P.O. Box 18, Savusavu. Phone: 850046.

**David's Holiday House:** Tariff: Twin/double at \$8.50 and triple accommodation at \$7.50 plus breakfast.

**Hot Springs Hotel:** 43 rooms. Tariff: Single \$37-\$50, double \$45/\$60 and triple accommodation at \$50/\$65. Phone: 850195, P.O. Box 208, Savusavu.

**Kontiki Resort:** 16 Bure Units. Tariff: Single \$99, double \$165, suite \$220. Twin \$165, triple \$182.50 and family \$198. For 7 nights stay \$200 p.p. refund on food and beverage. Maximum two persons per bure. Phone: 850262. Fax: 850355. *Private Mail Bag, Savusavu.*

**Mumu Resort:** On the ocean, accommodation from \$11-\$17.50 p.p. great snorkelling and dive. 15 mins. from Kontiki. Phone: 850416. P.O. Box 240, Savusavu.

**Namale Resort:** 8 bure. All inclusive tariff from \$525 per couple per day. All activities except scuba diving, complimentary. Tennis, fresh water pool, kayak, water skiing, windsurfing, local tours etc. Phone: 850435. Fax: 850400.

at \$35 (children under 12-50% discount). Free non motorised watersports. Day excursions to Fiji's old capital Levuka. Packages available include free domestic airfares Nadi/Nausori for 7 nights longer. Stay for 7 nights, pay for 4. Phone: 312069/302057, P.O. Box 12539, Suva.

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## ISLAND OF KADAVU

### Kadavu/Galou Is

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There are no banks on Kadavu. Money should be exchanged before leaving the mainland.



## KADAVU ACCOMMODATION

**Albert's Place (formerly Plantation Hide a Way):** Tariff: Room only (twin share basis) \$12, breakfast \$4, lunch \$6, dinner \$8, room with three meals \$30, campers without meals \$3.50. Two PADI dive instructors and that we do dive courses. For further information and bookings write to: - Albert O'Connor, Plantation Hide-away, C/O P.O. Naleca Kadavu, Phone: 302896.

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Levuka Public School, Marist Convent, Mission Hill and our nation's first hotel, the famous Royal Hotel, are among the numerous historic locations you will visit.



Following your tour and lunch, you are free to browse and explore or to arrange an afternoon tour or trek. Your transportation to the airport departs from Air Fiji's office at 3:30pm to connect with your flight back to the 21st century. Your full day's excursion is only \$99.00 VIP and covers return airfares, ground transfers to and from Levuka, morning tea, lunch and your guided walking tour. This excursion is available Monday through Saturday and quaint, comfortable accommodation can also be arranged.

For further information and bookings, contact your nearest Air Fiji office or:



**Ovalau Tours & Transport**  
P.O. Box 149, LEVUKA  
Tel: (679) 440 611 Fax: (679) 440 405

**Savusavu Bay Accommodation:** Tariff: Single \$10 and double (room with fans) \$15, double and family room with air-condition at \$30. P.O. Box 290, Labasa. Phone: 850100, Managing Director (Lal Chand) Phone: 812020.

**Savusavu Holiday House:** Tariff: Twin/double at \$8.50 and triple accommodation with breakfast \$7.50. P.O. Box 65, Savusavu. Phone: 850216/850149.

## SAVUSAVU TOURS & CRUISES

**A Day on the Bay:** Day cruise begins at 9.30am-4.30pm from Savusavu. Sailing to the lower part of the bay with a stop for swimming and snorkelling before lunch. Sunset cruise departs between 3.00pm and 4.00pm, depending on the season and sunset, and returns about 6.00pm or 7.00pm. This is a leisure sail around the Bay with spectacular sunsets as seen only from the water. For further details and information contact: Emerald Yacht Charters Ltd. Box 15, Savusavu. Phone: 850440.

**Beachcomber Cruises:** new 60 passenger fast ferry "Drodrolagi" can 'fly' you from Lautoka Wharf at 7.30am to the beautiful port town of Savusavu on Fiji's second largest island Vanua Levu (approx. 4 1/2 hours). From there you can transfer to your chosen resort, experience the world renowned scuba diving in the area with one of the local operators based at the wharf, or simply do your own exploration of the area. Departs Savusavu at 1.00pm arriving Lautoka 5.30pm. Return bus connects port stops to major centres. Service operates Monday to Saturday. Weather permittings. Contact Beachcomber Cruises for details and reservations. Tel: 661500. Fax: 664496.

**Coconut Plantation Tour:** Visit a Copra Plantation (farm) to see how Copra (coconuts) are harvested in Fiji and then go to the largest of all copra mill to see how coconut oil is produced for the International market. Price p.p \$20.00. Min. 2 persons. Phone: 850122 a/h. 850460, Fax: 850344, Eco Divers, P.O. Box 264, Savusavu.

**Emerald Yacht Charters:** 10.66m (35') and 13.1m (43') sloops with accommodation for four. Based at Savusavu. Telephone: 850440, Fax: 850334, Telex: FJ8281, P.O. Box 15, Savusavu, Fiji.

**Fiji by Kayak:** 5 and 7 day expeditions, also day trips, into untouched Natavea Bay. Fully guided & outfitted. Modern sanitary facilities at campsites. July - November only. Phone: 850345. Fax: 850344.

**Fijian Village Tour:** Includes 2-3 hrs visit as an invited guest at traditional Fijian Village. Price p.p \$20.00 min. 2 persons. Phone: 850122 a/h. 850460, Fax: 850344, Eco Divers, P.O. Box 264, Savusavu.

**Labasa Tour:** Full day tour to Labasa Sugar Mill. Includes lunch. Price p.p \$90 min. 2 persons. Phone: 850122 a/h. 850460, Fax: 850344, Eco Divers P.O. Box 264, Savusavu.

**Rainforest/Waterfall Tour:** Half day walking journey through tropical rain forest to a series of mini waterfalls. See herbal remedy plants, take a dip, Fijian guides. Price p.p \$25. Phone: 850122 a/h. 850460, fax: 850344, Eco Divers P.O. Box 264, Savusavu.

## SAVUSAVU DIVING

**Eco Divers:** Professional dive operation with experienced Dive Masters. Embarkation at the Copra Shed Marina complex in Savusavu town. 2 large twin engine Zodiac's fitted out for diving multiple dives. 10 tank dive package. For \$385 - dusk dives night dives also available. Initial offer of 2 tank boat dive \$85 p.p. Phone: 850122 a/h. 850460, Fax: 850344, Eco Divers P.O. Box 264, Savusavu.

**Kontiki Resort:** A fully sanctioned PADI Dive facility professionally run. Dive shop located at the resort. Diving trips to Savusavu "Dream House". Full instructional services on site from beginner to Assistant Instructor, a try and intro course. Special accommodation packages with the resort. Call the resort on 850262 and ask for the "Dive Shop".

**L'Aventure Cousteau/Cousteau Fiji Islands Resort:** Join Jean-Michel Cousteau and his expert team of divers for a unique ocean experience. L'avenure Cousteau is a full-service shop offering equipment and guided trips to the areas best sites. Instruction and PADI certification offered for underwater naturalist, photographer and more. On-site photo processing and tips from marine scientists are also available. Phone: 850188/174/157 Fax: 850340.

**Namale Resort:** Fully equipped diveshop, fast dive boats, PADI dive masters, PADI Instructors. Phone: 850435, Fax: 850400.

## SAVUSAVU GAMEFISHING

**Sportfishing:** 32 foot Powercat Kontiki One. Well maintained equipment with professional crew. Price of boat per hour \$100 FJD, half day boat hire \$400 FJD Full day boat hire \$750 FJD. Phone: 850262 / 850520 Fax: 850355, Eco Divers P.O. Box 264, Savusavu.

## OFF SAVUSAVU ACCOMMODATION

**Moody's Namenalala:** 5 deluxe bures with private facilities. Maximum of 10 guests. Tariff: Single or double is \$195. Meal package available at \$82 plus 10% VAT. Scuba diving available at \$58 per tank dive. Write to Moody's Namenalala Island, Private Mail Bag, Savusavu. Phone: 813764. Fax: 812366.

## BUCA BAY ACCOMMODATION

**Buca Bay Resort & Yacht Club:** Double rooms in gracious bayfront home. Tariff: Large doubles \$35, with private bath \$45, extra persons in rooms at \$10. Reef Terrace restaurant for meal services by reservation. Natuvu shopping centre nearby. Deluxe private family bures with all facilities (studio, one bedroom and two bedrooms each). Write Buca Bay Resort, Natuvu, Buca Bay. Phone: 880370.

**Natuvu Plantation Dormitory:** By the Jetty where boat land from Taveuni. Includes dormitory, full kitchen. Close to cafe & store. Write Natuvu Plantation Dormitory, Natuvu, Buca Bay. Phone: 880370.

## LABASA ACCOMMODATION

**Grand Eastern Hotel:** Tariff: 27 rooms, new wing single \$52.80, double \$59.40, old wing single \$33.00, double \$39.60. Self contained apartment: single \$26.40, double \$33.00. Non A/C rooms \$19.80, double \$26.40. A/C rooms and other facilities. Phone: 811022, Fax: 814011, P.O. Box 641 Labasa.

**Hotel Takia:** Tariff: Single \$35, double \$45. (Rooms with fans). A/C single \$55, double \$65. Phone: 811655, Fax: 813527, 10 Nasekula Road.

**Labasa River View Private Hotel:** 5 minutes work from town, clean comfortable rooms with private facilities (with fans), reasonable rates, fully licensed bar (for house guest only), private car parks, friendly small hotel situated along Labasa river front, panoramic views, dormitory accom. available (with fans), backpackers rate single \$10, double \$15 with fans. For further information contact Ph: 811367, Fax: 814337. P.O. Box 129, Labasa.

## LABASA ACCOMMODATION

**Nukubati Island:** 4 Bungalows. Tariff: \$550 per couple per day with meals, soft-drinks and activities - alcoholic beverage available. 1 hour by boat from Labasa (no charge). Nadi - Labasa by Sunflower airlines and return excursion fare at \$114. Phone: 813901 Fax: 813914, P.O. Box 1928, Labasa.

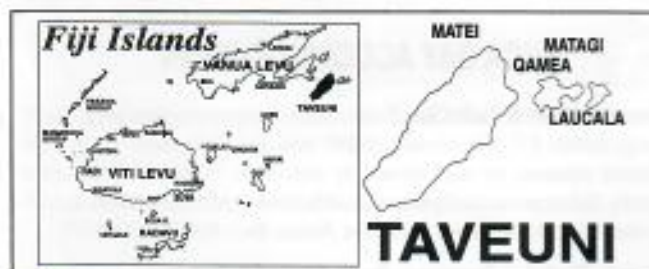


# ISLAND OF TAVEUNI

Taveuni/Off Taveuni: Laucala Is, Lomaloma Is\*, Matagi Is, Qamea Is, Kaimbu Is.\* (\*Refer centre map, Lau Group for location)

**Airport - Matei.** Getting there: Sunflower flies to Taveuni twice daily from Nadi, at 8am and 12.30pm - fare is \$132 one way per person. Phone 723408. Air Fiji flies to Taveuni daily from Suva, at 9.15am - fare is \$98 one way per person; and daily from Nadi at 7.55am - fare is \$132. Phone: 313666. You can also travel by car ferry and other inter-island shipping services.

There are two bank branches in Taveuni - Westpac in Somosomo and the National Bank of Fiji in Waiyevo.



## TAVEUNI ACCOMMODATION

**Airport Motel:** Offers 4 rooms. Share facilities. Cooking facilities available. Meals can be arranged on request. Tariff: Single \$12, double at \$20. Phone: 880406.

**Audrey's By the Sea:** Self-contained cottage for one or two adults with ocean view and 50 metres from private sandy beach. Tariff: \$65 per night includes daily maid service. For reservations contact: Audrey's Matei, Taveuni. Phone: 880039.

**Beverly's Campground:** Within walking distance of the airport. Tariff: \$5 p.p per night with own tent; \$6 p.p small tent, \$7 p.p large tent. Traditional Fijian bure at \$10 p.p. per night. Fresh tropical fruit, snorkelling gear free. Contact: Mr William Madden. P.O. Waiyevo, Taveuni. Phone: 880381.

**Bibi's Hideaway:** Private home. Tariff: \$70 per day for the home \$25/35 for a single/double. Cottage: double room at \$30; \$50 entire cottage. Cooking facilities available. Write James Bibi, P.O. Box 80 Waiyevo, Taveuni. Phone: 880443.

**Coconut Grove Beachfront Cottage:** Situated directly on white sandy beach with self-contained kitchen and fan over bed. Restaurant nearby. Tariff: Single \$55, double \$65, triple \$75. Phone: 880328, Fax: 880050. P.A. Matei, Taveuni.

**Dive Taveuni Resort:** 6 private deluxe bure with ensuite, and outdoor rock showers, oceanview decks and kingsize beds. Private white sandy beach. All meals catered with open-air dining by candlelight. Fijian/European cuisine. Fishing and Taveuni tours arranged by request. Meals and transfers included in tariff. Tariff: \$US132 per person. Phone: 880441. Fax: 880466. Write: Dive Taveuni, Matei P.O. Taveuni Island.

**Garden Island Resort:** Overlooking Somosomo Straits. All rooms have a balcony, fans tea/coffee making facilities, bath shower and refrigerator. Tariff: single \$55, double \$77, triple \$88. Phone: 880286. Fax: 880288. P.O. Box 1, Waiyevo, Taveuni.

**Kaba's Motel Limited:** 6 deluxe rooms. Tariff: single \$33, double \$40, twin \$44, extra person \$12. Self catering kitchenette in room, fridge, hot/cold water, ceiling fans, phones, radio, closed circuit video, laundry service. Four wheel drive vehicle hire, taxi service. Supermarket nearby. 4 budget rooms. Tariff: single \$20, double \$28, twin \$30, triple \$40 - shared facilities. P.O. Box 4, Taveuni. Phone: 880233. Fax: 880202.

**Kools Accommodation:** Somosomo, Taveuni. Guest house with six rooms. Tariff: Single \$10, double/twin \$16. Self cooking facilities available. P.O. Box 96, Waiyevo, Taveuni. Phone: 880395.

**Kris Back Palace:** Located on the South end of Taveuni on a 100 acre private coconut plantation. Tariff: \$8 p.p with own tent. Traditional Fijian bure \$12 p.p per night. Free fruit in season. P.O. Box 22, Taveuni. Phone: 880246.

**Little Dolphin Treehouse and Sports:** One oceanfront bure with self-contained kitchen, electricity, hot water and island and ocean views. \$55 per night. Rental of 18 speed mountain bikes, kayaks, outrigger canoes, snorkelling gear. Surfing, fishing and snorkelling trips available. 5 minutes stroll from Matei Airport. Phone: 880130 on write to Little Dolphin, P.A. Matei Taveuni.

**Lisi's Campsite:** Beach campsite 5 mins. from Matei Airport. Shower toilet, cooking facilities, free fruit in season. Meals by arrangement. Tariff: double \$15. Own tent. Prior booking not necessary. Contact: Mary and Lote Tuisago, Vacala Estate, Postal Agency Matei, Taveuni.

**Lomalagi Beachfront Home:** Self contained. Tariff: \$65 (sleeps 4). Contact Dolores Porter. Phone: 880299. P.A. Matei Taveuni.

**Maravu Plantation Resort:** Less than 1km from the Matei airport. 3 honeymoon bure with private outdoor shower & deck. 7 planter bure with private verandah. Large swimming pool with deck. Wananavu restaurant specialises in local and international cuisine. Complete eco-tours to Bouma falls and Lavena, arranged. Diving & fishing also arranged. Tariff: single \$165, double \$198 triple \$227. For reservations: Phone: 880555 & 880556. Fax: 880600.

**Niranjans Budget Accommodation:** Self contained rooms. Tariff: Single \$20, double \$30, children under 10 \$8. Plus 10% tax. For inquiries, write: The Manager, Airport Hotel, P.A. Matei, Taveuni. Phone: 880406.

**Nai Kelekele Apartment:** Spacious self-contained apartment. Double bedroom, bed sitting room with two singles and kitchen facilities, private bathroom and use of washing machine. Private deck on to garden leads to white sand beach. Situated Vacala Bay, 5 mins from Matei Airport. Tropical fruits and veg available in season. \$F75 per night for up to four guests. Contact Warwick & Dianne Bain, P.A. Matei, Taveuni. Phone/Fax: 880141.

**Sunset Accommodation:** Lovonivonu Taveuni on the beach front 1 km from the Garden Island Resort. Tariff: Self contained units. Single \$8, double \$12. Phone: 880229, P.O. Box 15, Taveuni.

**Susie's Plantation Resort:** Seaside accommodation located on the south end of Taveuni on a 300-acre private coconut plantation. Tariff: \$45 double en-suite; bure \$45; double \$35, double with kitchenette and private bathroom. Dormitory \$12 single. Diving and snorkelling available. For information and reservations, write Susie's Plantation Resort, P.O. Box 69, Waiyevo, Taveuni. Phone: 880125, Fax: 880125.

**Vatuwiri Farm Resort:** Seaside farm resort. 2 cottages Vunivesi \$70 per night, Vunibua \$65 per night. Dormitory \$20 per bed. Or live with the hosts for \$50 per night. Meal plan available at \$35 p.p. Post Agency, Vuna, Taveuni. Phone: 880316.

**Tuvununu Paradise Garden Inn:** Back packers dorms and camping facilities. Restaurant. Ci-Matei Airport, Taveuni, Fiji Islands. For Bookings, Phone: 880465.

## TAVEUNI RESTAURANTS

**Audrey's "Sweet Somethings":** Serves Taveuni-grown and home roasted coffee, iced orange & mango juice, cordials, cookies, chocolate cake and other home baked delicacies. Open from 10am-6pm including holidays. Phone: 880039.

**Coconut Grove:** Oceanfront terrace restaurant, opens for breakfast, lunch and dinner. Budget-conscious meals. Phone: 880328. Fax: 880050. P.A. Matei, Taveuni.

**Little Dolphin Pizza Takeaway:** Phone 880130 or call before 3pm to order to takeaways for between 4.30pm-6.30pm. 5 minutes stroll from Matei Airport.

**Lesuma's 'Wathi-Po-Kee' Restaurant' and 'Cannibal Cafe':** Enjoy a meal indoors or sitting out by the sea. All tastes catered for - including vegetarian. Open 7.30am to 8.30pm. No reservations required. Special function and cocktails party catering. Phone: 880036 Ext 13 Mon-Sat.

**Maravu Plantation Restaurant Wananavu:** Terrace restaurant with local and international cuisine. Poolside service also available. Entertainment. Open 7 days 7.30am - 10.00pm. Located within Maravu Plantation Resort in Matei. Reservations encouraged phone: 880556, fax: 880660.

**Susies Colonial Restaurant:** Meal plan \$30 a day. Phone: 880125. P.O. Box 69, Waiyevo.



## TAVEUNI DIVING

**Seax of Legras:** 45ft (14m) sailing ketch based at Taveuni. Maximum four guests in two guest cabins, two shower/toilet compartments. Fully crewed with skipper and gourmet chef. Day and extended cruises off north-eastern Fiji Islands including Northern Lau Group. Taveuni 'homestays' available on dinner, bed & breakfast basis in conjunction with extended cruises. P.O. Box 89 Waiyevo, Taveuni. Phone/Fax: 880141.

**M.V. Matagi Princes II:** 85 ft, luxury vessel, 6 air conditioned cabins, each with own facilities. 4, 5 and 6 nights scheduled departures. Extended charters available. Phone: 880260, Fax: 880274.

**Dive Taveuni Resort:** Dive famous sites from Fiji's largest (40 ft) catamaran, custom-designed for diving. US\$82 for 2 tank dive. Hire gear available. Phone: 880441, 880445. Fax: 880466. Write: Dive Taveuni, Matei P.O. Taveuni Island.

**Rainbow Reef Divers/Garden Island Resort:** Daily excursions to world-class dive sites. For the novice: PADI discover scuba, learn-to-dive and advanced courses. Contact: Rainbow Reef Divers, Garden Island Resort, P.O. Box 1, Waiyevo, Taveuni, Phone: 880286/880544. Fax: 880288.

**Noks Dive:** Located at the water front off Kris Pack Palace and providing a variety of dive experiences. Reservations enquiries write, Noks Dive Centres, P.O. Box 22, Taveuni. Phone: 880246.

**Lady Christine:** 12.8mm (42ft) cabin cruiser and a 32ft outboard powered vessel. Dive packages include two boats dives a day, weights, tanks and unlimited shore diving. Full certification courses and resort courses are also offered. Inquiries to Matagi Island Resort, P.O. Box 83, Waiyevo, Taveuni. Phone: 880260, Fax: 880274.

**Susie's Plantation Dive Centre:** Located at Susie's Plantation Resort, this dive centre provides a great of dive opportunities to world-class sites. 2 tank dives from \$77. Dive package \$363. Full Dive courses and dive packages on request. Full line of Sherwood rental equip. For reservation or enquiries, Write Susie's Dive Centre, P.O. Box 69, Waiyevo, Taveuni. Phone: 880125, Fax: 880125.

## OFF TAVEUNI ACCOMMODATION

**Fiji Forbes Laucala Island:** Laucala offers 5 bures, (no more than 12 guests at any time) each with air conditioned bedroom, full size bath, lounge, dining area and kitchen with a fully stocked bar. Activities offered include scuba diving, deep sea fishing, water skiing and includes all meals and drinks in an all inclusive rate. Cost US\$2100 per person for six nights with seventh night free. Contact Fiji Forbes 880077, or in the USA 719-379-3263.

**Kaimbu Island Resort:** Located in Lau Group of islands. 880 acre private island with 3 luxury bures each with private beach. Airfield. Activities include sport fishing, scuba diving, sailing, water skiing, wind surfing, golf driving range, cave exploration and excursions to uninhabited islands. P.O. Kaimbu Island. Phone: 880333, Fax: 880334.

**Lomaloma Resort, Lau:** 7 deluxe ocean front bures. Tariff includes all meals, selected beverages and all non-motorised entertainment. Emphasis on seafood, scuba & water sports. Phone: 880446. Fax: 880303. USA: 800 486 3205.

**Matagi Island Resort:** 10 Bures. Tariff: Single \$195, double/twin \$258.50, honeymoon bure (tree house) \$322. Daily meal plan \$89 (pp 3 meals daily). Serves Fijian, Indian & European meals. Transfer cost at \$65 pp to Taveuni/Matagi and return. P.O. Box 83 Waiyevo, Taveuni. Phone: 880260. Fax: 880274.

**Qamea Beach Club:** Offers 11 bures. Tariff includes single \$270, double \$315 and triple accommodation at \$345. Meals per person per day \$75. Island transfers at \$50 per person. Phone: 880220. Fax: 880092. P.O. Matei, Taveuni.

## OFF TAVEUNI DIVING

**Dive Laucala Fiji Forbes:** For certified divers all diver and equipment are supplied, no schedules, dive as often as you want for no extra charge. Full service photo/video lab on premises, video and still camera hire, E6 processing, custom video, available for purchase. Full PADI certifications and resort courses also

available, not included in tariff: World class diving minutes from your door. For further information contact: Phone: 880077, Fax: 880099, USA (719) 379-3263.

## RENTAL CARS

**Avis Rent A Car:** Vehicles available: Toyota Starlet, Toyota Tercel, Toyota Corolla, Toyota Corona & Lite Ace, A/C Toyota Corolla, Toyota Cressida GLXi and Feroza Soft Top (4 wheel drive). Phone: Suva 313833, Nadi Airport 722233. Telex: FJ5187. Fax: 720482.

**Budget Rent A Car:** Vehicles available: Suzuki Altos, Mazda 323, Mazda 929, Mazda 626, Vans and Mini buses. P.O. Box 12170, Suva. Phone: 315899, Nadi Airport, Phone: 722735. Fax: 302450, Telex: FJ2483 JANCAR.

**Central:** Vehicles Skoda - manual, utility vans, Daihatsu Charade, Toyota Corona, Nissan Laurel, Toyota Tercel, Hyundai excel, Mitsubishi Lancer/Galant, 293 Victoria Parade, P.O. Box 468, Phone: 311866, 311908. Fax: 305072. Nadi Airport 722771 (24 hrs) Lautoka 664511.

**Hertz Rent-A Car:** Vehicles available; Subaru, Ford Laser 1.6, Subaru Legacy 1.8, Ford Telstar, Toyota Cressida, Rockstar 4WD S/Top, Ford Econovan 8 seater and Chauffeur driven Rolls Royce. Fiji Head Office: 173 Victoria Parade, Suva. Phone: 302186, Fax: 302748, Nadi Phone: 723466.

**Kaba's Rentals:** Vehicles available: Hyundai excel 2 door, panel car manual seats 2, minimum 2 days \$77, \$40 + 30 per day, Hyundai excel 4 door, sedan manual seats 5 A/C \$88, \$50 + 30 per day, Suzuki Samurai 2 door jeep, manual hardtop 4 seats 4wd \$99, \$55 + 40 per day. Rates effective from 26th April 1993. Phone: 880058, Fax: 880202, Somosomo, Taveuni, Fiji.

**Khan's Rental Cars:** Large and small, wagons and sedans, automatics and manuals are all available at very reasonable prices 4 x 4 and executive cars. Male Street, Nadi Town 701009 24 hrs at Nadi Airport 723506. Newtown Mall, Nadi 720617, Suva: 385033. Fax: 720616, 702159. P.O. Box 9881, Nadi Airport.

**Little Dolphin Sports:** Mountain bikes, paddle boats, snorkel gear, surfboards, putt putt golf. Phone: 880130 or write to Little Dolphin P.A. Matei Taveuni.



Matagi  
Island

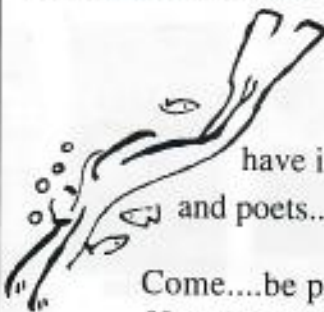
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**National Car Rentals:** Vehicles: Nissan March, Toyota Corolla, Mitsubishi Lancer, Toyota Corolla Station Wagon, Toyota Cressida, Toyota Hiace (8 seater), coaches, 4-wheel drives and Suzuki soft tops. P.O. Box 9101, Nadi Airport Phone: 721653. A/H 722809, Fax: 720202, Telex: FJ2511.

**Rental Cars (Fiji) Ltd:** Phone Jona R Nalukuya on 723922, a/h 701790 P.O. Box 9160, Nadi Airport.

**Roxy Rentals:** Suzukis, Datsun 120Y, Nissan Sunny, Nissan Laurel. ROXY vehicles: Suzuki Sedans, Toyota Starlet, Toyota Wagon, Toyota Corolla and Mazda 929. P.O. Box 1921, Nadi Airport Phone: 700710/722763.

**Satellite Rentals:** Cars available Toyota Starlet, Nissan Sunny, Nissan Bluebird, Toyota Corona, Toyota Camry, auto air con Sedan, Hyundai Excel air con Sedan, Nissan Laurel auto, Hyundai Elantra Sedan air con auto, Toyota Corolla Sedan auto air con, Hyundai Sculp (sports car) air con, Hyundai Elantra Sedan fully loaded aircon auto, Hyundai Sonata Sedan fully loaded, Toyota, Nissan (mini coach) 8 seater. Head office: West Point Arcade, Suite 1, Main Street Nadi town, P.O. Box 9635, Nadi Airport, Phone: 702109/701911, A/H: 723480/24 hours 722219, Lautoka, Phone: 662809.

**Sharmas Rental Cars:** Vehicles Available: Toyota Pick Up Vans, Toyota Starlet, Toyota Corolla Sedan and station wagon (automatic/manual), Toyota Carina sedan and station wagon, Toyota Camry sedan (automatic/manual), Nissan Pick Up Vans, Nissan Sunny (automatic/manual), Bluebird (automatic/manual), Nissan Vanelle G/O seater Vans (automatic/manual), Mazda Familia sedan and station wagon, Honda Civic. Executive Vehicles also available. Selection of air conditioned and

non-air conditioned. P.O. Box 1042, Nadi. Phone: 701055, 701968, 700160 - 24 hours service Fax: 780038 Cable: "Sharmarad"

**Skyline Car Rentals:** Vehicles Available: Toyota Starlet, Hyundai Excel, Nissan Bluebird, Hyundai Sonata, Toyota Cressida, Corolla, Mitsubishi Galant, Toyota Lite Ace Mini Coach, Suzuki Jeep 4 x 4 Soft top, Nissan PU 1 ton, Manuals and Automatic with Air condition. P.O. Box 9056, Nadi Airport. Phone: 723980 Nadi 720454 Fax: 720254.

**Thrifty Car Rental:** Car available Toyota Starlet Hatchback (manual), Toyota Tercel Sedan (manual), Air conditioned Toyota Tercel (manual), Air conditioned Toyota Corolla Station Wagon (manual), Air conditioned Toyota Corolla (automatic). Fiji licensee: For reservations: Rosie The Travel Service, P.O. Box 9268, Nadi Airport, Phone: 722935 or 722755, Fax: 722607. Suva Office Phone: 314436. Fax: 314439, Telex: FJ5143. ROSIE.

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Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: AISAKE BATIBASAGADATE: 10 NOV. 95

**FAXED**  
11/13/95 2:12

FROM: GEORGE BALAZSFAX (808) 943-1290  
TELEPHONE EXT:NUMBER OF SHEETS TRANSMITTED (including this page) TWO

DEAR AISAKE: I TRIED TELEPHONING YOUR OFFICE LAST WEEK TO DISCUSS YOUR SEA TURTLE RESEARCH PROPOSAL. HOWEVER, I NOW UNDERSTAND THAT YOU WILL BE AWAY IN YOUR TRAINING CLASS FOR A FEW MORE WEEKS. I WILL THEREFORE TRY TO SUMMARIZE IN THIS FAX MY UNDERSTANDING OF THE CURRENT SPREP FUNDING ISSUE.

FIRST I WOULD LIKE TO CLARIFY THAT THE FIRST TIME I SAW YOUR PROPOSAL WAS WHEN SUE GAVE IT TO ME IN FIJI. I HAD NOT READ IT BEFORE, AND REALLY HAVE NO KNOWLEDGE OF WHEN IT WAS SUBMITTED TO SPREP, AND WHAT REMARKS WERE PREVIOUSLY EXCHANGED BETWEEN YOU AND SUE. ALTHOUGH YOUR COVER PAGE DOES NOT SHOW THE DATE IT WAS PREPARED, PAGE 4 MENTIONS "WE WOULD LIKE TO PROCEED WITH THE PROJECT FROM NO LATER THAN 1 JUNE 1995....". ALSO, IT SEEMS THAT SOME ADDITIONS/REVISIONS WERE SUBMITTED BY YOU TO SPREP WHICH WERE RECEIVED BY THEM 20 SEPT 95. SO PLEASE FORGIVE ME, I APOLOGIZE, FOR NOT KNOWING ALL ASPECTS OF THE HISTORY OF THE PROPOSAL. IT WOULD APPEAR THAT IT HAS BEEN PENDING, AND GOING BACK AND FORTH, FOR AWHILE NOW.

HAVING SAID THE ABOVE, I WILL NOW GIVE A FEW COMMENTS TO YOU ON THE SCIENTIFIC MERIT OF YOUR PROPOSAL. I AM OF THE OPINION THAT YOU ARE TARGETING FOR RESEARCH EXACTLY WHAT NEEDS TO BE DONE. THAT IS, ASSESSMENT OF NESTING TO IDENTIFY WHERE AND RELATIVELY HOW MANY TURTLES ARE LEFT BREEDING OF EACH SPECIES IN FIJI; AND LOCATE AND ASSESS SELECTED FORAGING AREAS TO ID THE BEST LOCATIONS, FOR POSSIBLE DESIGNATION AS MARINE PARKS, THAT WILL BENEFIT BOTH FIJI AS WELL AS THE GREATER S.PACIFIC REGION, WHICH WE NOW KNOW SHARES SEA TURTLES SIGNIFICANTLY WITH FIJI. MY TWO SUGGESTIONS, FROM THE SCIENCE ASPECT, WOULD BE TO UPGRADE 1) THE FLIPPER TAGGING ASPECT FOR NESTING TURTLES AND IMMATURE FORAGING TURTLES THAT SHOULD BE TARGETED FOR CAPTURE AND RELEASE; AND 2) INTENSIVE EFFORT TO COLLECT SKIN BIOPSIES (PLACED INTO COMMON SALT FOR SHIPMENT) FOR DNA STOCK ANALYSIS. FROM THE FINANCIAL ASPECT, I FEEL THAT ALL OF YOUR PROPOSED ITEMS ARE REASONABLE AND PRUDENT, WITH THE EXCEPTION THAT PERHAPS THE UNDERWATER CAMERA WITH LIGHTS, AND THE VIDEO CAMERA TOTALING FJ\$6000 ARE NOT ESSENTIAL AT THIS EARLY DATE.

HAVING GIVEN YOU MY ABOVE OPINIONS ON SCIENCE AND BUDGET CONSIDERATIONS, I MUST NOW ARRIVE AT SPREP'S RESTRAINTS WHICH, AS I MENTIONED IN THE NOTE LEFT FOR YOU AT THE HOTEL, SUE ASKED ME TO RELAY TO YOU. PLEASE UNDERSTAND THAT I AM STRICTLY THE "MESSENGER" IN THIS REGARD. SUE INDICATED THAT A MAXIMUM OF US\$5,000 WAS AVAILABLE FOR THIS SEASON'S TURTLE WORK IN FIJI FROM SPREP. NEXT SEASON SHOULD BE A DIFFERENT AND IMPROVED SITUATION WITH SPREP, WITH POTENTIALLY MORE BEING AVAILABLE. FURTHER, SUE INDICATED THAT THE US\$5000 ONLY BE FOR LOGISTICAL EXPENSES- AIRFARES, VESSELS, ETC.

COULD

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative

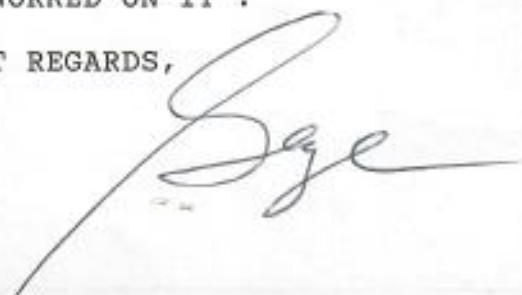


FAX TO A. BATIBASAGA  
FROM G. BALAZS IN HAWAII

IN CONCLUSION, THE FOLLOWING ITEMS SEEM VERY IMPORTANT FOR YOU AT THIS TIME: IF YOU ARE TO UNDERTAKE THE FULL SCOPE OF WORK IN YOUR PROPOSAL AS IT IS NOW WRITTEN WITH THE BUDGET, YOU WILL NEED TO QUICKLY SECURE FUNDING FROM ANOTHER SOURCE TO MAKE UP THE DIFFERENCE BETWEEN THE US\$5000 <sup>APPROX</sup> CAN PROVIDE AND THE FULL FJ\$81,375.00 REQUESTED IN YOUR PROPOSAL. IF THIS IS NOT POSSIBLE, THEN YOU MUST SCALE BACK THE THE SCOPE OF WORK AND ADJUST THE PROPOSAL TO US\$5000 TO SECURE THE MONEY FROM SPREP AS SOON AS POSSIBLE. IF YOU SCALE BACK, I RECOMMEND YOU FOCUS ON FORAGING PASTURES OF NATEWA PENINSULA- CAPTURE AND TAG AND COLLECT BIOPSIES ON AS MANY AS POSSIBLE, AND DETERMINE THE HIGHEST DENSITY AREAS BEING UTILIZED (MARINE PARK POSSIBILITIES); AND SURVEY AND TAG NESTING TURTLES AND COLLECT BIOPSIES AT A SITES OR SITE PROXIMAL TO NATEWA PENINSULA/VANUA LEVU THAT WILL BE LOGISTICALLY COMPATIBLE WITH THE FORAGING PASTURE WORK. OF COURSE I REALIZE THAT US\$5000, LIMITED TO AIR AND VESSEL TRANSPORT, WILL NOT BUY ALL THAT MUCH IN THE WAY OF RESEARCH. BUT-- IT GIVES SOMETHING FOR THIS YEAR, AS OPPOSED TO NO FUNDS (ASSUMING, OF COURSE, YOU PRESENTLY HAVE NO OTHER COMMITMENTS FROM GOV. OR OUTSIDE AGENCIES FOR ADDITIONAL FUNDING). IF I WERE IN YOUR SITUATION (WHICH I FREQUENTLY HAVE BEEN WITH REGARD TO MONEY SHORTAGES!) I WOULD QUICKLY, IN NEXT FEW DAYS, MODIFY YOUR WRITTEN PROPOSAL AND SHORTEN IT TO NARROWLY FOCUS ON WHAT I HAVE SUGGESTED ABOVE. REDUCE THE BUDGET TO REFLECT US\$5000. FAX IT OVER TO SUE WITH A COVER MESSAGE MARKED "URGENT". BASICALLY, I WOULD SEE YOUR RE-WRITE OF THE PROPOSAL AS MAINLY DELETING VARIOUS SECTIONS AND MODIFYING THE BUDGET. MAYBE 1-2 HOURS OF WORK, AT THE MOST. I STRONGLY URGE YOU TO TAKE THIS ACTION.

IT WAS GOOD TO SEE YOU AT THE MEETING. WITHOUT YOUR INVOLVEMENT THE MEETING WOULD NOT HAVE BEEN SUCCESSFUL. I LOOK FORWARD TO RECEIVING A COPY OF THE "STRATEGIC PLAN" FOR FIJIAN SEA TURTLE CONSERVATION. I BELIEVE SOMEONE FROM WWF STAYED UP LATE THAT SAME NIGHT AND WORKED ON IT .

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Taravao, le 31/10/95

TELECOPIE

\*\*\*\*\*

FROM : Jean-Pierre LANDRET  
TO FAX MESSAGE N° : 001 (808) 943 12 90  
COMPAGNIE : NATIONAL MARINE FISHERIES  
ATTENTION : M. George BALAZS  
NB PAGES : 1  
REF :

Dear George,

Unfortunately, I don't find again the folder on Hawaiian  
Turtles you sent me few years ago, with a photograph  
showing a mole and a juvenile on a beach. Can you send  
me another one.

With a colleague from environmental department, we  
are trying to prepare a folder in order to aware the  
population on Turtle protection in French Polynesia.

Will we can use <sup>a reprint of</sup> your photograph?

- Have you received my last FAX? (Turtle hooked in Tongareva).
- Thank you for a quick answer.
- Best regards.

Jean-Pierre

Date: Sun, 19 Nov 1995 15:28:56 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: WWF Pacific <100245.3405@compuserve.com>  
Subject: Re: Pacific, Turtles and Partnerships- FOR PETER NUTTALL

Peter- Good to hear from you! My apologies for the delay in responding, and also not yet having answered the email message from Rick. Things have been very hectic since my return from Fiji. First, as you know, my trip to Fiji was literally backtoback with the one to Rose Atoll in Samoa. I came back 5am on a Saturday, and left 14 hours later for Fiji. Upon return, ALL the backlog work was waiting for me. Just when I was about caught up, this U.S. congress and gov. worker "furlough" (=shut down) hit us. Right now I am temporarily unemployed. I suppose you've heard a little something about this in the Fiji press (Clinton arguing with congress= Fed. employees being laid off for ?days/weeks?).

Right now I'll have to keep this message short, as I have several others to write (I'm at home) and the modem connection to my office could be severed at any moment).

My response to your inquiry is YES- turtles seem to be a great way to build partnerships, make contacts, promote the good works of WWF throughout the islands. And it seems like a superb time, riding whatever momentum you can from YOST. And asking Sue/SPREP to help you along (something I feel certain they would eagerly do!).

Who's doing what with turtles in the Pacific- what's been published. I presume you have copies of all the back reports of SPREP RMTCP. If not, you need to get from SPREP. For other work, I will put together an assortment for you. For Tokelau "we" are lucky in that in the early 80's I went there for 10 days and wrote a fairly nice/useful report- later published in Atoll Research Bulletin (Smithsonian). I'll send you a copy of that also. Please give me a week or two however, to get it in the mail (if indeed US Fed. employees are back to work by then!).

What I'll also do is make contact with our IUCN Marine Turtle Specialist Group Executive Officer, Marydele Donnelly, in DC. Right now Marydele is attending a meeting in the Indian Ocean- to return later this month. I'll ask her to make contact with you by email, and copy me in.

More later! How did the quick visit to Tahiti go? Jean-Pierre Landret of EVAAM Tahiti is a great person. Writes English well, but speaks almost none. He's committed to work with sea turtles. Only problem is that he's a "captive rearing" ranching advocator. Something that nearly all of us agree is NOT what's needed in the Pacific (or likely anywhere else in the world). Best regards, George

---

George H. Balazs	Phone: (808) 943-1240
National Marine Fisheries Service	Fax: (808) 943-1290
Southwest Fisheries Science Center	Email: gbalazs@honlab.nmfs.hawaii.edu
Honolulu Laboratory	
2570 Dole Street	
Honolulu, HI 96822-2396	

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Date: Sun, 19 Nov 1995 16:03:40 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: WWF Pacific <100245.3405@compuserve.com>  
Subject: Re: Turtle questions and aroha

Rick- Good to hear from you, and my humble apologies for this delay in responding! Please ask Peter regarding the problems over here right now, as I just wrote him an email. In short- U.S. gov. workers (that's me) are laid off indefinitely until Congress and Bill Clinton get their act together. I should have stayed in Fiji, where I was on my own vacation time (for SPREP) anyway.

During my short times in Fiji, recently and in the past, I've been aware a little of the complicated conflicts/difficult issue revolving at Namenalala Island. Sue has also received a lengthy fax from Moody's which we discussed a bit (but not in-depth) during our time together in Suva. Having said that, I will now just go ahead and, with further commentary, just give the best-known (to me) biological answers to the questions you've asked. I think that, if the RMTCP does meet in Fiji early next year, it would be good to try to get out there and have first hand discussions with the Moodys, and view the nesting beaches and turtles first hand (if any are nesting when the meeting is held). Or maybe the Moody's could come to the meeting, where ever it is held (I "voted" for Vanua Levu).

I've inserted my answers in caps below. Let us continue to stay in contact. I very honestly EAGERLY looking forward to receiving the draft plan/results of your meeting. I'm convinced your document has great potential for doing good things for sea turtles for years to come. Best, George

---

George H. Balazs	Phone: (808) 943-1240
National Marine Fisheries Service	Fax: (808) 943-1290
Southwest Fisheries Science Center	Email: gbalazs@honlab.nmfs.hawaii.edu
Honolulu Laboratory	
2570 Dole Street	
Honolulu, HI 96822-2396	

---

On 13 Nov 1995, WWF Pacific wrote:

> George bula vinaka  
> Yesterday I received a fax from Joan Moody of Namenalala Is. She would like  
> some questions answered about turtles. With Aisake away we have no other  
> resource person. If you have time could you please reply to me. Aroha nui Ri  
> 1. Once mating occurs what time period before the female lays her first clutch  
>THE ANSWER TO THIS QUESTION WOULD HAVE TO BE FRAMED "WHAT PERIOD OF TIME  
AFTER HER LAST COPULATION BEFORE LAYING FIRST CLUTCH?" AS YOU KNOW,  
SEVERAL COPULATIONS CAN AND DO OCCUR EARLY IN THE BREEDING SEASON, BEFORE  
A FEMALE COMES ASHORE AND LAYS ANY EGGS. FOLLOWING THE LAST COPULATION  
THAT THE FEMALE ENGAGES IN (AFTERWHICH SHE REJECTS ALL ADVANCES OF  
MALES), ABOUT 1-2 WEEKS WILL PASS BEFORE LAYING THAT FIRST CLUTCH. DURING  
THAT TIME THE ALBUMIN IS LAID DOWN AND THE EGGS ARE SHELLLED.

2.Does female mate between laying additional clutches?  
>ALL AVAILABLE EVIDENCE/RESEARCH INDICATED "NO". THE MALES ARE REJECTED  
BY VARIOUS BEHAVIORS OF THE FEMALES. THAT IS WHY IN MOST PLACES STUDIED  
THE MALES LEAVE (MIGRATE AWAY FROM) THE BREEDING GROUNDS EARLY IN THE EGG  
LAYING SEASON.



3. If a female cannot lay eggs on beach are they reabsorbed or will she ditch > them in the sea, or another beach?

>NO A LOT OF HARD DATA ON THIS, BUT COMMON SENSE, ADAPTIVE EVOLUTION, AND SOME RESEARCH INDICATES THAT REABSORBING WOULD BE VERYVERY RARE. GO TO ANOTHER NEARBY BEACH WOULD BE A FIRST CHOICE-- AND ESPECIALLY WITH HAWKSBILL AND LOGGERHEADS AND LEATHERBACKS WE KNOW THEY WILL. GREEN ARE MORE FUSSY ABOUT THIS. IT DEPEND HOW FAR AWAY THE NEXT "GOOD" NESTING BEACH IS. ON VERY RARE OCCASION I HAVE PERSONALLY SEEN GREENS DUMP THEIR EGGS IN THE OCEAN WHEN THEY "COULDN'T" NEST ON LAND. WHY COULDN'T THEY? BECAUSE BOTH HIND FLIPPERS WERE AMPUTATED AND THEY COULDN'T DIG AN ACCEPTABLE NEST NO MATTER HOW HARD THEY TRIED NIGHT AFTER NIGHT. THIS IS EXTREME. AND RARE. AND APPLIES TO GREENS.

4. What affect on the female of the above (3)?

> IF WHAT IS MEANT HERE IS LASTING EFFECT, WELL PROBABLY NOT MUCH. OR DO YOU MEAN IF REABSORBING OCCURS. SINCE I'VE SAID IT DOESN'T, OR AT LEAST IS NOT LIKELY AT ALL, THEN THE QUESTION IS MOOT.

HOPE ALL OF THIS HELPS. ALOHA, GEORGE

Date: Sun, 19 Nov 1995 16:03:40 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: WWF Pacific <100245.3405@compuserve.com>  
Subject: Re: Turtle questions and aroha

Rick- Good to hear from you, and my humble apologies for this delay in responding! Please ask Peter regarding the problems over here right now, as I just wrote him an email. In short- U.S. gov. workers (that's me) are laid off indefinitely until Congress and Bill Clinton get their act together. I should have stayed in Fiji, where I was on my own vacation time (for SPREP) anyway.

During my short times in Fiji, recently and in the past, I've been aware a little of the complicated conflicts/difficult issue revolving at Namenalala Island. Sue has also received a lengthy fax from Moody's which we discussed a bit (but not in-depth) during our time together in Suva. Having said that, I will now just go ahead and, with further commentary, just give the best-known (to me) biological answers to the questions you've asked. I think that, if the RMTCP does meet in Fiji early next year, it would be good to try to get out there and have first hand discussions with the Moodys, and view the nesting beaches and turtles first hand (if any are nesting when the meeting is held). Or maybe the Moody's could come to the meeting, where ever it is held (I "voted" for Vanua Levu).

I've inserted my answers in caps below. Let us continue to stay in contact. I very honestly EAGERLY looking forward to receiving the draft plan/results of your meeting. I'm convinced your document has great potential for doing good things for sea turtles for years to come. Best, George

---

George H. Balazs	Phone: (808) 943-1240
National Marine Fisheries Service	Fax: (808) 943-1290
Southwest Fisheries Science Center	Email: gbalazs@honlab.nmfs.hawaii.edu
Honolulu Laboratory	
2570 Dole Street	
Honolulu, HI 96822-2396	

---

On 13 Nov 1995, WWF Pacific wrote:

> George bula vinaka  
> Yesterday I received a fax from Joan Moody of Namenalala Is. She would like  
> some questions answered about turtles. With Aisake away we have no other  
> resource person. If you have time could you please reply to me. Aroha nui Ri  
> 1. Once mating occurs what time period before the female lays her first clutch  
>THE ANSWER TO THIS QUESTION WOULD HAVE TO BE FRAMED "WHAT PERIOD OF TIME  
AFTER HER LAST COPULATION BEFORE LAYING FIRST CLUTCH?" AS YOU KNOW,  
SEVERAL COPULATIONS CAN AND DO OCCUR EARLY IN THE BREEDING SEASON, BEFORE  
A FEMALE COMES ASHORE AND LAYS ANY EGGS. FOLLOWING THE LAST COPULATION  
THAT THE FEMALE ENGAGES IN (AFTERWHICH SHE REJECTS ALL ADVANCES OF  
MALES), ABOUT 1-2 WEEKS WILL PASS BEFORE LAYING THAT FIRST CLUTCH. DURING  
THAT TIME THE ALBUMIN IS LAID DOWN AND THE EGGS ARE SHELLED.

2.Does female mate between laying additional clutches?  
>ALL AVAILABLE EVIDENCE/RESEARCH INDICATED "NO". THE MALES ARE REJECTED  
BY VARIOUS BEHAVIORS OF THE FEMALES. THAT IS WHY IN MOST PLACES STUDIED  
THE MALES LEAVE (MIGRATE AWAY FROM) THE BREEDING GROUNDS EARLY IN THE EGG  
LAYING SEASON.

3. If a female cannot lay eggs on beach are they reabsorbed or will she ditch > them in the sea, or another beach?

>NO A LOT OF HARD DATA ON THIS, BUT COMMON SENSE, ADAPTIVE EVOLUTION, AND SOME RESEARCH INDICATES THAT REABSORBING WOULD BE VERYVERY RARE. GO TO ANOTHER NEARBY BEACH WOULD BE A FIRST CHOICE-- AND ESPECIALLY WITH HAWKBILL AND LOGGERHEADS AND LEATHERBACKS WE KNOW THEY WILL. GREEN ARE MORE FUSSY ABOUT THIS. IT DEPEND HOW FAR AWAY THE NEXT "GOOD" NESTING BEACH IS. ON VERY RARE OCCASION I HAVE PERSONALLY SEEN GREENS DUMP THEIR EGGS IN THE OCEAN WHEN THEY "COULDN'T" NEST ON LAND. WHY COULDN'T THEY? BECAUSE BOTH HIND FLIPPERS WERE AMPUTATED AND THEY COULDN'T DIG AN ACCEPTABLE NEST NO MATTER HOW HARD THEY TRIED NIGHT AFTER NIGHT. THIS IS EXTREME. AND RARE. AND APPLIES TO GREENS.

4. What affect on the female of the above (3)?

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HOPE ALL OF THIS HELPS. ALOHA, GEORGE

F A C S I M I L E      T R A N S M I S S I O N

MOODY'S NAMENA  
PRIVATE MAILBAG  
SAVUSAVU, FIJI ISLANDS

FAX TO: 685/20 231 SPREP

ATTN: SUE MILLER

TELE: (679) 813-764

DATE: 28 April 1995

FAX: (679) 812-366

FROM: JOAN MOODY

2 PAGES

Dear Sue: I have just returned from a month-long holiday overseas visiting my family. I wanted to thank you for all the information you sent to me regarding turtles which I received end of February just as I was leaving for the U.S.

We have just completed our turtle nesting/hatching 1994/1995 season with the last two nests which were laid on the February 23/24 week-end hatching over the 22/23 April weekend.

It has been a truly frustrating season for all of us; although in February we kept daily records of turtle sightings both on the shoreline of the island and the infringing barrier reef we only had a total of 19 nests this entire season (compared to 150+ in our early years living here in the mid-80's). Although our tourists (both snorkelers and scuba divers) saw turtles daily on nearly every point of the infringing barrier reef, and watched turtles swimming along the beaches from their balconies on the hillside above those beaches, they did not get ashore to lay as they should have done.

But then, on the other hand, from November thru April, we had a total of 132 commercial baitboats (pole & line tuna boats) working the lagoon very close to the island within that infringing reef. This adds up to 132 baitnights as they work with very brilliant spotlights from sundown to sunrise. Certainly those spotlights and engine noises deterred the female turtles from nesting; or even upset the mating turtles. Through our past experiences with turtles on a small turtle-nesting island in Central America in the 1970's, and living on a tiny low sandy island less than 3 acres, the turtles there nested about 10 feet from lowwater mark (we only had a foot tide variance there). One night when my husband could not sleep, he went to the main house to read and before returning to bed, he went to the kitchen to make a cup of cocoa. The lights from the kitchen shined through the open windows, making bright squares on the white sand path. When he turned off the lights and started across the path, he saw in the moonlight hundreds of baby turtles making swimming motions! Now, the nest from which they had just emerged was 50 feet away and rather than crawl to the sea 5-8 feet away, they crawled the length of the clubhouse (43 feet) to the white squares on the sand path outside the kitchen!

I do not think our Fisheries Department are at all convinced that these baitboats and their brilliant spotlights - even the green platform lights they use to haul up baitfish in fine-mesh nets - affect these tiny hatchlings. We have lived on remote turtle-nesting islands for more years than I care to think (about 24 years) and we have witnessed these happenings.

We are trying to convince them that because this is a turtle-nesting island and we do have resident turtles which we see all year long, they should make this a Marine Park or Reserve and close off ALL commercial fishing year round.

MOODYS NAMENA      FIJI ISLANDS      RE: TURTLES

I think we are getting a lot more fishing (commercial) pressure since their major baiting sites in the Lau Group were closed to them two years ago. Since we began keeping records in 1986 (when only about 15 boats called on us for baiting a year), we are now finding close to 200 a year. We have recorded 1,120 baiting nights in the last 10 years (thru last night).

Unfortunately, on the weekend the last two nests laid hatched - the weekend of April 22/23 - one baitboat was anchored all night long just 200-300 meters away from the nests.

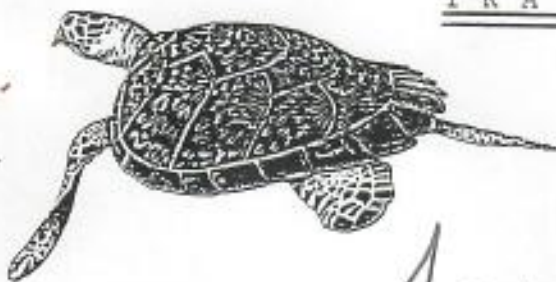
Fisheries Department is working hard to keep the ailing, obsolete pole & line fleet alive (they are even at this moment making posters for the Fijian public trying to explain that these boats are only taking small baitfish which are not in their diet anyway). What they fail to say is that in using those brilliant spotlights and illegally doing dropline fishing which takes three times the amount of reef and predator fish than in normal circumstances as the sailors are so poorly paid that they supplement their income with fish they catch by droplining and then selling them - along with small skipjack tuna - on the public wharfs in towns. We hear that ever since the people from the Lau Group banned the baitboats from their customary fishing grounds, they have seen their fish population return and are now catching bigger and more fish than they have done in the past when the baitboats were fishing nightly.

Aisake Batibasaga and several fisheries officers will be coming to our island first week of May to assess the resources, the turtle nesting beaches, etc. We have giant clam farms just offshore (vasua) and a few of the super-giant clams which Fisheries imported from Australia years ago so we have been working closely with the department with the natural resources. I think Aisake knows in his heart that the commercial baitboats should be banned as this is one of the few nesting islands left and with the lease we signed in 1984 are wardens (unofficial) and made legally responsible to protect the resources both on land and the fringing reefs. So they will, at no cost to them, have wardens to protect their environment.

Last week, I went to the main beach which fronts the resort and dug up old (this season's) nests. I found something which we had never seen before and wonder if perhaps your scientists can explain..... in three of the 4 nests I dug up, I found abandoned (I think as they were torn like they are when turtles hatch) brilliant yellow/orange shells; one nest laid on 2 February just above high water mark had 8 eggs which did not hatch; 34 clean white shells; 65 yellow/orange shells. In the nest laid 16 February about 15 feet from the 2nd February nest (same turtle second clutch?) but a bit more on land contained 4 unhatched eggs, 12 yellow/orange shells, and 160 clean shells. In a third nest, 20 unhatched eggs (shocking), 6 yellow/orange shells, 112 white shells. Nest #4 was laid 17 January about 30 feet inland from high water mark had 150 white shells and 10 unhatched...no evidence of yellow/orange shells. SUE, WHAT IS THE SIGNIFICANCE OF THE BRILLIANT YELLOW/ORANGE SHELLS?????

Thanks so much for all your help; Tom and I and our staff are anxious to learn as much as we can about turtles.

TRANSMITTAL SHEET



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR:

AISAKE BATIBASAGA  
FISHERIES DIVISION

DATE: 20 DEC 95

FROM: George Balazs

TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page)

ONE

MESSAGE:

Dear Aisake - Thank you for your fax,

It was good to hear from you. Glad you revised and resubmitted proposal to SPREP. As per your request, I just now sent Sue an urgent message asking about the proposal.

Regarding skin biopsy (punch or cut piece), place it in a marked container of table salt. Push the salt particles against the skin/tissue so it will saturate. Store in a freezer. We will need a CITES export permit from Fiji. Is that O.K.?

If the genetics analysis are done in Honolulu, there will be no charge. However, let me ask you, have you already made some ARRANGEMENTS WITH LIMFUS? I don't want him upset with me.

Regarding tags, the X-series have all been used up. BUT I can supply you with others - same size tag. Just a different alphabet pre-fix. They are very expensive to mail. Can I bring them with me to Fiji for steering meeting? Do you have some tags left to use in the meantime? Has Fiji "turtle strategy" from our 10/31 meeting been drafted? I have not received a copy.

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



HAPPY HOLIDAYS! George



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

January 17, 1995 F/SWC2:ghb

Mr. Simon Marsters  
Palmerston Island  
Cook Islands  
South Pacific

Dear Mr. Marsters:

Thank you for your letter dated 10/24/94 that arrived here only last week reporting the resighting of tagged turtle P-841 on 10/14/94 outside the reef at Palmerston. I appreciate your taking the time to report this important information.

The turtle (a green turtle, Chelonia mydas) that you captured, and later let go, was originally tagged and released on 6/21/93 at Scilly Atoll, north of Bora Bora in French Polynesia. The turtle had been raised in captivity from a hatchling prior to its release 16 months before you saw it. When set free it weighed 16.2 kg and measured 52 cm (about 21 inches) in carapace length. The turtle was part of a captive-rearing program conducted by Mr. Philippe Siu and Mr. Jean-Pierre Landret of the Tahitian governmental agency, EVAAM. That program has now been terminated. By copy of this letter, I am notify EVAAM about your resighting of this turtle, as well as officials at the Regional Marine Turtle Conservation Program of SPREP based in Apia, Western Samoa.


I would be interested in hearing from you again with some additional information about turtle P-841. Specifically, it would be valuable to know 1) how exactly you captured the turtle; 2) Whether or not the turtle was "tame" like a captive turtle; 3) If other turtles of this same approximate size are ever seen outside the reef where it was found; 4) the size of the turtle, if you took any sort of measurement; and 5) if you, or anyone else, has ever captured any other tagged turtle at Palmerston.

Thank you again for your cooperation. I have enclosed some literature about sea turtles which you may find interesting.



Also, later on the SPREP program will send you a t-shirt with sea turtle design as a token of appreciation for reporting the tagged turtle.

Sincerely,



George H. Balazs  
Zoologist and Leader,  
Marine Turtle Research Program

cc

Sue Miller, SPREP  
Philippine Siu and J.-P. Landret, EVAAM  
Colin Limpus, Queensland Dept. Environment & Heritage

2008 12 14 14:25:14





U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

NATURAL  
HERITAGE  
PROJECT

COOK  
ISLANDS

TELEFAX FOR:

GERALD McCormick DATE: 17 Jan 95

**FAXED**

117195

FROM:

George Balazs

TELEPHONE EXT:

3

3 pgs, 1x  
3:00 pm

NUMBER OF SHEETS TRANSMITTED (including this page)

MESSAGE:

Dear Gerald - I'll have the duplicate made and mail it to you in a few days. The photographer's name for credit will be included. Correct about "unpaid consultant."

The 140 cm nesting green you measured at Palmerston is indeed a large one, by my experience for the Pacific Islands. I'm sure that years ago many were that size. Not now, however.

I've read p. 334 of Hirth and what it means to say is that a 35 cm juvenile (newly recruited from pelagic habitat) would require up to 50 years to reach maturity (in Hawaii > 85 cm). I hope this clarifies. Note the accompanying letter to Palmerston.

1995- THE YEAR OF THE SEA TURTLE IN THE PACIFIC  
A SPREP Regional Marine Turtle Conservation Programme initiative



Aoba,  
Gy



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

December 20, 1995 F/SWC2:ghb

Miss Fiftieth John Marsters  
Palmerston Island  
Cook Islands

Dear Miss Marsters:

Many thanks for your letter telling us about catching the tagged green turtle (Chelonia mydas) S757 at Palmerston on 11 September 1995. We really appreciate receiving this important information.

Turtle S757 was tagged and released on 1 October 1993 at Scilly Atoll, located northwest of Bora Bora in French Polynesia. The turtle weighed 33.5 lbs and the upper shell measured 22 inches in length when last recorded on 23 June 1993, prior to release. The turtle was raised in captivity in Tahiti from a hatchling obtained from Scilly by the EVAAM government agency. At present, they are no longer raising turtles in Tahiti for release. Perhaps the apparent tameness you witnessed when the turtle swam and rested near a rock was the result of being raised in a captive environment.

Was the turtle used for food? Or was it released back into the sea? Do green turtles or any other species of sea turtle still nest at Palmerston? If so, about how many turtles come ashore each year? I look forward to receiving another letter from you. Enclosed are several articles about sea turtles that I thought you would find interesting.

Sincerely,

George H. Balazs  
Leader, Marine Turtle  
Research Program

cc  
J.-P. Landret, EVAAM  
Sue Miller, SPREP



Dear Himb

Hey - I am Justing  
writing to inform you that  
I have caught a turtle with  
a little slider tag on it  
wing and on the tag it god  
write Himbs

univisty  
Hawaii

and on the other side it god  
S. 757

the turtle was caught on the  
11 September 1995 and let it go  
on the same day it was  
caught near the beach of  
PALMERSTON ISLAND. it just swam  
near the rock and settle down  
at the bottom of the rock then  
I dive it and caught it  
so hope to hear ~~for~~ more in  
information about this turtle  
good luck

from  
miss Fiftieth John MARSTERS

6/23/93 Scilly Release

S757 15.20 kg

55.5 x 54 cm  
cm

my Address

miss Fiftieth John MARSTERS  
PALMERSTON ISLAND  
COOK ISLAND  
south pacific



**scist POST**  
PAR AVION

HimBS  
university  
Hawaii 96744

→ G. Balazs

ECLOSERIE POLYVALENTE  
DETARAVAO

\*\*\*\*\*

E.V.A.A.M.

\*\*\*\*\*

B.P. 7031

TARAVAO-TAHITI

Télecopie : (689) 57.70.56

\*\*\*\*\*

N/REF . EPT/JPL/bb

Taravao, Ic 19/10/95

TELECOPIE

\*\*\*\*\*

FROM : Jean-Pierre LANDRET  
TO FAX MESSAGE N° : 001 (808) 943 12 90  
COMPAGNIE : NATIONAL MARINE FISHERIES  
ATTENTION : M. George BALAZS  
NB PAGES : 4  
REF :

Dear George,

- I am writing to give you some information about a green  
Turtle (C. mydas) caught by a longline :

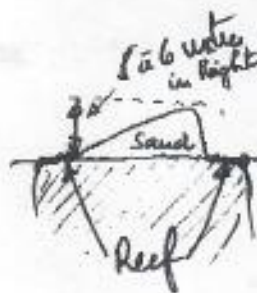
- Date: 26-09-95.

- location: 09° 25' S / 140° 00' W (UAPOU-Marquisas)

- Depth ≈ 50 m

- She was hooked by the mouth and still alive; she was  
released ~~by~~ by the fisherman (Marquisas).

- She was about 120 kg in weight and very thick and fat.  
A fisherman thought she was full of eggs... On the  
abdomen, she showed some injuries which reminded  
the fisherman of she has already gone up on a beach  
to lay...  
- The same fisherman told he has already seen a green  
turtle gone up on "Toto au", during some other where  
swimming around the Island. "Toto au" is a very little  
sand island at 10 miles in the N-E of Eiao (Marquisas)  
about 30 by 100 meters, protected from the waves  
by a reef like an atoll.



Best regards.

Jean-Pierre

ECLOSERIE POLYVALENTE  
DETARAVAO  
\*\*\*\*\*  
E.V.A.A.M.  
\*\*\*\*\*  
B.P. 7031  
TARAVAO - TAHITI  
Télécopie : (689) 57.70.56  
\*\*\*\*\*

N/REF .EPT/JPL/bb

S 757

Taravao, le 16/11/95

TELECOPIE  
\*\*\*\*\*

FROM : Jean-Pierre LANDRET  
TO FAX MESSAGE N° : 001 (808) 943 12 90  
COMPAGNIE : NATIONAL MARINE FISHERIES  
ATTENTION : M. George BALAZS  
NB PAGES : 4  
REF :

---

Dear George,  
Turtle S 757 was tagged <sup>and measured</sup> 23 June 93 and released  
at Scilly on 01 October 1993.  
The measurement was curved.  
The turtle was raised in Tahiti (Papeari) from egg  
taken at Scilly.

Best regards

*Jean-Pierre*

Dear Himb

Hey. I am Justing  
writing to inform you that  
I have caught a turtle with  
a little slider tag on its  
wing and on the tag it god  
write Himbs

univisty  
Hawaii

and on the other side it god  
S. 757

the turtle was caught on the  
11. september 1995 and let it go  
on the same day it was  
caught near the beach of  
PALMERSTON ISLAND. it just swam  
near the rock and settle down  
at the bottom of the rock then  
I dive it and caught it  
so hope to hear for more in  
information about this turtle  
good luck

from  
miss Fiftieth John MARSTER

6/23/93 Scully Release

S757 15.20 kg

55.5 x 54 cm

my Address

miss Fiftieth John MARSTERS  
PALMERSTON ISLAND  
COOK ISLAND  
South Pacific

Dear Georges,

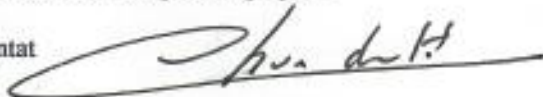
We are pleased to introduce our sea turtle puzzle, which was designed and produced here in Fiji. You will find enclosed the *Fiji Times* article concerning this educational puzzle.

If you would like to assist us in continuing our sea turtle programme here in Fiji, you can help us by ordering one or more puzzles.

We are sure that you share our concern for the environment and for needy children of Fiji. We hope that you will join us in the development of this important project.

Sincerely,

Bernard Huon-Dumentat  
Representative



Yes, I would like to support this programme. Please send ..... sea turtle puzzles (\$F 20 each) to the following address:

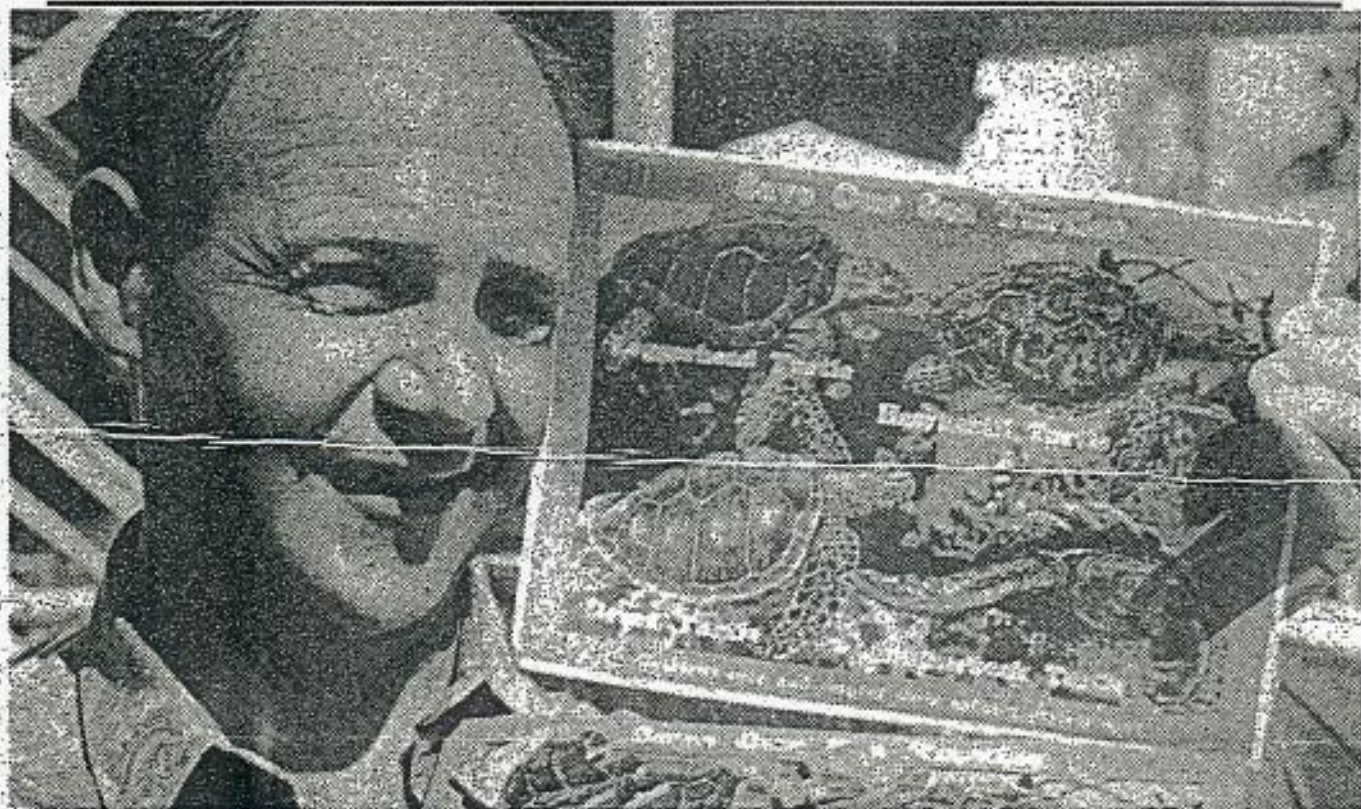
NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_

COUNTRY: \_\_\_\_\_

My donation of \$US \_\_\_\_\_ is enclosed. Please make check payable to Action Humanitaire Internationale, P.O. Counter Delivery, Lami, Fiji. Tél/Fax: (679) 370 667



THE new puzzle... ideal gift for children.

## New puzzle features turtles

By **MARK CROKER**

A NEW turtle puzzle game has been prepared for children and adults alike to create more awareness for the need to preserve the depleting specie.

The 29-piece puzzle comes in striking bright colours depicting the four types of sea turtles found in Fiji — green, hawksbill, loggerhead and leatherback turtles.

It is made by graphic computer designs and hard wood.

Representative of Action Humanitaire Internationale, Bernard Huon-Dumentat said that there were two purposes for the puzzle.

"The first to raise general public awareness of the plight of sea turtles. And to raise money for the poor and needy people," he said.

He added it was appropriate since it was the end for the Year for the Sea Turtle.

"It is to educate and inform all people about the theme of saving the sea turtle," he said.

Launched last Friday, the puzzles are selling for \$20.

The project was sponsored by United Nations International Children's Educational Fund.



[25] From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu> at "INTERNET 1/22  
/96 12:57PM (54255 bytes: 20 ln, 1 fl)  
To: Shawn Murakawa at NMFS-HONO  
Subject: Message for Rick Thorpe and Peter Hunnam (fwd)

----- Message Contents -----

Text item 1:

Shawn- While I'm gone please check with someone in ITS to see if this can  
be translated into something English. I doubt it, but please check with  
someone who may really know. Mahalo, Geo.

-----  
George H. Balazs Phone: (808) 943-1240  
National Marine Fisheries Service Fax: (808) 943-1290  
Southwest Fisheries Science Center Email: gbalazs@honlab.nmfs.hawaii.edu  
Honolulu Laboratory  
2570 Dole Street  
Honolulu, HI 96822-2396  
-----

----- Forwarded message -----

Date: 22 Jan 96 06:21:33 EST  
From: WWF Pacific <100245.3405@compuserve.com>  
To: "\"George H. Balazs\"" <gbalazs@honlab.nmfs.hawaii.edu>  
Subject: Message for Rick Thorpe and Peter Hunnam

*this was in english... unless you sent  
me the wrong message?*

## **LONG TERM GOAL:**

"To conserve marine turtles and their cultural, economic and nutritional values for the people of Fiji.

Furthermore recognising the migratory nature of turtles, to ensure that the use of marine turtles in Fiji waters is sustainable and does not compromise the conservation, cultural, economic and nutritional values for the peoples of the South Pacific Region."

## **AIM:**

To take action to remove the short term risk of extinction of all marine turtle species in Fiji, prevent further declines in all species and begin recovery of the green and hawksbill populations.

## **STRATEGIES:**

1. Pollution,
2. Protection of nesting sites and nesting turtles,
3. Protection of foraging areas and foraging turtles,
4. Harvest (commercial, subsistence, ceremonial),
5. Education and awareness,
6. Bycatch,
7. Captive turtles,
8. Capacity building,
9. Legislation

## STRATEGY 1

## POLLUTION

**Objective:** To minimise and research threats to marine turtles from pollution sources in Fiji waters.

**Discussion:** Few polluted sites have been identified in Fiji. The worst of which is the marine environment within the Suva Lagoon. Heavy metals and industrial waste have been recorded. Parts of Suva Lagoon have the highest levels of TBTs in the world (Peter Newell pers comm). Other sources of pollution, particularly around the larger islands, that threaten turtles include organic loadings from forestry and other land use, floating plastics (particularly bags), possibly light pollution and mining leachates eg old copper mines, Udu Point, Vanua Levu.  
Currently pollution does not appear to be a major concern for marine turtles in Fiji.

### Action Required:

#### 1. Assess possible pollution from Udu Point abandoned copper mines.

**What needs to be done:** Locate mine workings. Visit site and sample for leachates in the dunes (possible impact on turtle eggs), water column and sea grass.

**How it should be done:** Locate as a desk exercise at Lands Department, Suva. Followup sampling trip/s (depending upon seasonal difference) on site at Udu Point (advice from Peter Newell).

**By Whom:** consultant/researcher

**Costs:** return airfare to Savusavu, transportation to old copper mine, sevusevu at koro, accommodation, sample analysis, report costs

**Time:** wet season (to collect information of leachates reaching the marine environment).

#### 2. Consider possible light pollution from bait fishers at Namenalala.

**What needs to be done:** establish whether or not the bait fishing lights affect the successful nesting of green and hawksbill turtles on Namenalala Island

**How it should be done:** literature search for similar issue. Dependant on information available consider some action research to determine whether or not the lights are an issue at Namenalala. Use remote video recording equipment to ascertain effect of lights on nesting turtles.

**By Whom:** literature search - consultant/researcher.

field research Moodys, Aisake (Fisheries), consultant/researcher

**Costs:** Literature search - \$ ?

Field Research - 2 return airfares to Savusavu, boat to Namenalala, accommodation, remote video recording equipment during breeding season.

**Time:** Literature research - prior to September 1996

Field research - September -December 1996

**3. A reduction in the use of, and disposal of plastics.**

**What needs to be done:** Continue to advocate for reduction in use of plastics and the wise disposal of plastics.  
**How it should be done:** focus on target groups, legislation, campaigns, alternative products, ultra violet sensitive plastics  
**By Whom:** all community groups and organisations - coordinated by Department of Environment  
**Costs:** absorbed by many groups as general advocacy  
**Time:** throughout the year, special focus times eg Hibiscus Week, Earth Day, Environment Week, etc

**4. Advocate for maximum pollution control in the marine environment eg future mining applications, industrial waste.**

**What needs to be done:** support for Department of Environment to be part of formal system for reviewing Environmental Impact Assessments (EIAs) for all future development proposals. Especially for development on the foreshore - but also include upstream development that may impact on marine environment  
**How it should be done:** through EIAs and pre EIA advocacy  
**By Whom:** Department for the Environment and Ministry of Fisheries  
**Costs:** provided by Fiji Government for the operation of its Ministries  
**Time:** continual

## STRATEGY 2 PROTECTION OF NESTING SITES AND NESTING TURTLES

**Objective:** To manage the most significant sites in such a way as to offer protection to nesting turtles and their eggs and opportunities for the collection of biological data.

**Discussion:** Listed below are the most significant sites for nesting Green and Hawksbill turtles. Leatherback turtles have been recorded nesting (or attempting to nest) on the southern coast of the Natewa Peninsula, Vanua Levu. There are no records of Loggerheads nesting in Fiji.

### List of significant nesting sites as compiled by Michael Guinea, 1993

#### Green Turtles

Heemskereq Reef  
Ringgold Reef

#### Hawksbill Turtles

Heemskereq Reef  
Duff Reef  
Ringgold Reef  
Namena Island  
Yadua Island  
Islands of the Astrolabe Lagoon  
Nananu-i-ra Island  
Laucala Island  
Leleuvia Island  
Tavarua Island

The Heemskereq and Ringgold Reefs have significant numbers of nesting Green and Hawksbill turtles.

#### **Action Required:**

1. Establish management regime to offer nesting turtles, and their nests, protection on Heemskereq and Ringgold Reefs

**What needs to be done:** discuss possible turtle management with Mataqali/Qoliqoli. Share all turtle information with Mataqali/Qoliqoli, especially the information on regional migration to Fiji and importance of nesting Fiji turtles as a distinct gene pool. Consider management options including traditional methods of protection.

**How it should be done:** visit the Mataqali/Qoliqoli on neighbouring Yanuca Island(?)  
**By Whom:** representatives of Fisheries and Turtle Working Group, consultant/researcher.

**Costs:** hire a plane and boat ? Return trip to Yanuca. Probably best to fly to Laucala Island and boat to Yanuca, sevusevu to Mataqali/Qoliqoli, accommodation, report costs

**Time:** as the nesting season begins in September of each year it will be important to begin discussions as soon as possible in order to reach agreement between both parties prior to the 96/97 season.

**2. Establish a formal monitoring system for Heemskereq and Ringgold Reefs.**

**What needs to be done:** use the monitoring system methodology developed for the Action 3 below. Monitor nesting green and hawksbill turtles on Heemskereq and Ringgold Reefs from September through to February each year. Take the opportunity to tag all nesting turtles and collect a DNA sample

**How it should be done:** Either monitor the turtles by air survey or by having someone on the Reefs for four months of the year. Aisake to advise. No tagging or DNA if you use air survey

**By Whom:** Fisheries, USP Biologists, researcher/consultant, Mataqali/Qoliqoli Consider the opportunity to employ one of the Qoliqoli owners or one of the turtle fishers in the monitoring program. Use training package developed in Action 3 below.

**Costs:** ?

**Time:** September - February of each year

**3. Develop a methodology for monitoring nesting turtles in other sites around Fiji.**

**What needs to be done:** develop a methodology for monitoring nesting turtles.

**How it should be done:** consider current system, consult with turtle biologists to ensure uniformity with other systems currently being used in the South Pacific. Important to have data that is comparable. Give this methodology, and a training package, to all potential data collectors consultant/researcher

**By Whom:** consultant/researcher

**Costs:** consultation with Fisheries and other biologists, writing methodology and developing into a tri lingual package (Fijian, Hindi and English), production of the package and training in its usage, collation of the data once the system is in place

**Time:** as soon as possible if we are to use the system for monitoring at Heemskereq, Ringgold and Namenalala for September - February 96/97.

**4. Continue to collect information and survey areas throughout Fiji for nesting turtles.**

**What needs to be done:** A general advocacy push for information on nesting sites from land/reef owners, tourist operators and resort managers.

**How it should be done:** use, as much as possible, existing systems for information transfer to Fisheries. Whenever opportunity arises visit sites to confirm reports Fisheries Officers, Extension Officers, Peace Corp. collect the information in the field. Rank top five sites to formally visit each year as part of overall campaign. Use the opportunity to advocate for turtles while inspecting potential nesting areas. Consider their significance for turtles and potential as managed sites.

**Costs:** Visiting the top five sites will require a travel, accom. and sevusevu budget

**Time:** continual

**5. Confirm and identify Leatherback Turtle nesting areas on the Natewa Peninsula.**

**What needs to be done:** Research all reports of leatherbacks coming ashore  
**How it should be done:** Visit and speak with all coastal villages on the Natewa Peninsula, and Savusavu environs, Fishers and Cousteau Research to provide first hand observations of turtles landing/nesting. Collate information to provide historical picture. Consider information and recommend future action (eg important haulouts, nesting sites, protection of, threats (eg coastal development, alteration to reef system))  
**By Whom:** consultant/researcher  
**Costs:** return flight to Savusavu. rental car for one week, boat transport to northern side of peninsula(?), accommodation, sevusevus, report costs  
**Time:** as soon as possible if we are to offer support to nesting leatherbacks in September 1996

**6. Consider managing nesting Hawksbill Turtles on Namenalala Island**

**What needs to be done:** provide advice and support to the Moodys in the management of their significant turtle nesting beaches on Namenalala Island  
**How it should be done:** Discuss the current situation with the Moodys and Qoliqoli. Consider options for improving the beaches/conditions for nesting turtles and opportunities such as artificial recruitment of juveniles  
**By Whom:** researcher, Fisheries, Turtle Working Group  
**Costs:** return airfares to Savusavu, boat to Namenalala, accommodation, Qoliqoli transportation and accommodation, sevusevu, reporting on options  
**Time:** discuss and confirm management possibilities as soon as possible.

**7. Consider the management of select beaches primarily for education of tourists and the general public, and secondary, the protection of nesting turtles and their eggs**

**What needs to be done:** Use lessons learnt from Namenalala project and offshore examples to provide information to other resort managers, Mataqali/Qoliqoli about options available for the management of their beaches to encourage turtles to nest  
**How it should be done:** a package (multi language) should be prepared explaining the current situation with turtles, lessons learnt about beach and people management and outlining management options should they want to enhance or create a nesting environment.  
**By Whom:** consultant/researcher  
**Costs:** desk exercise.  
**Time:** ?

### STRATEGY 3 PROTECTION OF FORAGING SITES AND FORAGING TURTLES

**Objective:** To manage the most significant foraging sites in such a way as to offer protection to foraging turtles and the habitat, and the opportunity for the collection of data.

**Discussion:** Fijis turtle foraging areas are of Regional significance (George Balazs, pers comm). Recent evidence suggests that green turtles from throughout the South Pacific travel to Fiji for much of their foraging. Fijis marine environment presents uniquely large areas of turtle grass eg Natewa Bay/Udu Point, which is a favoured food of the Green Turtle.

#### Action Required:

#### 1. Establish areas of turtle grass by use of Geographic Information Systems (GIS)

**What needs to be done:** Hire SOPAC to provide a map of sea grass distribution in the Fiji waters using their GIS data.

**How it should be done:** Discuss possibility of producing a map or providing data to display sea grass areas. Use this map to identify areas with possible threats and/or require some form of management

**By Whom:** SOPAC

**Costs:** ?

**Time:** ?

#### 2. Management of Natewa Bay/Udu Point with Mataqali/Qoliqoli

**What needs to be done:** Discuss marine management with the owners and develop a plan that offers foraging turtles protection within this area

**How it should be done:** Begin discussions with Fiji Affairs, Fisheries and Native Land Trust Board to identify resource owners. Discuss desires for protection of foraging areas and turtles with resource owners. Develop a plan in conjunction with resource owners should they wish to participate. Consider managing area as part of a larger holistic study of the marine environment and its uses, it could also be useful to trial new legislation, etc

**By Whom:** consultant/researcher

**Costs:** ?

**Time:** ?



3. Consider feeding requirements of other turtle species

**What needs to be done:** Identify habitat which provides for the food preferences of other turtle species. Look for opportunities to protect these sites (not necessarily formal protection, rather - use of advocacy, joint management, support/capacity building of local Mataqali/Qoliqoli, limiting threats)

**How it should be done:**

Feeding Preferences of all Fiji Turtle Species

**Green Turtle:** sea grasses (*Syringodium isoetifolium*, *Halodule uninervis*, *H. pinifolia*, *Halophila ovalis*)

**Hawksbill:** sponges, soft corals, invertebrates

**Leatherback:** jellyfish

**Loggerhead:** crustaceans and molluscs

Consider these food preferences when discussing foraging protection for other turtle species. If we can identify significant foraging areas for the other turtle species then we should consider the threats to them and offer some form of protection. It may be possible to protect a reef system, or part of, to offer a safe feeding ground for Hawksbills. The loggerhead and leatherback may be more difficult.

**By Whom:** researcher/consultant

**Costs:** ?

**Time:** ?

## **STRATEGY 4 HARVEST - COMMERCIAL, SUBSISTENCE, CEREMONIAL**

**Objective:** To manage turtles in Fiji with the long term goal of having a population sufficient to allow a sustainable harvest

**Discussion:** Currently this is not possible. Turtles are declining in numbers. This is true for all species in the Fiji waters.

### **Action Required:**

#### **1. To support the Ministry of Fisheries in extending the moratorium on turtle harvest**

**What needs to be done:** Although the moratorium is not considered to be a long term answer it is important there is a extension for a further three years to allow sufficient information to be collected about turtles in Fiji to instigate appropriate management to reverse the decline of all turtle species

**How it should be done:** A letter be written on behalf of and signed by the members of the Working Group to the Minister of Fisheries outlining the reasons for an extension to the moratorium

**By Whom:** Rick Thorpe, WWF

**Costs:** none

**Time:** Immediately (already actioned)

#### **2. To investigate traditional Fijian methods of turtle management**

**What needs to be done:** Discuss traditional methods of turtle management and consider them as techniques for managing turtles in the future

**How it should be done:** Meet with Fiji Affairs, NLTB, Fisheries, Institute for Pacific Studies USP, Sustainable Development Network, select turtle fishers, Fiji Museum and others to discuss traditional methods of management. Reach an understanding about the use of the information and with consensus approval offer the information to Fisheries as tools for future management

**By Whom:** research/consultant

**Costs:** consultant, travel & accommodation for fishers, report, venue

**Time:** ?

#### **3. Prevent the sale of further turtle shell and shell products**

**What needs to be done:** It is currently illegal to sell any turtle, turtle shell or turtle shell product due to the 1994 Moratorium. It is also illegal to export any turtle meat (Fishery Reg.s 1966), or turtle shell (Fishery Reg.s 1991). Although the export of shell and shell product seems to have ceased there is still significant amounts sold on the domestic market. Most sellers claim the product was made before legislation came into force (Moratorium 1994). There is a need to inform these sellers of current legislation (see Action 1, Education and Awareness) and provide a clear direction to deal with the situation

**How it should be done:** Discuss with Fisheries the following as possible ways of dealing with the current situation:  
 - a 'grandfather clause' in current legislation or policy that allows vendors, shop owners to sell off turtle shell products by a particular date,  
 - buy up all available turtle shells and turtle shell products and enforce legislation after that purchase.  
 - be hard nosed and enforce legislation  
 Hand in hand with what ever system is developed for dealing with the sale of shell and shell product is an advocacy pack (see Action 1, Education and Awareness) for the vendors and potential buyers of these products. These people will be made more aware of the CITES (Convention in Trade of Endangered Species) and current Fiji legislation.

**By Whom:** Fisheries and consultant/researcher  
**Costs:** dependant on direction Fisheries takes  
**Time:** soon rather than later

**4. Research historical data to provide insights into past population levels of Hawksbill**

**What needs to be done:** Between the years 1985 - 1990 over 25,000 hawksbill turtle shells were exported to Taiwan. As this was not so long ago most of the turtle fishers still hold a lot of information on the turtles they caught. This is a valuable opportunity to collect information on Fijis past population of hawksbills.

**How it should be done:** Meet with as many of the turtle fishers as possible to collect information on: numbers of turtles caught, species, sex, size, location, how where they caught, what were the turtles doing at the time eg nesting, foraging, what was in their gut - did they see any plastic bags, food bits, strange growths, were they tagged, did they fish out areas, were there marked seasons of activity, congregations. This information needs to collated and presented to Fisheries. Information from this study could be important for future management of the species and understanding more about their biology, especially their movements in and out of Fiji waters (regional significance)

**By Whom:** researcher  
**Costs:** ?  
**Time:** ?

**5. Discuss ceremonial presentation of turtles with Churches and Chiefs**

**What needs to be done:** Discuss the ceremonial gifting of turtles at important functions and ways the Churches may be able to help with the recovery of sea turtles in Fiji

**How it should be done:** Discuss ceremonial gifting of turtles with Fiji Affairs, Church Administrators, Institute of Pacific Studies, USP, select Tui and Roko Tui. Consider the spiritual and cultural importance of the gifting and discuss ways for the Churches to help with turtle conservation.

**By Whom:** consultant/researcher  
**Costs:** venue, reporting  
**Time:** ?

## STRATEGY 5 EDUCATION AND AWARENESS

**Objective:** To reduce the threats to sea turtles in Fiji by informing targeted groups about the regional situation

**Discussion:** Many of the above Strategies and Action Points are concerned with advocacy or at least contain an advocacy component. Important to be focused and identify target audience.

### Action Required:

1. Targeted advocacy plans to provide current information on turtles, and the regional importance of Fijis turtle habitats

**What needs to be done:** Advocacy plans prepared for all groups, in appropriate languages, distributed throughout Fiji

**How it should be done:** Review the 'Year of the Sea Turtle' in terms of information produced and disseminated, lessons learnt, contacts made, networks established. Consider this information in the production of targeted awareness packs for the following groups: rural Fijians, commercial fishers (bycatch), Fisheries extension officers, schools, fishers, Roko tui, Chiefs and Turanga ni koro, Churches, politicians, airports, police, tourists, tourism operators, market vendors, restaurants and media.

Work with Curriculum Development Unit - Ministry of Education, Peace Corp, Sustainable development Network and others to produce awareness packs. Use existing networks eg Extension Officers, Peace Corp to disseminate packs.

Consider techniques such as: theatre, handouts/videos, courses/units, involvement in research/management, media

Current priorities for awareness are:

Children - next generation, big influence on their parents, may be targeting schools in fishing villages

Churches - major potential allies. Should target leadership of churches and Interdenominational leadership committees. Religious schools. Churches in other parts of the Pacific have taken a lead in turtle campaigns eg Methodists

Fishers - Information handed out with fishing permit/licenses

Totems - targeting people and villages with vonu as their totem consultant/researcher

**By Whom:**

**Costs:**

**Time:**

?

?

**2. Provide data for Regional database**

<b>What needs to be done:</b>	Continue to send data to SPREP as part of the Regional database
<b>How it should be done:</b>	all data needs to be collated by Aisake, Fisheries. This data should be sorted and prepared for SPREPs database under the following headings: <ul style="list-style-type: none"><li>. summary of turtle conservation legislation,</li><li>. summary of traditional uses,</li><li>. bibliographic information,</li><li>. turtle breeding &amp; feeding sites,</li><li>. tagged turtle data,</li><li>. other biological data</li></ul>
<b>By Whom:</b>	Aisake, Fisheries
<b>Costs:</b>	?
<b>Time:</b>	continual (need to input recent change in legislation, extension to moratorium, recommendations of strategy and results as they come to hand)

## STRATEGY 6 BYCATCH

**Objective:** To gain an understanding of the possible bycatch of sea turtles from commercial fishing vessels operating in the Fiji waters

**Discussion:** Bycatch is not thought to be a major issue for sea turtles in Fiji. However all information to date has been made through casual observation and comment. With the rapid development of the commercial fishing industry, and the demise of sea turtles it is important to gain an understanding of the current level of take and to devise a monitoring system that provides data for constant review.

### Action Required:

#### 1. Target advocacy at gill net fishers

**What needs to be done:** Provide information to gill net fishers about how to minimise capturing sea turtles and why this is important

**How it should be done:** Use Ministry of Fisheries list of commercial gill net fishers to provide contacts. Discuss the bycatch issue with some of these fishers - particularly fishers from known turtle areas. Identify ways to minimise the danger to turtles

**By Whom:** consultant/researcher

**Costs:** ?

**Time:** ?

#### 2. Trial a system for collecting bycatch data by using the existing 2 fisheries observers on foreign fishing boats in the Fiji waters.

**What needs to be done:** Discuss with Ministry of Fisheries the potential to collect data on bycatch, including sea turtles, as part of the Fiji Government Observer Program

**How it should be done:** Research other countries observer programs and develop/use the most appropriate form for the Fiji waters. It would be important to collect information on sea birds, marine mammals and sea turtles. Discuss with Fisheries the proposed form and database for storing the information. Formally ask the Minister of Fisheries to adopt the scheme and run it as a trial with the two existing Fisheries Observers on foreign fishing boats in the Fiji waters

**By Whom:** consultant/researcher

**Costs:** ?

**Time:** ?

## STRATEGY 7 CAPTIVE TURTLES

**Objective:** To establish numbers and location of captive turtles and consider the role of captive turtles in the management of sea turtles in Fiji.

**Discussion:** There is an unknown number of turtles being kept in captivity in Fiji. Many of these are being kept by Resorts for public display. There is a need to consider the individual welfare of these turtles and the potential roles they could play for raising awareness of turtle issues generally.

### Action Required:

#### 1. Establish a database for all captive turtles.

**What needs to be done:** Establish data base for the Ministry of Fisheries to keep an eye on the captive turtle situation

**How it should be done:** Discuss with Fisheries their current databases and software. Design a database that records:  
Contact person/organisation  
Location turtles are held  
Number of turtles held  
Where they were caught  
When they were caught  
Where they were liberated  
How many died and what of  
Tag numbers

**By Whom:** consultant and Fisheries

**Costs:** writing of program, collation of existing information, tagging of all captive turtles

**Time:** ?

#### 2. Establish a set of minimum conditions for the keeping of turtles in captivity.

**What needs to be done:** establish a set of minimum conditions in line with other countries/institutions (eg SPCA, Marine World). Recommend the collection of additional data eg tagging and DNA

**How it should be done:** Discuss minimum conditions with SPCA, Hotel managers (who currently have turtles) turtle biologists and captive managers(overseas). Write minimum conditions and organise a travelling road show to take system and ideas to people who currently have captive turtles. Consider the opportunity to tag all captive turtles and take a DNA sample for Regional Program

**By Whom:** consultant/SPCA and others

**Costs:** ?

**Time:** ?

**3. Consider the potential role of captive turtles as advocates for general turtle issues.**

<b>What needs to be done:</b>	while collecting the above statistics discuss/consider the current and potential roles of these captive turtles
<b>How it should be done:</b>	travel to all sites known to have captive turtles and note current and potential roles eg opportunities for clients, public and schools to view them, are their captive conditions humane, opportunities for interpretation, long term plans eg release, breeding of
<b>By Whom:</b>	consultant
<b>Costs:</b>	?
<b>Time:</b>	?



## STRATEGY 8 CAPACITY BUILDING

**Objective:** To professionally deal with the management and research of sea turtles in the Fiji waters

**Discussion:** This document outlines critical work to be done in order to manage Fijis declining populations of sea turtle. Much of this work is on top of what is already being asked of Ministry staff, Mataqali/Qoliqoli and Resort Managers. It is necessary to look at what support can be offered to these managers and potential managers of turtles and turtle habitat.

### Action Required:

1. Consider building the capacity of Ministry of Fisheries to deal with data collection, research, management, advocacy and enforcement of legislation

**What needs to be done:** Additional staff or more time dedicated to turtles from current staff  
**How it should be done:** consider taking on one of the most successful turtle fishers from the past. Consider taking on one or more fishery managers from another Pacific Island country with even less resources. Peace Corp, researcher from USP, wayward WWF employee

**By Whom:** ?  
**Costs:** ?  
**Time:** ?

2. Consider ways of building the capacity of Mataqali/Qoliqoli, resort Managers and others involved in turtle management and research.

**What needs to be done:** Provide the necessary support for people other than the Government to become involved in turtle management and research  
**How it should be done:** as previously discussed this can be achieved by providing information, training and involvement in research & management. To achieve the long term goal of "conserving marine turtles and their cultural, economic and nutritional values for the people of Fiji" it may be necessary to provide support for the issues such as the retention of traditional knowledge. As the Strategy is formed we need to continually add to this list in order to provide a dedicated, knowledgeable team of people committed to the management of turtles.

**By Whom:**  
**Costs:**  
**Time:**

## STRATEGY 9      LEGISLATION

**Objective:**      To provide clear legislation that supports the management of sea turtles in Fiji.

**Discussion:**      There is a need for some changes to be made to current legislation. Particularly for the protection of adult turtles

**Action Required:**

**1.      Review current legislation confirm support or recommend changes**

**What needs to be done:**      Support should be given for:  
-      Moratorium (already actioned)  
-      Closed season extension September - March (Aisakes initiative currently with the Minister of Fisheries)  
-      no taking of eggs

Changes to be recommended:  
-      total protection for leatherbacks and their eggs  
-      minimum shell lengths changed for maximum shell lengths (this is in line with SPREPs recommendation which provides protection of sexually mature adults)  
change to 'no turtles to be taken with a carapace length of:  
green turtle: 80cm or more,  
hawksbill turtle: 60cm or more.

**How it should be done:**      by letter from the Working Group to the Minister of Fisheries.  
Needs to incorporate supportive data and discussion  
consultant/Working Group  
**By Whom:**      none  
**Costs:**      as soon as possible  
**Time:**

Date: 22 Jan 96 06:17:43 EST  
From: WWF Pacific <100245.3405@compuserve.com>  
To: "\"George H. Balazs\"" <gbalazs@honlab.nmfs.hawaii.edu>  
Subject: Message for Rick Thorpe and Peter Hunnam

Kia ora George

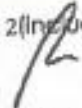
Thanks for your email. Surprise, surprise, surprise!! We have a hell of a job getting our emails out of this country. We are on compuserve - so have to send messages via Australia/Europe then to the US - and we have to send them as text files, UUencoded. I sent you a copy of the strategy probable late Nov/ Dec. Another copy attached. Remember its UUencoded.

An update on the Fiji situation: meeting this week to decide on an author for the strategy. We have no one in Fiji available who has any turtle knowledge. The author the Group selects will work closely with the Fiji Sea Turtle Working Group, Sue Miller, (hopefully) yourself and Col Limpus. The author will start project in early Feb. draft should be with Working Group in mid March. Draft comments fed into formal strategy ready for SPREP April meeting - maybe.

I sent you an email last week asking if you were interested in being project manager for the strategy, or doing some of the research in Fiji. I am trying to get as much money out of EU as possible for this strategy. This will include some capacity building for the Dept.'s of Fisheries and Environment. Money will hopefully be available to allow at least three MSc thesis's, possibly a PHd. Aisake is keen to do his MSc on turtles. If possible we will get someone to fill Aisake's place while he does the research. Keen on taking his place, being a supervisor for any of the study, any other possibilities???? I have read some of your papers - particularly the paper on Traditional systems for fisheries management, from your time in Palau. Good shit George - your our man. Bring your brain down here and help us get a really groovy strategy together. WWF are keen to see this strategy deal with some of the research management questions - particularly the best concepts from traditional systems and incorporate local reef and fish managers in the development and ongoing management and research I am trying very hard to get the right type of 'ownership' for this strategy by making the decision making process within the Working Group a concensus, by involving as many Fijians as possible in the process, by encouraging Fijian students, both incountry and abroad, to work on turtles (a bit of pressure from Peter Newell, Head of Biology to create positions with money gained for top rate overseas students - even if they are not from the south pacific region!). I will keep you in touch with developments. WWF are also pulling together a Regional turtle project looking at linking managers in Fiji with managers in Tahiti and the Cooks. Any suggestions?

Ka kite ano Rick

SPREP

South Pacific Regional  
Environment ProgrammeProgramme régional  
océanien de l'environnementP.O. Box 240, APIA, Western Samoa. Tel.: (685) 21 929  
Fax: (685) 20 231, E-mail: sprep@pactok.peg.opc.orgFax no.: USA 1 808 943 1920  
To: George Balazs, NMFSNo. of pages: 2 (including this one)  
Authorised by: From: Sue Miller  
Date: 16 January 1996  
Subject: .File: AP2/15/3  
Budget: XB102UA27BL

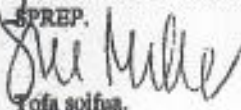
## year of the sea turtle

Dear George,

Talofa!

1. Aisake's work is going well and he had the first hand experience of seeing "turtle calling" where a chief seemed to call 150+ turtles ashore!
2. Telematics have responded with the order information. Order number is 951006006 (see copy of e mail attached which explains the delay).
3. Michael reports that Palau genetic samples have now gone to Australia.
4. Terry Taube's offer is wonderful. I suggest that it is to the Prime Minister / Government of each country. I would be happy to cover the costs of postage. We could use this opportunity to remind Heads of Government that the effective ban on domestic and international trade in turtle products is urgently needed as many countries still have not implemented the RMTCP recommendations of 1993. I could draft individual letters from Vili to this effect. I envisage that 25 turtles will be needed.

It is a wonderful offer by Terry and please thank him for me. I will also send him a separate letter and package from SPREP.



Tofa soifua.

Sue Miller

Copy  
to  
Terry

@INTL 90:685/101 90:900/900  
-MSGID: 90:900/900 00046d16  
@REPLYTO 90:900/900 UUCP  
@REPLYADDR 75052.1563@compuserve.com  
@PID GIGO+ sn 110 at pactok van 0.59.940127  
Apparently-to: sprepre  
From: TELONICS E MAIL SYSTEM <75052.1563@compuserve.com>  
Subject: REPLY TO YR FAX OF 18 JAN

TO: INTERNET:sprepre@pactok.peq.apc.org  
(Sue Miller, SPREP)  
1996.01.19  
DATE: Darrel Crow  
FROM: (75052.1563@compuserve.com)

SUBJ: Reply to your fax dtd 18 January

Thank you for your fax requesting status on your satellite transmitter. George Balazs has several transmitters for additional previously ordered and are waiting at Telonics he is presently specifications that will be based on the studies he is presently conducting.

We have assigned a job number to your order (95100600), but we are waiting for final specifications from George Balazs before we continue the production process. To the best of my knowledge he is aware of this and will supply the necessary information to telonics when he feels confident with the results of his preliminary

19 JAN 1996  
APC  
APC/SPREP



U. S. DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 NATIONAL MARINE FISHERIES SERVICE  
 Southwest Fisheries Science Center Honolulu Laboratory  
 2570 Dole St. • Honolulu, Hawaii 96822-2396  
 (808)943-1221 • Fax: (808)943-1290

30 JAN 96

**FAXED**  
 1-20/12:55  
 1 PG. 1/24.00

**TO: AISAKE BATIBASAGA**  
**FROM: GEORGE BALAZS**  
**SUBJECT: TURTLE BIOPSY SAMPLES**

Dear AISAKE:

IT WAS INDEED GOOD TO HEAR FROM YOU BY FAX AND TO LEARN OF YOUR INITIAL SUCCESS IN BIOPSY SAMPLING FOR DNA GENETICS STUDY. YES, WE WOULD BE VERY PLEASED TO RECEIVE THE SAMPLES IN SALT. THEY WOULD BE ANALYZED AT NO COST BY OUR FULL TIME TURTLE GENETICIST <sup>(CDR. PETER DUTTON)</sup> BASED AT OUR PARENT LAB IN LA JOLLA, CALIFORNIA. BUT IF YOU MAIL THEM TO ME YOU MUST INCLUDE AN OFFICIAL COPY OF YOUR CITES EXPORT PERMIT SO EVERYTHING WILL BE LEGAL.

THE RESULTS OF ANALYSIS OF MATERIAL YOU SEND WILL BE SHARED WITH CRAIG MORITZ AND NANCY FITZSIMMONS, THE TURTLE GENETICISTS IN AUSTRALIA THAT COLIN LIMBUS WORKS WITH.

BEST REGARDS,



P.S. When you are out doing your FIELDWORK IN AREAS No. of TAVINUI, WATCH CAREFULLY FOR TURTLES WITH SAT. TRANSMITTERS ON THEM!



FAXED

30 JAN 86

TO: AIZAKE BATABAZARA  
FROM: GEORGE BARASZ  
SUBJECT: TURKISH BIOPSY SAMPLES

Dear AIZAKE:

IT WOULD BE GOOD TO HEAR FROM YOU BY FAX AND TO CASH OF YOUR INTEREST IN BIOPSY SAMPLES FOR DNA ANALYSIS. YES, WE WOULD BE VERY PLEASED TO RECEIVE THE SAMPLES IN 2XCT. THEY WOULD BE ANALYZED AT NO COST BY OUR FULL TIME GENETICIST BASED AT OUR PARENT LAB IN LA JOLLA, CALIFORNIA. BUT IF YOU MAIL THEM TO ME YOU MUST INCLUDE AN OFFICIAL COPY OF YOUR GATED EXPORT PERMIT TO EVERYTHING WILL BE LEGAL.

THE RESULTS OF ANALYSIS OF MATERIAL YOU SEND WILL BE SHARED WITH CRAIG MORRIS AND KIM FITZSIMMONS, THE TURKISH GENETICIST IN AUSTRALIA THAT COLLECTED YOUR SAMPLES.

Best regards,

P.S. When you are out send your feedback to me of any water samples or other for analysis with our transmitter on them!  
FBI (679) 361184



Ministry of Agriculture, Fisheries, Forestry & ALTA  
FISHERIES DIVISION  
P.O. Box 358, SUVA, FIJI  
TEL: +679 361122 FAX: +679 361184

**FACSIMILE TRANSMISSION**

*If any pages of this fax is not clear please advise us for resending*

**TO:** Dr. George Balazs Date: 28/01/96  
Company: US Dept. of Commerce Page 1 of 1  
NOAA - NMFS  
Country: Hawaii  
Fax: (808) 943 1290  
**FROM:** Aisake Batibasaga File Ref:  
Fisheries Department  
Title:  
Subject: Turtle biopsy sample

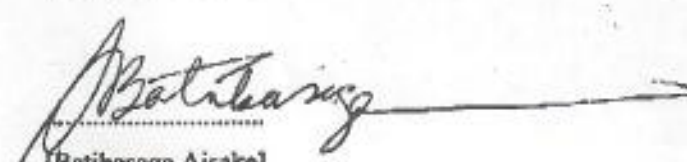
Dear George,

Ni sa bula vinaka. How are you ?

I have just returned from Udu Point, and I have some Sea Turtles Skin samples (2 young Greens and 1 Hawksbill) from that trip.

Grateful if you can assist me on the analysing part, I have it preserved in salt and now kept in our freezer. Should I send it across now ? Please advice us on this , if its okay for us to send it .

Alofa. Moce.

  
[Batibasaga Aisake]

for NDF



Date: Fri, 2 Feb 1996 06:07:16 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: WWF Pacific <100245.3405@compuserve.com>  
Subject: Re: Message for Rick Thorpe and Peter Hunnam

SUE  
FYI  
↓

Thanks, Rick. Yes, absolutely, I have now received a copy of the draft. Sue has made plenty of comments for all of us for the time being, so I will defer until the authored version arrives.

Just a follow-up comment. You all will note that our MTSG Global Strategy document provides the framework and just enough detail (but not too much) to let other know what needs to be done to conserve sea turtles. This is a "Strategy". And that is entirely sufficient for planning and fund raising purposes. It sounds to me that your plans call for a different type of document(s) to be prepared by author consultant. These expanded planning documents with more detail are often called "Work Plans", or "Action Plans". Sounds to me like this needs to be sorted out in the Fiji situation. You certainly wouldn't want to have a two, or three, such documents combined into one. At least I wouldn't recommend it ever be done that way.

Good luck, keep up your hard work! I hope to see you in April. Aloha, George

---

George H. Balazs	Phone: (808) 943-1240
National Marine Fisheries Service	Fax: (808) 943-1290
Southwest Fisheries Science Center	Email: gbalazs@honlab.nmfs.hawaii.edu
Honolulu Laboratory	
2570 Dole Street	
Honolulu, HI 96822-2396	

---

On 2 Feb 1996, WWF Pacific wrote:

> George  
> Thanks for your email. Great to hear you will continue to be involved in turt  
> work in the South Pacific. We will keep this in mind when considering capacit  
> building projects here in Fiji.  
> It wasn't clear in your email if you have received a copy of the draft strateg  
> or not. Please let me know. With regards to the author of the strategy - we  
> always planed to get someone to author the strategy. The Working Group pulled  
> together the draft and the Working Group are seeking someone to write up the  
> details of how, when and who. Although the Working Group are committed to get  
> someone local to write it few people are available for this length of time. W  
> are approaching Directors of Fisheries and Environment to try to get a  
> secondment to the project.  
>  
> So do not fear - this is still very much a home grown project.  
>  
> Love to have your comments on the draft strategy. You will be contacted by th  
> author in the future for some input into the final copy - hope this is OK  
>  
> moce mada Rick  
>

FREE!  
Your Guide to Western Fiji

# SPOTLIGHT on Nadi

ACCOMMODATION • MAPS • TRANSPORT • TOURS • CRUISES • ATTRACTIONS  
RECREATION • DINING • SHOPPING • ENTERTAINMENT • ISLAND RESORTS

## Nadi, South Pacific's ideal holiday base

### *Bula!*

This may be the first word you'll hear upon arrival at Nadi International Airport, the welcoming point for most visitors to the Fiji Islands. And you'll hear this expression-filled greeting many more times during your stay. It's our way of communicating a heartfelt welcome to The Islands, especially Nadi (Nahn-dee) in the centre of the exciting, *sunny side*.

It won't take long to discover why we are Fiji's most popular destination, for we have a splendid array of activities to keep you busy throughout your stay - plus more sunny days to do them in than any other part of Fiji.

will play your favourite tunes from home for dancing. Or we'll dance for you. Don't miss a magiti (Fijian feast) followed by a "meke". That's what we call a night of singing and dancing in the traditional Fijian style. Sometimes our dancers even walk on fire! More on page 6.

In addition to all this, Nadi is the natural place from which to explore our beautiful and diverse country, either on tour or on your own. Most of what people expect - or don't expect - in Fiji is within easy distance of Nadi by a choice of airplane, boat, bus, taxi or rental car.

Just a few miles offshore you can take day trips through the Mamanuca Islands, home of a fine collection of get-away-from-it-all resorts. Or from your Nadi 'base' spend a few nights in the island resorts or aboard an extended cruise from which numerous sights can be explored.



mountains, breathtaking vistas, sugar cane fields rippling in the fresh tradewinds, lush tropical gardens alive with orchids, even gold mines. And, of course, beaches.

In 'The West' a wide variety of resorts and hotels include some of the finest to be found in every price range. You are assured of comfortable accommodation, whatever your budget. Just remember to look for the Fiji Hotel Association sign of approval.

During the day, you can take cruises over aquamarine lagoons to gorgeous offshore islands. You can swim, snorkel, scuba dive, and sail. On land, you can play tennis, golf, squash and bowls. In between, you can sightsee and take cultural tours, including a trek into our scenic Nausori Highlands to a Fijian village. You can explore our multitude of shops in search of handicrafts - such as hand-painted "masi" (tapa cloth) or carved wooden forks reminiscent of Fiji's days as "The Cannibal Islands" - as well as colorful clothing like we wear in the islands, and a



wide variety of personal or gift items. Fine dining or culinary delights unique to the Fiji Islands? You won't be disappointed with the quality and variety available from an authentic lovo dinner in a Fijian Village to a gourmet's delight in a five star restaurant or resort. After dinner, bands

Fijian things at Ka Levu Cultural Centre, set sights at the Momi Gun Batteries from World War II, ride a restored "Sugar Train," examine the farming town of Sigatoka in Fiji's "Salad Bowl," and watch Fijian women make pottery just as their ancestors did.

Beyond the Coral Coast sits exciting capital city Suva. Much of the architecture and many of the customs you'll observe in Suva still evoke the era prior to 1970, when Fiji was a British Crown Colony. Grab your umbrella and spend a day wandering Suva's vibrant streets.

Whatever you do here in Nadi, our famously friendly people guarantee you will enjoy every minute of your visit with us.

### WHAT'S NEW IN OUR ISLANDS!

- ♦ AQUALAND - NEW AQUATIC PLAYGROUND ON VUNIVADRA ISLAND, NADI BAY - SEE PAGE 8.
- ♦ BEKANA ISLAND, FIJI (RESORT) ESTABLISHED BY ROBERT AND TRACY WALKER - PAGE 17.
- ♦ NEW ON OUR "WINELIST" - SEE PAGE 9.
- ♦ SOUTH PACIFIC TREASURE HUNT IS ON; PAGE 8.
- ♦ SPORTS TOURNAMENTS GALORE COMING UP ON DENARAU ISLAND - PAGE 15.

## PLAY 'ROUND WITH US



Sunset, poolside at the Tanoa International Hotel

**TANOA INTERNATIONAL HOTEL**  
NADI AIRPORT, PHONE 720277

**Wednesday:** Asian Night  
**Friday:** Pacific Night  
**Saturday:** Kebab BBQ  
**Sunday:** A Taste of India  
**Monday thru Friday:** Happy Hour featuring delicious hot savouries and the Tanoa International Serenaders

All prices VAT inclusive

**SKYLODGE HOTEL**  
NADI AIRPORT, PHONE 722200

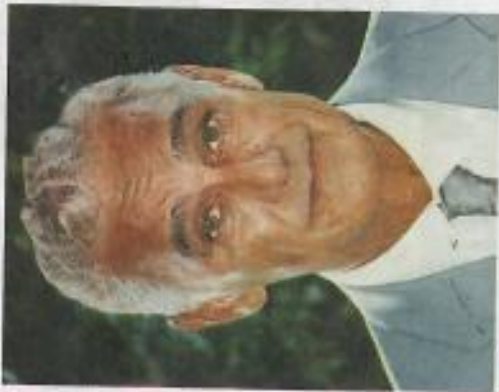
**Thursday:** Poolside BBQ \$13.75; child \$10.00  
**Daily (xThur):** Chefs 'Roast-of-the-day' - \$9.95  
**Daily:** Happy Hour and live entertainment

**WATERFRONT HOTEL**  
LAUTOKA, PHONE 664777

**Monday thru Friday:** Buffet Lunch - \$11.00  
**Sunday:** Poolside BBQ \$12.50; child \$10.00  
**Mon - Fri:** Happy Hour and entertainment

## TANOA WATERSIDE HOTELS

FIJI ISLANDS • SOUTH PACIFIC  
TANOA INTERNATIONAL HOTEL • SKYLODGE • TANOA APARTMENTS, NADI  
THE WATERFRONT HOTEL, LAUTOKA • RAKIRAKI HOTEL, RAKIRAKI



*Harold J. Powell*

Harold J. Powell  
MINISTER FOR COMMERCE,  
INDUSTRY & TOURISM

## Bula Vinaka! Welcome to Fiji

Dear Reader,

May I warmly welcome you to our shores and thank you for choosing Fiji as your holiday destination. Fiji has an excellent record of holiday repeaters, and I hope you, if a first timer, will enjoy yourself. If you are one of our frequent visitors, welcome back and thank you for your patronage.

Fiji offers a wide range of holiday experiences from white sandy beaches, exotic resorts, clear unpolluted waters, unforgettable cruises, trekking, water rafting, mountain rain forests, diving, fishing, archaeological sites, spectacular scenery, visits to Fijian villages or just lazing in the sun. I invite you to share with us an experience of a lifetime.

Our people of course are our greatest asset; they are warm, friendly and obliging. Please do not hesitate to ask them for anything you want to make your Fiji holiday experience a memorable one.

## Welcome to Nadi!



IAN BLACK  
Chairman,  
Nadi Committee  
Fiji Hotel Association

Or, as we say in Fiji, Ni Sa Bula! That means a very warm welcome from the Nadi area members of the Fiji Hotel Association.

As a guest of an FHA member hotel - anywhere in The Islands - you can expect a commitment to high standards of quality and service and friendly, efficient staff dedicated to these goals. Every Fiji Hotel Association member wants your stay in Fiji to be an enjoyable and memorable one.

Those of us in the Nadi area urge you to take advantage of the numerous and diverse activities and attractions which make Nadi the ideal base for your entire Fiji stay.

Finally, we would be pleased to hear from you regarding any aspect of your holiday; write to us at Box 10000, Nadi Airport.

## Getting Around The Islands . . .

**Air:** You can get where you're going fast in Fiji by airplane, seaplane or helicopter. Sunflower Airlines, Air Fiji, Air Pacific, Turtle Airways, and Island Hoppers helicopters fan out daily from Nadi throughout Fiji, either on a scheduled or charter basis. For the budget-minded, Air Fiji offers big savings with its 'Fiji Islands Pass'. Good for 30 days after the first flight, the pass permits unlimited travel from Nadi to Suva, Levuka, Savusavu, Kadavu and Taveuni.

They all can assist in setting up an itinerary for a comfortable trip, wherever you plan to go in Fiji.

**Sea:** Hopping through the lovely little islands off Nadi is easy via scheduled or charter boat. The Island Express operates from The Regent and Sheraton Resorts on Denarau Island through the Mamanuthas, and the Tui Tai sails from Lautoka to Beachcomber and Treasure Islands; both craft operate twice daily. Speed boat transfers and charters are available.

**Tourist Coach:** Two tourist-class coaches travel between Nadi and Suva via the Queen's Road. The Queen's Coach Travel & Tour Services leaves Nadi at 8 a.m. The Fiji Express, operated by UTC,

**Bus:** Several companies provide frequent and quite inexpensive bus service between Nadi and Lautoka from the crack of dawn to mid-evening. They

## USING TAXIS IN FIJI

Taxis are plentiful and reasonable in the Nadi area, and we suggest using them locally. If you are interested in longer tours, consult a hotel tour desk or receptionist. BY LAW ALL TAXIS IN FIJI MUST USE METERS. However, you will encounter 'hire cars' which are not metered. Use the chart below as a guideline for taxi rates between the major points around Nadi. Check with your hotel or restaurant operator for the exact fare to your destination, then agree on a fare with the taxi driver before departing.

APPROXIMATE one way fares between Nadi Airport to: Local area: see chart; Turtle Airways: \$7; Lautoka: \$15; Coral Coast Hotels: \$40-\$60; Pacific Harbour: \$80; Suva: \$100.

Garden of Giant	Nadi Airport
Se	

APPROXIMATE  
FARES WITHIN  
THE NADI AREA

use the public markets as their terminal. Tell the driver where you're going, and he'll tell you the fare. Pacific Transport Ltd. operates express service between Nadi and Suva along the Queen's Road.

**Taxi:** Taxis are plentiful and relatively inexpensive in Nadi. Fares are set by the government (see the chart on this page), but be sure to agree with the driver on a fare before setting out. A popular local way to cut costs on long trips is by sharing a taxi with several other persons. Check for these "Share Taxis" at public markets.

**Rental Cars:** Do-it-yourself tours by rental car are easy on Viti Levu, Fiji's main island, where all of the Queens Road and most of the Kings Road are sealed. Together they circle the island, a journey of about 520 km. Plan on three days and two nights. Avis, Budget, Thrifty, Khans, and other independent companies have a wide variety of cars for hire.

\$0-1						
\$1-2						
\$3-4						
\$5-6						
\$7-8	\$2	Namaka (1)				
\$8-9	\$2-4		Martinter Hotels (2)			
\$10-11	\$2					
\$12-13	\$15	\$13	\$10	Regent/Sheraton		
\$14-15	\$8	\$6	\$5		\$8	Nadi Town

(1) Location of ANZ, Westpac & National Banks  
(2) Skybridge to Nadi Bay Hotel - See map on page 10

**SHARE OUR FIJI**



**YOU'LL BE DELIGHTFULLY AMAZED**

A superb choice of tours and cruises from Fiji's leading tour operator.

**ORCHID AND CULTURAL TOUR-** The beautiful botanical gardens and orchid farm, Raymond Burr's Garden of the Sleeping Giant plus the historic Vaiseti Village (Half Day).

**BULA FIJI DAY TOUR-** The memorable Orchid Island Cultural Centre and a trip to Fiji's capital city, Suva, including special shopping (Full Day).

**JEWEL OF FIJI TOUR-** Explore Fiji's unseen interior on this 20 km journey up the Navua River. Pass villages, waterfalls, gorges, then stop at a Fijian village for a traditional lunch in the Meeting House with a swim afterwards.



Full/Half day tours and cruises to the outer islands. Flightseeing in Turtle Airways Floatplanes. Blue Lagoon 4 & 7 days Yasawa Island cruises. Complete details in our full colour brochures at your hotel tour desk - or phone 722811 (24 hours). Children and family rates available.

**UNITED TOURING FIJI LTD**  
P O Box 9172, Nadi Airport, Fiji Islands  
Phone: 722811 TLX: FJ1171 FAX: 720107 *Experts in expert hosts.*

**Vol.2 SPOTLIGHT ON NADI Issue 1**  
Published quarterly by Islands Media Limited. Advertising and editorial enquiries should be directed to Editor, P.O. Box 10000, Nadi Airport, Fiji Islands. Ph (679) 720600. Fax (679) 720744



**KHANS RENTAL CARS**  
P.O. Box 9881, Nadi Airport

Compare our rates and quality of vehicles before you rent!



INCORPORATING NETWORK RENTALS OF AUSTRALIA

Dear Adventurers, Sightseers, Naturelovers,

There is so much to see and do in Fiji. Take one of Khan's modern, carefully maintained vehicles and explore Fiji at your own pace.

You can call us at Acrotown Mall (close to Mocambo and Travelodge) on 720617, or Nadi International Airport (open 24 hours) on 723506, or Nadi Town (10 minutes from Sheraton and Regent) on 701009. If you require a car in Suva, then call on 385033. We can be faxed on (679) 720616.

You will be impressed with the service and the savings, too!

**KHANS RENTAL**  
Your Car in Fiji

Everything that's Fun under the Sun




# Laguna Lani



## Lani

30 minutes from Nadi our white sandy beaches are 'overflowing' with fun and excitement.  
**WATERSKING • WINDSURFING • SCUBA DIVING • PARASAILING**  
**'BANANA' RIDES • CANOEING • SAILING**  
and the finest snorkelling waters in the South Pacific! All for the exclusive use of our day guests. Cruise departures twice daily from Denarau Marina at 10 am and 1 pm; returns at 2 and 5 pm. Snack shop, bar and fresh water showers too. See your hotel/tour desk or phone South Sea Cruises, Nadi, 722988.

 **South Sea Cruises**

# We have added a new dimension to Nadi International Airport

## *We have made it beautiful*

We pride ourselves as the Hub of the South Pacific offering airlines and passengers a range of services one would expect from a modern international airport:



At Nadi International Airport, we have done more.

We have made our environment beautiful.



**CIVIL AVIATION AUTHORITY OF FIJI**

Private Mail Bag, Nadi International Airport, Fiji Islands. Phone: 722500 Fax: 720325

GEORGE BURNIE 07-11

**Spotlight On Nadi**

# THE South Pacific's MOST TALKED ABOUT ISLAND AND DAY CRUISES



## **BOLD, BEAUTIFUL & BAREFOOT**

Beachcomber sets you free. To do what you want to do. To be what you want to be.

You can live, love, laugh and be happy. In your own way. At your speed. Rage through the night and laze through the day.

All you need is a smile and a young happy heart. Beachcomber and its beautiful people will do the rest. Choose the accommodation that suits your style. Private bure, lodge or dormitory. And enjoy an all-inclusive holiday package that sits comfortably within your budget. Whatever your age, whatever your pleasure, Beachcomber is certain to charm and enchant you.

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**Only F\$55** (All inclusive)

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If you are staying at a mainland resort, don't leave Fiji without experiencing one of the South Pacific's most popular island day cruises. Daily departures from Lautoka Wharf at 10.00am. Price includes return bus transfer from Nadi, Lautoka or Coral Coast hotels, your return launch fare and a superb buffet lunch which includes food from our 'lovo' plus all this beautiful little island bubbles with.

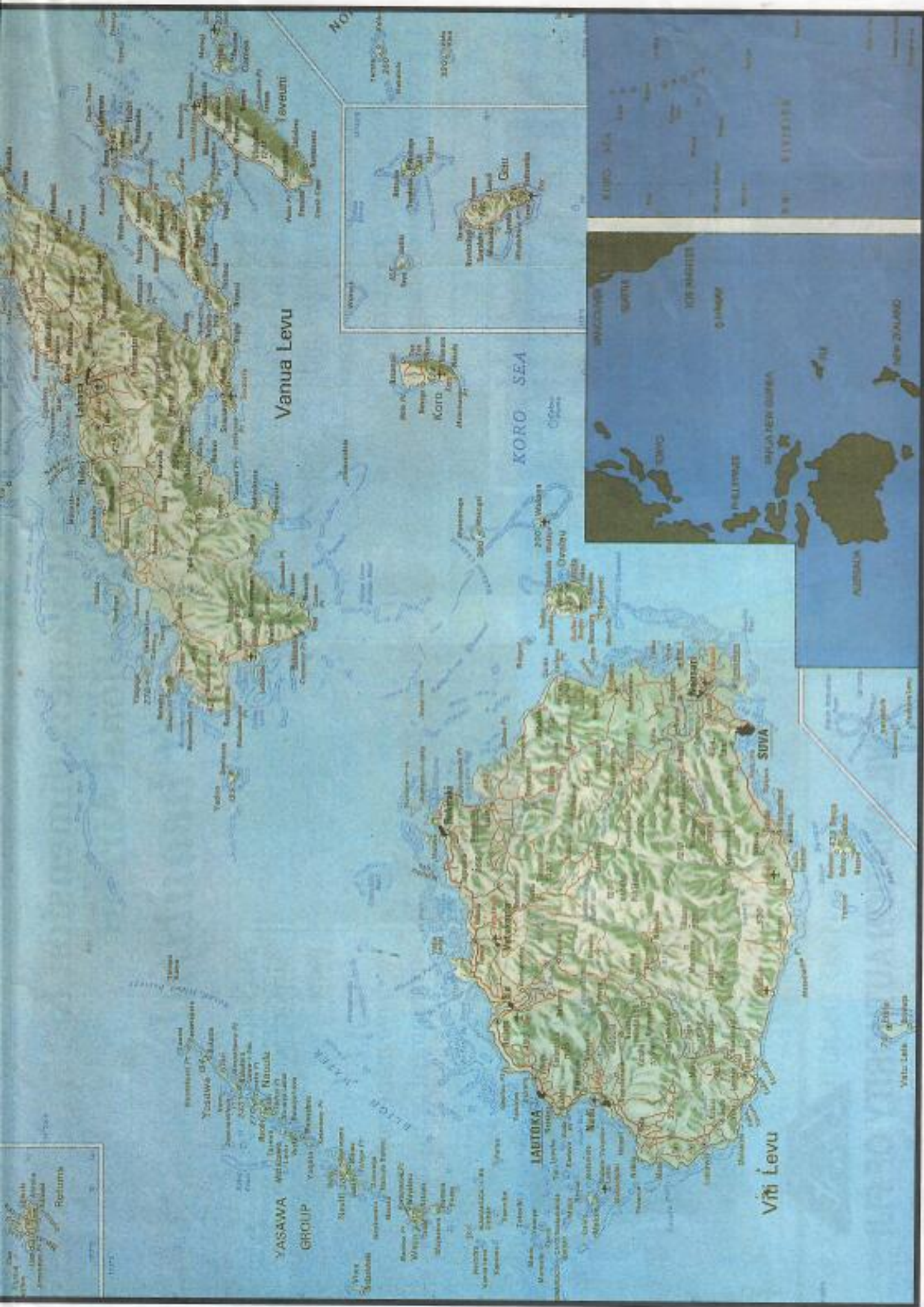
### **FAMILY RATES (2 FULL FARE ADULTS +)**

First child under 16	Half price
Additional child	Quarter price
Under 2 years	Free of charge

 **Fiji**

See your travel agent, hotel tour desk or phone Beachcomber Reservations  
P.O. Box 364, Lautoka Fiji Phone 661 500 Fax 664 496





## TRANSMITTAL SHEET



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dale St. • Honolulu, Hawaii 96822-2396

Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: MR. AISAKE BATIBASAGA  
FJI FISHERIES DIVISION  
FROM: GEORGE BALAZS

DATE: 1 APRIL 96

TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) 3

MESSAGE:

Dear AISAKE: I am  
FAXING YOU THESE MAPS TO SHOW  
YOU WHERE THE THREE TURTLES  
WITH SATELLITE TAGS ARE STAYING.  
WE ARE STILL GETTING SIGNALS FROM  
THEM NEARLY EVERY DAY. ALL THREE  
ARE GREEN TURTLES THAT I TAGGED  
AT ROSE ATOLL DURING LATE  
OCTOBER 1995.

THE TURTLE SKIN SAMPLES ARRIVED  
HERE IN EXCELLENT CONDITION,

SEE YOU SOON.

BEST REGARDS,

*George Balazs*





U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396  
Commercial: (808) 943-1221  
Telefax: (808) 943-1290

TELEFAX FOR: AISAKE BATIBASAGA DATE: 22 MARCH 96

**FAXED**  
3/22/96 4:12  
1240  
ome

FROM: George Bolatz TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) 4

MESSAGE: Dear AISAKE: GREETINGS FROM HAWAII! I LOOK FORWARD TO SEEING YOU AT THE TURTLE MEETING IN NADI IN APRIL. I HOPE THAT AT LEAST A FEW OF US CAN TRAVEL AFTERWARD TO SEE THE "TURTLE CALLING" SACRED EVENT. I HAVE A NATIONAL GEOGRAPHIC MAGAZINE FROM THE 1930'S TELLING ABOUT IT (AND SHOWING PHOTOS) IN FIJI. IT IS VERY FAMOUS EVENT.

THE SECOND PARCEL OF SKIN SAMPLES FOR DNA ARE PRESENTLY IN U.S. CUSTOMS WAITING FOR APPROVAL SO DHL SHIPPERS CAN BRING TO ME. I AM MOST APPRECIATIVE.

WITH THIS FAX I AM SENDING YOU A COPY OF OUR CITES IMPORT PERMIT. PLEASE MAKE COPIES AND INCLUDE IT WITH ALL FUTURE SHIPMENTS. IT WILL HELP TO SPEED THE PROCESS.

ALOHA,



(PUB) 391184



**CONVENTION ON  
INTERNATIONAL TRADE IN  
ENDANGERED SPECIES OF  
WILD FAUNA AND FLORA**

IMPORT PERMIT  
 EXPORT PERMIT  
 RE-EXPORT CERTIFICATE  
 OTHER CERTIFICATES (see block 9)

Page 1 of 3  
 1. Original Permit / Certificate No.  
**US 786600**  
 2. Valid until  
**11/20/96**

3. Permittee (name and address, country)  
**NATIONAL MARINE FISHERIES SERVICE  
 501 WEST OCEAN BLVD. SUITE 4200  
 LONG BEACH CA 90802  
 U.S.A.**

4. Consignee / Consignor (name and address, country)  
**XXXX**  
**INTRODUCTION FROM THE SEA OR  
 IMPORT FROM:  
 - Various Worldwide -**

5. Special conditions  
**-MUST COMPLY WITH ATTACHED GENERAL  
 AND SPECIAL CONDITIONS.  
 -U.S. ENDANGERED AND THREATENED  
 SPECIES: AUTHORIZED BY NMFS PERMIT  
 924.  
 -MAY COPY FOR MULTIPLE IMPORTS;  
 -PERMITTEE TO RETAIN ORIGINAL. THIS  
 REISSUES US 786600 ISSUED 6/13/94.**  
 For live animals, must comply with IATA Live Animals Regulations (air) or  
 CITES guidelines for transport (other).

6. U.S. Management Authority  
**OFFICE OF MANAGEMENT AUTHORITY  
 U.S. FISH AND WILDLIFE SERVICE  
 DEPARTMENT OF THE INTERIOR  
 WASHINGTON, D.C. 20240  
 UNITED STATES OF AMERICA**  
*Caroline Anderson*  
  
**11/21/95**  
 Issuing Date United States Management Authority  
 AUTHORITY: Endangered Species Act of 1973 (16 USC 1531 et seq.)

7. Common Name and Scientific Name (genus and species) of Animal or Plant	9. Description of part or derivative, including identifying marks or numbers (age / sex if live)	10. Appendix No. and source	11. Quantity, number of specimens, and / or net weight (kg. or lbs.)
A. COMMON NAME <b>GREEN SEA TURTLE</b> SCIENTIFIC NAME <b>CHELONIA MYDAS</b>	<b>IMPORT: UP TO 250 LIVE OR DEAD SPECIMENS OR PARTS THEREOF.</b>	10. <u>1</u> W 12. Country of origin *	11. <u>    </u>
K. COMMON NAME <b>LEATHERBACK SEA TURTLE</b> SCIENTIFIC NAME <b>DERMOCHELYS CORIACEA</b>	<b>IMPORT: UP TO 350 LIVE OR DEAD SPECIMENS OR PARTS THEREOF.</b>	10. <u>1</u> W 12. Country of origin *	11. <u>    </u>
C. COMMON NAME <b>LOGGERHEAD SEA TURTLE</b> SCIENTIFIC NAME <b>CARETTA CARETTA</b>	<b>IMPORT: UP TO 300 LIVE OR DEAD SPECIMENS OR PARTS THEREOF.</b>	10. <u>1</u> W 12. Country of origin *	11. <u>    </u>
D. COMMON NAME <b>HAWKSBILL SEA TURTLE</b> SCIENTIFIC NAME <b>ERETMOCHELYS IMBRICATA</b>	<b>IMPORT: UP TO 50 LIVE OR DEAD SPECIMENS OR PARTS THEREOF.</b>	10. <u>1</u> W 12. Country of origin *	11. <u>    </u>

13. Export / Re-export Encorsement:  
 The official who inspects shipment upon exportation / re-exportation must enter the actual quantities of specimens being exported / re-exported in this block.

See block 7	Quantity
A	
B	
C	
D	

14. Bill of Lading / Air Way-Bill Number

Port of Exportation / Re-exportation

Total No. of Shipping Containers

15. This document valid only with inspecting official's ORIGINAL stamp, signature and date in this block.

Inspecting Official's Stamp, Signature and Date



7/8. COMMON NAME AND SCIENTIFIC NAME (genus and species) OF ANIMAL OR PLANT	9. Description of part or derivative, including identifying marks or numbers (age/sex if live)	10. Appendix No. and source (W, C, A or O)	11. Quantity, number of specimens, and/or net weight (kg. or lbs.)
COMMON NAME OLIVE RIDLEY SEA TURTLE SCIENTIFIC NAME LEPIDOCHELYS OLIVACEA	IMPORT: UP TO 50 LIVE OR DEAD SPECIMENS OR PARTS THEREOF.	10. <u>1</u> W	11. <u>1</u> 12. Country of origin* <u>High Seas</u> Country of origin permit/certificate no.
COMMON NAME SCIENTIFIC NAME		10.                      11.	12. Country of origin* Country of origin permit/certificate no.
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\*Country in which the specimens were taken from the wild, bred in captivity or artificially propagated.

13. THIS PERMIT IS ISSUED UNDER AUTHORITY OF THE ENDANGERED SPECIES ACT (16 U.S.C. 1531 *et seq.*) BY:

11/21/95                      Signature *Caroline Anderson*  
 WASHINGTON, D.C.                      Date                      

14. EXPORT/RE-EXPORT ENDORSEMENT:				The official who inspects shipment upon exportation/re-exportation must enter the actual quantities of specimens being exported/re-exported in this block. This document valid only with original stamp, signature and date in this block.	15. Bill of Lading/Air Way-Bill Number:
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1. Permittee must complete blocks 4, 11, and 12 for each import carried out under this permit.
2. This permit is valid for multiple imports. Permittee to retain original permit.
3. The permittee must notify, in writing, any persons collecting specimens or samples under this permit about the limitations and conditions of this permit.
4. The permittee must not intentionally kill or cause to be killed any sea turtle. This permit does not authorize the import of any specimens that have been purchased or for which some other form of remuneration has been paid to the collector inasmuch as such remuneration may encourage the deliberate taking of additional live turtles.
5. Care must be taken when handling live animals to minimize any possible injury to the animals, and appropriate resuscitative techniques must be used on any comatose turtle in an effort to return it to the water. Live animals must be returned to the water as quickly as possible.
6. In the event a sea turtle has become hooked on fishing gear and must be hoisted from the sea surface to the boat, a scoop-net or similar device should be used to support the sea turtle's weight as opposed to lodging a hook into the turtle's body.
7. If in the case that the turtle is too badly injured to be returned to the water, it may be removed from the marine environment for rehabilitation. The advice of an experienced veterinarian should be obtained in determining the most humane manner of handling and caring for the turtle while being taken and while in transport. When possible, injured animals must be returned to the marine environment as soon as they have recovered. Any live animals taken for rehabilitation purposes will be considered part of the total number of animals that may be taken for that year.

NOV 21 1995

Date

*Caroline Anderson*

Chief, Branch of Permits  
Office of Management Authority

*(Pub) 3/1/11*

At home and away on



# ROTUMA

Story and Photos by Tom Cockrem

One of the first photographs I took in Suva, Fiji's capital, was on Kings Wharf. A group of ladies in Island dresses and with long wavy hair had lots of waves and smiles for me.

They were there for the ferry.

"Where are you going?" I asked.

"A long way," came the reply, "to Rotuma..."

Islands 7

Air Pacific's Islands Volume 11 1996



In fact, it would take the ladies a good three days to reach their island home. Rotuma, when you see it on the map, is not only a long way off – 397 kilometres northwest of Suva, to be exact – but it's also totally on its own. To understand how the island got to be there, it's as well to listen to the islanders' own legends.

Raho, the Samoan navigator, found a small rock on which he sprinkled two baskets of sand. Thus were created Rotuma's two land masses – 30 square kilometres of them – joined by the Motusa isthmus.

Since meeting those cheery ladies on the wharf, I had always wanted to visit their land. I was guessing that Rotuma's Polynesian culture, if only by dint of its total isolation, would still be well intact.

When I asked at the Fiji Visitors Bureau, I learned there were no hotels on the island, no shops and no foreigners. Now I had to go.

I didn't, though, have to go by sea. A very comfortable Sunflower aircraft called a Short makes the twice-weekly trip in two hours from Nadi. It seats 36 and even boasts a hostess and a loo. Boat trips, I was told, have been known to be considerably less pleasant.

Henry, who sat behind me on the plane, is one of the 6000 or so Rotumans who no longer live on the island. Only two and a half thousand do. Henry is a sea captain and was taking Lawrence, his little nephew, back to his homeland for a holiday.

"After months at sea," he told me, "I have to get back home." He asked where I was staying and fortunately, I had an answer: "With the Filipe family at Oinafa," I said.

"I'll pick you up tonight and we'll go for a drink".

I could see I would enjoy Rotuma. My stay was to be part of an experiment. The Rotuman chiefs, having voted out mass tourism (they recently stopped a cruise ship from visiting the island), would tolerate a moderate influx of visitors so long as they stayed with local families. I was one of the first.

My first afternoon on the island was enlightening. The drive from the airport passed neat and surprisingly modern looking villages, some big grey churches – Catholic and Wesleyan – lots of derelict coral cement homes, a Government station of white clapboard offices and almost no people.

"Where are they all?" I asked Visanti, my guide. "The people here stay home, or they're in the bush," came the reply. "You know they're kind of shy".

Staying with a family let me see this for myself. My hosts were the Filipes – Saga'itu (Itu) and Seforsa (Sa) with Harold, their 10-year-old son. Itu had never left the island – he probably never would, and Sa had gone to Suva once for her daughter's wedding. She had hurried back to Rotuma. And save for church on Sunday, and for the bush where Itu had his pigs, cows, horses and garden plots, there was really nowhere for them to go.

Rotuma has no shopping centres, only a co-operative that delivers the likes of flour and tinned corned beef to the villages. Food comes mainly from the bush interior, from





fruit trees around the house and from the sea if a fisherman's catch is big enough to share. Most times it is.

I asked Sa where she got the fish we were having for dinner. "The ones up the road gave it to us". How about the pork? "Oh, there was a wedding yesterday. They know we have a guest". Of course, all the vegetables – cassava, taro, yams – were from Itu's bush plot, the eggs from the hens outside. In Rotuma, things are given or shared. I visited our next door neighbours – the Kafoas – took some photos of their daughter, George and left with four oranges – a gift.

For a visitor, the Rotuma experience is to mainly sit, talk, watch and be amazed at how Rotuman people live their lives. The feeling you get is calm; it took me time to come to terms with it, but I think I did. My usual urge to rush willy-nilly to get a story and some shots could be set aside. The story I wanted was the home where I was staying – Sa's and Itu's home and Oinafa, their village.

There is no organised entertainment on Rotuma, apart from the Rocky Point bar where Henry and I went for our drink. We were the only ones there. If there's a cinema, I never found it. Nights are for sleeping.

Sa and Itu would rise at five thirty. Having got Harold his breakfast, packed his lunch box (a cooked meal) and seen Itu off to the bush, Sa would set about her home duties and then make our breakfast. On my second morning a banana cake appeared.

Sa baked it "on the primus. Sometimes I use the stove, but the primus saves gas". And the banana cake, like the pineapple upside-down cake we got next night, was as delicious as you'd get – a miracle from the primus. Sa also had a *koua* (underground stone oven) out in the shed. In this she cooked the vegetables, meat and fish.

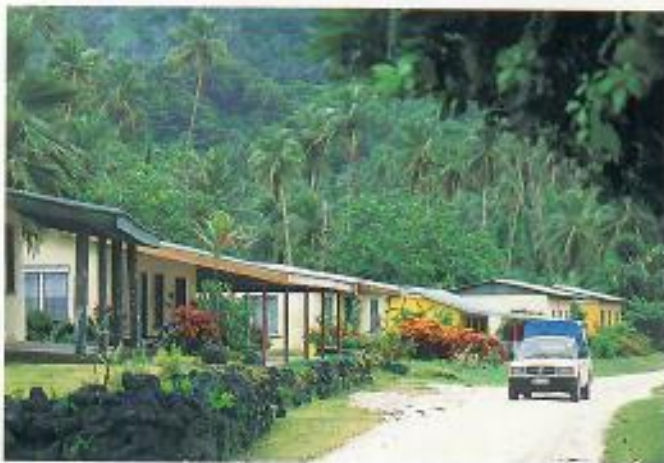
At around seven thirty, Itu returned hungry from the bush. Breakfast matched his appetite – dalo, cassava, fish fried in *tahoro* sauce, pakapaka fish baked in lolo (coconut sauce), bread, eggs, cereal, bananas and banana cake. I wondered what we'd get for lunch.

Sa still had plenty of other work to do. Rotumans like to eat fat. To get their animals good and tubby, they are given mainly coconut meat. The task to feed the chickens fell to Sa. This meant finding some fallen coconuts in the garden and husking and shredding them.

I first saw this done in the Cook Islands. The demonstrator emphasized the strength and skill needed to remove the tough husk from the nut. It was done on a sharp spike, a smaller one of which is used to shred the meat. Sa's deft hands made the job look easy. This was one household chore I was happy to dodge. I'll settle for the dishes.

Lunch at twelve rivalled breakfast in size and originality, as did dinner at seven. New dishes included Itu's favourite – tinned corned beef and *palusami* (taro leaves in coconut sauce), a delicious cucumber, onion and tinned fish salad in, you guessed it – coconut cream and an island treat, *tekei* pudding made from cassava starch, sugar and coconut meat baked in the *koua*.

I would grow like Itu – round and jolly! – on Sa's fine



*Schools rehearse traditional dances for months before Independence Celebrations. But the rest of the time, Rotuma's sandy roads, unspoiled beaches are tranquility personified.*

Rotuman cuisine.

Finally, I did get my chance to swing into fast pace mode. Monday October 9 was a public holiday to mark the 25th anniversary of Fiji's independence. Rotuma is officially part of Fiji, though most of the talk you hear refers to "them" or to "the Fijians" as if they're a world away. They almost are. But the Rotumans too are proud of Fiji's independence. Their celebration was a school concert at the Ahau Government Station sports ground.

It was a great event. With the parents and chiefly elders ensconced in the two-tiered grandstand, the kids defied the squalls of belting rain to provide a feast of Polynesian dance and song, their arms and hands moving like underwater fronds.

The highlight was a re-enactment of Raho's voyage, the Samoan hero standing stoutly in his small outrigger tossing out the sand while a chorus in full heroic costume sang the tale. For a moment I felt almost as proud as

one of the elders seeing their precious old ways well learned and already being passed on by the young.

Of course, Sa was at the concert too. She had made Harold's costume the night before—a spiffy warrior's outfit exquisitely woven from pandanus leaves and coconut fronds and embellished with garlands of flowers. She had also made a picnic lunch. This was laid out on the pavilion floor alongside those of the other family groups. Itu, not surprisingly, was still with his charges in the bush—no independence holiday for him.

Rotuma falls a little short of being a paradise—the overabundant flies and mosquitoes see to that. But for those of us gripped by the new religions of the west—competitiveness and ambition for their own sakes, Rotuma is a blissful reminder that there is another way—a way that Seforsa and Sagaitu Filipe

were pleased to share with me and one which, very wisely, they have not the slightest wish to lose.



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ALBINE GROUP 70-121

Date: 10 Jun 96 07:10:03 EDT  
From: WWF Pacific <100245.3405@CompuServe.COM>  
To: "\"George H. Balazs\"" <gbalazs@honlab.nmfs.hawaii.edu>  
Subject: Message for Rick Thorpe-

George - you sure are full of nifty ideas - and we thank you!!!  
Here are a few ideas, please send more detail and I will work these up into a funding proposal.

1. Seek co-operation with religious organisations for sea turtle conservation awareness, and co-operation in lowering the rate of ceremonial harvests.

Task: Develop an educational kit specifically for the church.  
Cost: \$2,400

2. Information kits for the tourist industry

Task: information kits - resorts and operators

Cost: \$1,550

Task: Adopt a beach program

Cost: \$1,300

Task: information kits - tourist retail outlets/ promote 'turtle friendly shops'

Cost: \$1,300

3. Formalise regulations and procedures for captive turtles

Task: establish database/input data

Cost: \$500

Task: set minimum conditions for captive turtles in Fisheries legislation

Cost: \$1,000

All of the above are stand alone products that will be used for many years to come in advocating for wise turtle management. All of the above also have a staff salary component.

Are these suitable for your small grant fund?

Let me know and I will get more detail to you pronto. Cheers for now. Many thanks for your energy.

Regards rick.

Date: Fri, 14 Jun 1996 12:45:10 +1200  
From: SUE\_D@usp.ac.fj  
To: gbalazs@honlab.nmfs.hawaii.edu  
Subject: Re: URGENT MESSAGE FOR DEBORAH SUE

Hey George!!!!!!

I have the tag right here in front of me. It isn't the one I told you about previously. The # is: 97-E. It looks like one of the small ones that you've left with Isake at Fisheries. On the back of the tag is written: Write HIMB UNIVERSITY HAWAII 96744. The fisherman who caught it gave the tag to me and I'll try to get some T-shirts from Isake to give to him.

I think I have samples from about 10 different loggerheads now.

I haven't found out anything else about the Hawksbill poisoning at Udu Pt. yet. I'll ask Isake about it next week. I think he's just gotten back from Australia. I think he went for turtle training with Col. He was very secretive about it and didn't even tell me that he was going. I understand he was to be back yesterday.

I've got to go. Bye! Deborah.

Date: Fri, 14 Jun 1996 12:47:55 +1200  
From: SUE\_D@usp.ac.fj  
To: gbalazs@honlab.nmfs.hawaii.edu  
Subject: Re: URGENT MESSAGE FOR DEBORAHSUE

Sorry, forgot to tell you what the measurement of the carapace of the tagged turtle was. Curved carapace length: 88.0 cm. I've got it written down on my datasheet which isn't in front of me at the moment so I'll confirm it later.  
Deborah.

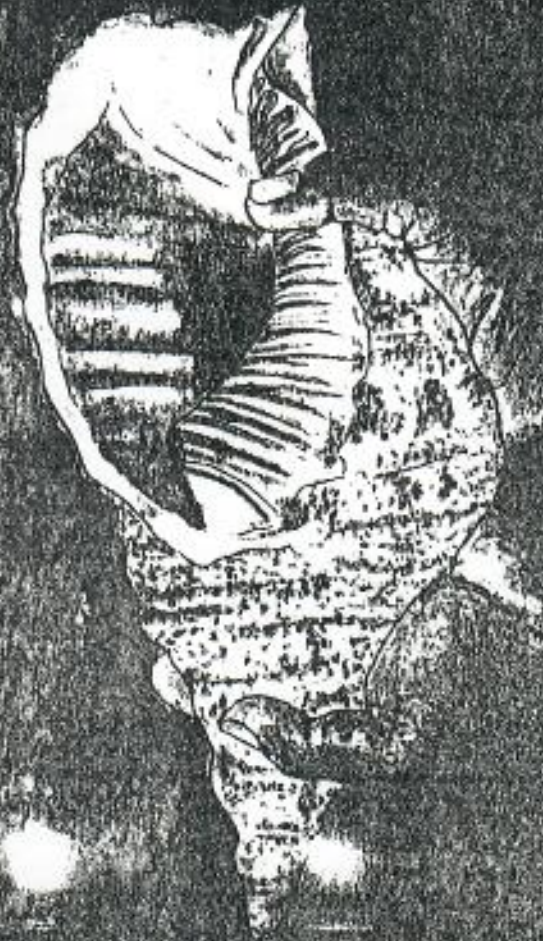
# VOICES IN A SEASHELL

EDUCATION  
CULTURE  
AND  
IDENTITY



Teachers, parents, educational administrators, politicians, elders, and custodians of traditional culture will talk about this small but important book. This book is the product of Aboriginal Australians, New Zealand Maoris, and Pacific Islanders who have found ways to sustain culture and education and who want to share their ideas with others. Education can contribute to the survival of indigenous, traditional cultures.

ISBN 982-01-0119-0



- Curriculum development including content, and provision of human and material resources, all determined by the indigenous group itself. As well, immersion and bilingual strategies, the involvement of indigenous cultural experts in this curriculum development, a holistic and integrated approach, and appropriate forms of assessments, are all aspects to be included in this key area.
- Recognition and validation of the worth of the culture and its educational processes and strategies.
- Western education availability so that people of indigenous cultures have access to, and can participate in and make choices about, living in the modern world.

### GENERAL RECOMMENDATIONS

This seminar affirms the following statements as self evident principles of action in all aspects of education for cultural development:

1. That education is for life.
2. That everyone has the right to knowledge of, participation in and enrichment by her or his own culture.
3. That values education is an integral part of education for cultural development.
4. That in multicultural societies the vision is for partnership in all aspects of life; that the path to this partnership is through education for the equitable sharing of all aspects of national life.
5. That all cultural groups must take responsibility in and be accountable for their own strategies, resources and outcomes in terms of cultural development.
6. That the elders identified by each group must be recognised as cultural and national 'treasures' and be accorded all the rights and respect their wisdom deserves.

Rarotonga, Cook Islands

10 February 1992

## CHAPTER ONE

# EDUCATION FOR CULTURAL DEVELOPMENT

Sir Geoffrey A. Henry  
(Prime Minister, Cook Islands)

If each of you went forth with lanterns and spent a lifetime searching, it is unlikely you would find an educational system that truthfully served its culture.

Why is that? ... we might all ask.

Part of the problem, I suggest, is that we teachers tend to see education as a stand-alone discipline, rather than an integral part of a greater endeavour. We tend to define this discipline narrowly and happily burden it with our own rules and theories.

Some of these rules and theories are derived from experience, pragmatic results measured against global educational standards and national needs. Others, however, spring from philosophical mists.

Either way, the rules themselves, the formal structure of education, have tended to become both the beginning and the end of the task. The true goals seem forgotten. The integral and contributive role of education in the University of Life appears inadequately recognised.

This is not meant as an indictment of educators. We all suffer from one of the strongest of human tendencies. Political systems focus on legislation, medicine on technique, and administration on minutiae.

I was reminded of this fact of life recently while reading "The Story of English" which illustrates how that language achieved its apex of glory in Elizabethan times when there were no formal rules of grammar, when - for example -

nouns could be used for verbs, when you could "happy your friend" or "axe his neck". What followed, however, was four hundred years of us pedants creating rules and enforcing them, so much so, there has not been a Shakespeare since.

Excessive internalisation is not the whole of the problem. Education is, in fact, just one component of the culture of the community. That education should be "for culture" is like saying that the fish's tail is "for the fish", the horse's hoof is "for the horse". Surely each serves a purpose. It is a telling comment on our educational theories to date that it has been deemed appropriate that a seminar on education for cultural development should be held.

Someone once described politicians as "ants riding logs floating down rivers, all pretending that they are navigating." Ask yourselves: Is this not a good description of most educators? Are we driving the system or is it, after we have created it, driving us?

Recently SEAPREAM held a workshop in Cook Islands and I had the privilege of both addressing them and exchanging ideas afterwards. Their theme was the problem of "drop-outs"; they sought ways to be supportive of students who are not academically motivated. While I shared their concerns and am hopeful that our own school system will benefit from their deliberations, I came away wondering if there is such a person as a "drop-out".

I recall one instance from my own teaching days. Our headmaster at that time was the current Minister for Education. I was in charge of what the Director of Education then called, "The dumbest second form class in the Cook Islands". In this class I had a young fellow who had a terrible stutter. He was hopeless at English and Mathematics. Every day I would see him sitting at his desk. I tried not to disturb him as he shielded his work, hiding it away from me. He was always busy, and always involved in what he was doing.

He did not see me walking around behind him. There on that piece of paper I saw a horse rearing on its hind legs; the most magnificent animal I have ever seen on paper. I tapped him on the shoulder. He quickly closed his book. I picked it up and flicked through the pages. I saw birds in flight, the take in flight, more animals, a picture of an apple. There on our classroom walls were pictures of apples and horses: "This is an apple"; "This is a horse." All were cut out of newspapers and magazines. I asked this young fellow to one by one remove the pictures on the walls and to put his own drawings in their place.

By the end of the year this young person spoke English well and without a

stutter; Cook Island Maori well and without a stutter. He passed his Mathematics examination. He eventually became a front line dancer in the Cook Islands National Arts Theatre. He is today happily married to a Caucasian Australian with two children. One could not possibly describe him as a "dropout".

That experience taught me that there are no drop-outs. Regardless of what levels we attain, we all remain registered in the University of Life where formal education is just one more course.

This is certainly the perception in Polynesia where traditional cultural values remain paramount, where it is incomprehensible that educational strategy does not include expressly programs for the perpetuation of these values.

In the Cook Islands we have a system that was brought in from the west and imposed on us without so much as a nod to our own ways and aspirations. Many of us can remember the day when it was forbidden to speak our own language on school grounds and when attempts at cultural festivals were simply cancelled. The influence of this system of education of the west was powerful. As recently as 1979 the Cook Islands Government of the day disbanded the Culture Division and cancelled the Primary and Secondary School's Cultural Festivals.

Our own schools have come a long way since then, with Maori language now a required course and with both song and dance encouraged but, in my opinion - and, I am sure that the Minister for Education shares this opinion - they have not come nearly far enough.

"Come now," you might say, "cannot a Prime Minister and a Minister for Education just direct that Cook Islands customs, traditions, legends, arts and skills be taught?" The answer is not so simple. The system to which we belong is very large, and its inertia is nearly glacial.

On the one hand, we are limited by the availability of teachers qualified in these courses simply because none were specifically trained for this purpose and, on the other, by the standards that our most academically inclined students must attain when they graduate, as required by the system. In other words, the strength of the educational chain is determined by its strongest, not its weakest, link.

When we knew that UNESCO had sponsored a seminar here in the Cook Islands, when we heard how highly qualified its participants would be, and



when we realised it would concern itself with "Education for Cultural Development", not only did I focus more on our recent Polynesian Way approach, but I also became hopeful that we could learn from you. How can a school system, which is as locked into existing criteria as a dinosaur in a tar pit, break loose?

I assure you that we are not suggesting that our schools abandon western education in favour of returning to ancient ways. What we seek, instead, is a balance. Let me explain why. Culture is identity and identity is pride. When I was sent away to New Zealand for schooling, I found myself an alien in a foreign land. I was strange to some of my school mates and can remember being called a "heathen" and a "cannibal" and, for a time, treated as less than equal.

Some Cook Islands students, in the same circumstances, became despondent, failed and returned home. I knew who I was. I admired my parents, remembered my grandparents and knew with pride of the greatness of my ancestors. They all gave me the courage to stay. I did, and today when I travel and meet leaders elsewhere or when they come here, it is always on an even basis. Even the barest smattering of my own culture has endowed me with strengths that I needed then, that I still need, that we all need.

Even so, I feel culturally deprived. Because I was away in western schools, I missed crucial years with my father who was a man steeped in traditional values. He raised sixteen children and all of them survived because he knew what to plant and when to plant, when to fish and where to fish. He timed his activities with the phases of the moon and made judgements on wind and tide. He never purchased fertilisers but used local rubbish and natural materials for organic farming of a kind that is just being discovered by developed countries. It didn't seem so important to me when I was a twelve-year-old lad but, now, I yearn for the traditional knowledge that he could have passed on and feel poverty-stricken without it.

I yearn for it and so do others. Since we are aware of our loss, we owe it to our children to gain what we did not. I do not mean that we should cling to the glories of the past. No. Every generation, every nation, must look to new glories. But what is the best way to achieve these? The answer, learned in the University of Life, is in a balance. Thus I do not propose that we should return to our cultural past to stay there, but to learn and to discover ourselves in order that we may better meet the challenges of today and tomorrow.

Look at Japan as an example. It is a nation which remains steeped in traditional values. They treasure their ancient customs, traditions, religions and ways,

but they certainly have not allowed these to detract from their grip on modern technology or their attainment of those values, even glories, that a modern world offers.

Perhaps the Japanese have achieved their balance through good fortune. Although occupied briefly in this century, they have never been colonised or, for that matter, not even extensively missionised. Their links from today to the past have been largely unbroken.

I suspect, however, that there is an even greater force by which they achieve such balance. It is this: they use respect of ancient culture as an integral force in disciplining, motivating and energising their society today. Just as a martial arts expert will use the force and strength of his foe to dominate that foe, so has traditional Japan encountered the western world and mastered it.

Is there anyone here who could possibly think that the Japanese could not have done so much in so few years after a military defeat if their great culture had not been left intact?

You do not learn culture just by going to a museum. Of course, culture is what we were but it is, also, what we hope to be.

Culture is what we are today. It is motor-bikes as well as carvings, computers as well as legends, jet travel as well as sailing canoes by the stars. But what we are today cannot be static. Culture at this instant is precisely the fulcrum to that balance between the past and the future.

But today I am aware not of balance but of imbalance. I feel that, in this community, education has yet to be relevant to whom we are. Three years ago we began a return to the Polynesian Way, but I have to admit that we have not come far enough. We are still slogging in that tar pit.

Let's face it. The educationists, men of goodwill they all were, who designed our system, in retrospect, appear to have wanted a system that would teach us to be suitable New Zealand residents, to achieve standards that would serve not our needs so much as that of the New Zealand economy. With that as a beginning and with the inertia that is natural to anything so complex, real progress seems elusive. Any hope of recovering what has been lost, any chance of attaining greater balance, surely depends on a greater commitment by everyone, parents, children, politicians and educators.

It is a task that goes beyond the school system. It is far too important to be left to any one segment of the community—not to youth clubs, not to the occasional

rational cultural festival, not to school principals. In 1983, I reintroduced a culture division into the system and restarted cultural festivals in secondary and primary schools. Then we took the bold step of establishing a Ministry of Cultural Development, one of the few anywhere outside of Paris. Next we financed and have under construction an eleven million dollar Cultural Centre and, this year, we are hosting twenty-seven island nations for ten days of culture sharing in the Sixth Pacific Arts Festival at a cost of approximately five million dollars.

For a small nation of fewer than 18,000 people, that is fairly impressive. Why, then, is it seemingly impossible to add an extra hour or two a day of Polynesian Studies to our curriculum? Is there really a conflict between training for the future and learning of the past? Is it not possible that some educators are stuck on dogma, that they believe in purely one way or purely another?

One thing that the University of Life has taught me is that, while there are black and white dogmas, philosophies, and solutions, the areas of grey are larger and humans beings seem to function best in these. The ideologies belong to the extremes while, between them, there exists an infinite range of possibilities. It is that belief which gives me confidence for the future. With such a range of opportunity, answers will emerge.

Must we continue to argue the merit of formal education versus cultural values? Or, can we not just bury the argument and get on with the solutions?

Let me conclude by commending to you an ancient Chinese proverb: "We cannot know the village where we are going, unless we know the village from whence we came."

## CHAPTER TWO

# CULTURE, DEVELOPMENT AND EDUCATION - THE ROLE OF UNESCO

Colin N. Power  
(Assistant Director General for  
Education, UNESCO, Paris)

"Culture," says Carlos Fuentes, "is a seashell where we hear voices of what we are, what we were, what we forget, and what we can be" (cited by Epskamp, 1984). Without this seashell individuals and groups have great difficulty in finding their way. Indeed the relentless and overwhelming technology and world view of the west, together with the problems of economic survival, have precipitated a cultural crisis in most parts of the non-western world. It is a crisis of the legitimization of the existence of smaller cultures and their claim for a place in the future world.

I should like to commend the Cook Islands for recognising so clearly the need for effective programs of cultural development, and for taking such positive steps to develop approaches to education which give due emphasis and respect to the dignity and value of the Pacific way of life. I can assure you that UNESCO is an organisation which is committed to assisting its member states to generate and implement educational programs which recognise the significance of cultural identity as the living core and driving force of all cultures.

## THE DECAY OF TRADITIONAL CULTURES

Since its founding, UNESCO has placed great importance on cultural identity. In 1966 the Declaration of the Principles of International Cultural Cooperation established the norm that cultures have "... dignity and value which must be respected and preserved." This is not to say that cultures can or should remain

## CHAPTER THREE

### CULTURAL LEARNING AND DEVELOPMENT THROUGH CULTURAL LITERACY

Konai Helu Thaman

(Pro Vice Chancellor, University of the  
South Pacific, Suva, Fiji)

#### PART ONE: CULTURAL LEARNING -A PERSONAL STORY

My name, Kona-i-holeva, means intoxicated or drunk on Holeva, an island in northern Tonga.

There is a story that in ancient times, on the island of Holeva, lived the most beautiful women in the whole of Tonga. Consequently it was a place where a lot of young noblemen went, and where endless kava parties were held, eventually leading to these young men's intoxication both by the power of the island's kava as well as the beauty of the women.

My namesake (my father's only sister) is believed to have died of heartbreak on Holeva. Her father, who did not approve of her choice of a husband, decreed that she marry a person of his choice, a noble from a nearby island. She wanted, instead, to marry her childhood friend, an attractive young commoner and talented musician and poet. Her father, angry with his daughter's stubbornness, banished the young man from their island. She was destroyed emotionally, refusing to eat despite pleadings from her friends and relations; she gradually grew weak and eventually died.

There is a story behind every person's name in my culture. Furthermore, it is believed that one must name one's children after an ancestor because this will ensure the continuation of the spiritual tie between past, present and future generations. Fortunately, for me, we do not believe in 'history repeating itself'!

Most of the things I learned about Tongan culture, I learned outside school. The school was seen as the place where things foreign were taught - things which, it was popularly believed, would make you clever (*potu*) and thus were more appropriate for the kinds of new, western-style jobs that were to be performed, most of which would pay you well, so that you, in turn, would be better able to meet your obligations to your family, your church and your country. Hence the notion of a school's function as "transmission of culture" was present, but it was to be the transmission of a foreign culture, the culture of, in the early days of schooling, the missionaries/teachers, and, later, during my schooldays, of the manifest curriculum.

Thinking back about my childhood before I left for New Zealand at sixteen years of age, I am able to identify some important cultural learnings that took place. Here I provide a few examples, as well as some of the sources of this knowledge and these understandings. In a people-oriented society, our young learned things mainly from those around them, observing, listening, and participating in a variety of daily activities both in the home and in the wider community.

I grew up in an extended family consisting of my mother, three grandaunts, a granduncle, an aunt and her brother, who I called *fa' e tabuata* (male mother) because he was my mother's cousin. My mother was not married and I never really spent much time with her because she worked as a live-in housegirl and came home occasionally during weekends and public holidays. She always brought home nice things though, from the rich *palangis* for whom she worked. I can still remember the peanut butter sandwiches, left-over beef stew, and the odd trifle. They were real treats! I often wished that I lived where she worked and not at our home.

Mother and Sia, my favourite grandaunt, used to argue about a lot of things (my mother was rather argumentative and a little temperamental). I remember one time she wanted to take me to her boss's home so that I could learn to read and speak English from the *fine' eiki* (lady of the house/wife). I was about four years old then. Sia objected, saying that I ought to learn to read and write in Tongan first. Moreover, she did not want me to learn the ways of the *palangi* because, she said, they were strange and selfish. She taught me to read and

write in Tongan long before I went to school at six years of age.

From Sia I also learned a lot about proper Tongan ways of behaving. She took me with her wherever she went, be it to the nearby lagoon to collect shellfish, to the bush to collect firewood, or to a relative's funeral, birthday or other kinds of celebrations. About once a month she would be involved, together with other women, in *lupa* making. I often went with her and witnessed the different processes that went into two important women's activities: *lupa* making and weaving. Sia was a person of few words, but she was admired and respected by the adults who were her co-workers.

Sia always answered my questions (I had plenty!) and told me a lot of family history. She idolised her father, who died in Samoa when she was about fifteen years old. She, her mother and two other sisters and a brother returned to Tonga, against their wishes. Sia was single and had no intention of marrying, she often told me. Boys were "stupid" when young and "dangerous" as they grew older and she urged me to work hard in order to get a good job so that "no man would ever tell you what to do". Marriage, she said, was for women who were "weak" and couldn't "do anything", except "sweep house". Sia was a feminist long before her time. Before I left for New Zealand, she warned me again about the ways of men. She reminded me that "there is nothing a man can do that a woman can't except when it comes to making babies, and that is God's job anyway".

At home, I learned a lot about the important role of the supernatural, manifested in a variety of traditional beliefs as well as the work of the (Methodist) church which, as I came to realise, had a significant impact on the lives of many of my kinsmen as well as myself. My maternal grandparents were Methodist missionaries in the then British Solomon Islands (in the early 1920s) where my mother was born and where my grandmother died. My grandmother's three sisters later took my mother, in her early teens, after she was allegedly mistreated by her stepmother when her father died. I often heard my aunts talk about this bad woman. She was *ta'e'ofa* - without *ofa* (love/compassion), a most important value and one which everyone ought to possess. Sione, my great grandfather, they said, was the epitome of *ofa* and, as such, had all the other virtues necessary to serve God, the family and Tonga. They also expressed a wish that I would grow up and "inherit" some of his great virtues!

Naiite, my older grandaunt, was an expert in traditional medicine and people often came to her for assistance. She was particularly knowledgeable about the nature of and cures for children's ailments, and during the hot season

countless mothers and their small children would come to her home seeking cures for all forms of rashes, boils, and stomach pains. I was often asked to collect the appropriate medicinal plants for these preparations, both from around our house and in the nearby bush areas. I can still remember the plant names, as well as methods of preparing many different medicines. Many people believed that I was the one to whom she would formally pass on her knowledge.

Naiite exemplified, to me, the important virtue of *ofa* (compassion). She was always calm and collected. I never heard her raise her voice, except in song. She had a wonderful voice and played the piano. Her father, a teacher/musician and a graduate of Tupou College, had taught her and others both traditional and western music. She was a skilled pianist having been taught to play by missionary women during her schooldays. She was a school teacher in the years before she married and was still teaching Sunday School when I was growing up. I remember being jealous of the children in her Sunday School class, who came home often for "lesson practice": she obviously had a way with them. Later, when I myself became a school teacher, I often thought of her and the qualities she possessed. As the oldest sister in her family, she was *fakuru* to her brother's families, and therefore held in high esteem, although she never seemed to take advantage of her high rank.

My third grandaunt, Kusi (who is still alive and is 99 years old) was an expert fisherwoman. She would go out to collect shellfish every time the tide was right (early morning or late afternoon), and I would accompany her when I was allowed. She taught me how to recognise a variety of edible shellfish and how to "catch" them.

## REEFWALKING

I have been out on the reef  
searching for cowrie shells  
but every rock has been turned  
by those who went before me

I am tired and disappointed  
but I shall keep on trying  
in case I find one  
looking for a place to hide.

Kusi showed me where to look for cowrie shells, and how to fashion necklaces and other ornaments from them as well as from other shells. Later, when I was

in high school, she would sell some of these shell ornaments to tourists who began visiting Tonga in the 1950s. I sometimes went with her in order to help her "interpret" her transactions. She told me later that people used to "mock" her and her friends for selling things at the marketplace, as such an activity was considered "demeaning", especially for the daughter of a church minister!

My favourite relative, however, was my granduncle, Soakai. He was Naité's husband and therefore not a blood relative; still, he was my *kai*, a term used for all kinsmen of one's grandparents' generation. He was the head of our household, and no one was allowed to scold or hit me when he was around. He would tell everyone that because I was christened Taufa, after his mother, I was special and deserved special treatment. He was renowned for his yams, pigs, tobacco and watermelons, not to mention *palangi* vegetables he grew just to give away to people who ate them. (He believed that such things as tomatoes, carrots and English cabbage were inferior to *lu* (taro tops), *pele* and *otioni* Tonga. His tobacco was appreciated throughout the district and people would come home to buy *lapaka* Tonga, which he sold for one shilling a piece. He was also a master storyteller, and entertained both young and old on appropriate occasions. I never tired of listening to him telling stories of his own childhood, especially his school days.

Both Soakai and his wife, Naité, graduated from Tupou College, in 1904 and 1905 respectively. They therefore belonged to an elite, *Apoto* group of people, but, as he told me repeatedly, he did not want a government job (his father was a church minister). Instead, he wanted to work the land and earn "honest money". The one thing I liked most about him was the fact that his prayers and sermons were always short. Every morning and evening without fail (until I left Tonga for New Zealand), we had family prayers, led by one of the old folks, and he was the best.

My mother and her cousin, Sela (Naité's daughter), were like sisters. Sela was slightly older than my mother, and definitely wiser. Because her mother was *faiu* she held a privileged position in her mother's extended family. She, like her mother, was a kind person, who did not take advantage of her high rank within the extended family. Sela was also a *poto* person, having completed the necessary high school examinations. She was a primary school teacher and took me to school with her when I was three. Although I did not start school formally until I was six, I knew a lot about school and found schoolwork easy.

I also learned Tongan dancing from her. She was a dance teacher and many young girls would come to her for tuition. A skilled dancer and singer herself, she belonged to a select group of young women who were chosen to perform

a variety of dances for our late Queen Salote. She often took me with her to dance practice and I learned a lot both from watching her teacher as well as her.

My uncle, Sake (Naité's son and Sela's brother) was the black sheep of the household. No one at home seemed to approve of anything he did. He dropped out before completing high school. He lived with a woman to whom he was not married. He preferred *hopi* (home brew) to kava and drank it often, and he never went to church. He and my mother got on well, however. They were probably more alike particularly in their refusal to conform to the old peoples' ways. He was always nice to me, although I knew, even then, that he sometimes used me to get what he needed from his father, such as money for cigarettes.

My mother, like my uncle Sake, was regarded by my folks as a "rebel" who had a mind of her own. My aunt Sela once told me that this was because my mother had inherited her father's traits and not her mother's. Grandfather, Sela said, was a stubborn man who, although a missionary, was known for his constant opposition to his *palangi* superiors. Although herself a non-conformist, my mother insisted that I conform to the values which she appeared to have rejected. For example, although she "ran away" from school and never completed her school leaving examination, she had plans for me to go to the elite, English-speaking high school and, later, secure a scholarship to go overseas for further studies. Unlike her father, mother often appeared to have a high regard for *palangis* believing that they had superior knowledge to Tongans and wanted me to gain that knowledge.

## MY MOTHER TAUGHT ME

My mother taught me kindness

Although she's known to be mean;

Swear-words were a 'no no'

These she was an expert in.

My mother taught me to prize schooling

Although she hated it;

She scolded me for missing church

But she never liked the priest.

My mother strove for beauty

And in her love I found it;

'She knew so much of duty'

But was seldom rewarded for it.

By the time I left home, I had a cultural identity that was deeply rooted in the shared knowledge and values which my elders consciously or unconsciously passed on to me. But things are different now. Many young people, especially those who live in urbanised environments, no longer have the opportunities I had when I was growing up to gain the knowledge and learn the values which Tongans believe (collectively) make their culture "unique".

Many of our children today, unfortunately, no longer live with their parents and/or grandparents. Increased mobility, together with a school curriculum influenced by western, "value-free", skill-oriented, educational principles, have partly contributed to the emergence of a generation of children who had only the school and increasingly, now, the mass media as their main sources of "important" information and values. To make a conscious effort to teach children important elements of their native language and culture IN SCHOOL, including VALUES which are deemed important by a society, would be, according to some critics, tantamount to indoctrination. I do not share this view. I believe that all education (i.e., worthwhile learning) is value-laden, including so-called scientific education. We in the Pacific islands can no longer depend on the HIDDEN CURRICULUM to perform the function of "transmission of (traditional) culture" to our children.

I believe that it is possible for children to attain a certain level of cultural literacy aimed at preparing them to identify and more effectively communicate with one another. I also believe that the achievement of cultural literacy is a proper function of our schools, and that a curriculum aimed at its attainment is a necessary part of education for cultural development in our region.

In the section that follows I make a case for the teaching of traditional cultural knowledge and understandings, and provide a conceptual framework for the selection of content for such a curriculum.

## PART TWO: CULTURAL LITERACY - SOME CURRICULUM SUGGESTIONS

### BACKGROUND

In 1985 I was asked by the Ministry of Education in Tonga (MOE) to assist its Curriculum Development Unit in drawing up a Tongan Studies Curriculum which would have as its primary aim the teaching of language and culture. The realisation of the need for such a subject partly arose out of the continuing poor performance of students in the Tongan Higher Leaving (THL) Tongan

Language examination (many were performing better in English), and partly out of an increasing concern about a general lack of knowledge/understanding of Tongan culture shown by many school leavers.

For many years Tongan Language Studies had been a compulsory subject in the THL Examination, a national examination taken by students at the Form 4 (Year 10) level. Candidates had to pass BOTH Tongan and English, with an aggregate of 200 for four subjects, in order to gain a pass grade in the THL Examination.

At a meeting with senior officers of the MOE, concern was expressed by some of the officers regarding what they regarded as a deteriorating level of understanding of the Tongan language by Tongan school leavers. It was pointed out that many students had performed better in English than in Tongan in previous THL exams. Furthermore, many lacked certain basic knowledge and understanding about "things Tongan", such as knowledge of significant historical events. Other students, it was reported, no longer knew the Tongan respect language and generally did not know how to behave in a proper (Tongan) way. Many were beginning openly and publicly to criticise their elders as well as those in positions of authority. In short, the officers felt that there had been a general decline in students' knowledge of things Tongan and it was even suggested that many students were beginning to lose their cultural identity!

In terms of the role of the school curriculum, the Forms 1 to 4 Social Science Curriculum (SSC), with which I had had a small part to play since 1976, had come under closer scrutiny by some people, including some principals and one or two very senior officers in the Ministry. It was reported to me that the unfavourable trends in children's behaviour were possibly a function of the kinds of critical attitudes which the SSC was attempting to foster among school children. Despite the fact that the SSC curriculum team, with my assistance, had rewritten UNDP/UNESCO curriculum trial units making them more Tonga-focused by including a lot more "content" about Tongan society (both past and present), some people felt that such an attempt did not adequately ensure that Tongan children learned about their own country and culture.

Based on these concerns, a policy decision was made that Social Science would be taught only in Forms 1 and 2, that History and Geography would be reintroduced in Forms 3 and 4, and that a new subject, Tongan Studies, would be introduced for Forms 1 to 5. It was to consist of two major elements, Tongan Language and Tongan Culture. I was asked to assist in the design and development of History, Geography and Tongan Studies curricula.

Although the language component of Tongan Studies had been in place for a very long time, the culture component would be new. I was asked to make some suggestions about how elements of Tongan culture could become part of a Tongan Studies Curriculum. Appendix One is a short discussion paper I prepared for the first meeting of the Tongan Studies Curriculum Workshop. It attempted to provide a framework for studying the "Culture" aspect of Tongan Studies.

At this first Tongan Studies Curriculum Workshop in 1986, participants (who were education officers, training college lecturers, practising teachers as well as ordinary citizens well versed in Tongan traditions) were divided into seven groups, each of two or three people. Each group was asked to discuss a particular category with a view to producing a preliminary list of items for study under it. These lists later were to serve as content guidelines for curriculum writers whose main task was the preparation of learning resources for both teachers and pupils, using the framework which the workshop had adopted.

### THINKING ABOUT CULTURAL LEARNING AND TEACHING

When I was asked to participate in this seminar, I tried to reflect on experiences I had had since working with the Tongan Studies curriculum. One of those experiences was researching and writing a doctoral thesis about Tongan educational ideas and how cultural values impact on schooling, especially teachers' perceptions of their role. This work helped me to better appreciate the problems encountered by many Pacific island students, as well as teachers, as they try to implement curricula, some of which continue to make incorrect assumptions about them. I wish to share with you some of my thoughts in the hope that they may lead to more careful consideration of how elements of indigenous culture can become part of the school curriculum. You also may find it helpful to read one of my recent papers, "Towards a culture-sensitive model of curriculum development for Pacific island countries" (Thaman, 1991).

Every child ought to learn the traditions of the particular human society into which she or he is born.

In an ideal world, all people should be multicultural and multi-lingual. However the first step surely is for each person to become literate in his or her own national language/culture.

Cultural Literacy is here defined as a specified level of competence in the SHARED knowledge (including certain understandings and skills) and values which enable members of a group to communicate effectively with one another.

Providing children with information about their history and traditions should not, however, be seen as indoctrination into a conservative point of view. As a young student at university, I became very critical of some aspects of my culture precisely because I was literate enough about it to be able to understand its different aspects.

Teaching children about cultural values (or valued emphases) does not necessarily mean forcing them to accept these values uncritically; it should enable them to understand the values of other people as well as those factors which may contribute to changes in their own values.

Many educationists in the Pacific region as well as outside believe that our schools are producing more and more children who are not literate in either their own native language or a foreign language such as English.

In every society, there are certain assumptions that are made every day about a body of information which those on the "receiving" end or consumers know: for the not-so-privileged, such information has not been spelt out. It is the function of educators to do this.

Instruction in cultural literacy must begin as early as kindergarten (pre-school). Young children have an enormous capacity to absorb a lot of information. Form 1 is almost too late to start.

Cultural literacy is closely linked to reading ability. There is evidence to suggest that in the U.S.A. the critical difference in the reading performances of disadvantaged fifth graders as compared with advantaged pupils is the difference in their cultural knowledge (Hirsch, 1987, page 27).

Hirsch suggests that we conceive of a curriculum in cultural literacy as being of two types: the extensive and the intensive curriculum. The extensive curriculum consists of traditional knowledge, information, attitudes and assumptions which people in a particular culture share. The function of such a curriculum would be to provide students with the information shared by all literate people in that culture. This may be in the form of a national vocabulary or a list of important facts/concepts/skills/attitudes etc. Such a list would be

known to all children in all schools in the country and would form the minimal curriculum "content" that should be included in a child's schooling no matter what it takes.

This work can be done by consulting expert opinion, books, magazines, dictionaries etc. A list can then be drawn up and criticisms/comments sought. It should be made public so that parents as well as children can have access to the list. It is also suggested here that this task is best done locally involving as wide a cross section of people as possible. Every effort should be made to solicit the opinions of older folks in the community, particularly those who are well versed in the vernacular languages, agriculture, fishing, oral history, the performing arts, genealogies, traditional medicine, food and other technologies, etc.

By the end of primary school (about Class 6 or 8) children ought to have all the important elements of the extensive curriculum. At the higher levels of schooling, where the teaching is done according to subject divisions, the "national vocabulary" needs continued systematic attention.

Elements of cultural literacy may be incorporated into the structure of story books, readers, textbooks, courses and most other school requirements at the secondary and tertiary levels.

The intensive curriculum, on the other hand, would encourage a fully developed understanding of the subject of "Culture" and may be included as a separate subject in the secondary school curriculum.

A suggested framework for an intensive curriculum in cultural literacy follows in Appendix One, using Tongan Studies as an example. Such a curriculum may also make assumptions about certain basic knowledge of (Tongan) language and culture, some of which children would have obtained in primary school from say, Social Studies and/or the Extensive Curriculum.

It is important for decision makers to determine the behaviour component of a curriculum in Culture. For example, would it emphasise knowledge, comprehension and interpretation of graphic and symbolic data, or critical analysis and confrontation of issues? The latter would open up the affective domain to students and perhaps better provide for the attainment of attitudinal and value goals. The Tongan Studies curriculum, for example, hedges in its handling of value issues and critical analysis is done mainly through discussing "safe" issues, thus keeping the affective components of the course at a low ebb. On the other hand, the Forms 1 to 4 Social Science curriculum often delved into

value issues and tried to position the student intellectually and emotionally in a way that required her or him to analyse and become involved in important social issues. The choice of emphasis is the prerogative of those responsible for the school curriculum in each country.

The development of positive attitudes towards one's language and culture is an important role of a school. Although there is a range of possible attitudinal goals which might be included in a curriculum, those relating to acceptance and appreciation may be the most appropriate if not realistic. It is often difficult for a teacher to evaluate attitudes in the same way she does knowledge and skills, but attitudes can be evaluated using techniques such as, for example, checklists, rating scales or attitude inventories.

## APPENDIX ONE: A FRAMEWORK FOR AN INTENSIVE CULTURAL LITERACY CURRICULUM

The Tongan Studies curriculum consists of two separate components: Tongan Language and Tongan Culture. The following is a suggested framework for studying the Tongan Culture component.

### SUGGESTED AREAS FOR CONSIDERATION

1. Social organisation
2. Government
3. Material culture
4. Occupations
5. Expressive arts
6. Religious beliefs and practices
7. Recreation and entertainment
8. Important animals, fish and birds
9. Important plants
10. Important non-living elements; e.g., sea, wind, stones.

### SUGGESTED FRAMEWORK FOR STUDY

For each category above three tasks are necessary:

1. Identify types/varieties
2. Explain origins/procedures/functions of each type
3. Analyse changes which have been brought about as a result of foreign or other influences.



SAMPLE BREAKDOWN OF A CATEGORY  
TRADITIONAL MATERIAL CULTURE

1. Different types
  - (a) Tools
  - (b) Weapons
  - (c) Buildings
  - (d) Foods/food preparation equipment
  - (e) Clothing/items of personal adornment
  - (f) Boats
  - (g) Handicrafts
  - (h) Home furnishings
2. For each type identified above, consider:
  - (a) Origins
  - (b) General description
  - (c) Material(s) from which the item is made (and possible advantages and disadvantages of each)
  - (d) Process(es) of making the item
  - (e) Value of the item; e.g., commercial, social and personal
  - (f) User(s) of the item
  - (g) Standards of judging quality
3. For the items considered under 2. above, consider ways in which they have been influenced by known non-Tongan cultures, when, and how.

## CHAPTER FOUR

# 'GOING ABOUT IT THE RIGHT WAY' - DECOLONISING ABORIGINAL SCHOOL CURRICULUM PROCESSES

Stephen Harris

(Reader in Education, Northern Territory University,  
Darwin, Australia)

In 1975-76 I worked as a researcher with the Yoiingu (Aboriginal people) of Mililingimbi in Arnhem Land, about 450 kilometres east of Darwin. I lived at Mililingimbi for those two years and I saw that learning in Aboriginal families happened in a very different way than it does in school. I was given this research job by education officials because they - and I - hoped that if we could work out how Aboriginal people organised their learning, and then brought some of those Aboriginal ways into school, then school would improve. The results of my research were published in a book called *Culture and Learning: Tradition and Education in Northeast Arnhem Land* (Harris, 1980). The main chapter examines five traditional Aboriginal learning strategies. I shall be making use of some of the material in that chapter in what I say below.

My comments can be seen on two levels: on one level they are about particular learning processes; on the other level they are about increasing Aboriginal people's control over their own schools. In the Northern Territory this is called 'Aboriginalisation'. Some progress has been made in Aboriginalisation but there is still a long way to go.

In one important sense there were two groups of indigenous people attending the Rarotonga seminar. There were those who govern their own country such as the Tuvaluans and Cook Islanders. And there are those like the Maoris, Aborigines and Torres Strait Islanders who live in countries governed by a different cultural group. If what little I have seen of Cook Islands cultural programs in schools is accurate, it would seem that a self-governing group tends to see 'culture' as what happens on special occasions and includes expressions such as oratory, stories, knowledge about seasons, carving, singing and dance. But to groups who are not self-governing, while they are

George Rick  
Some reading material  
about Pacific Island  
education.  
Konai is a friend who  
lives not far from us.  
Konai speaks to me about  
problems with the  
education systems in the  
Pacific.  
As a white person I have  
difficulties expressing these  
Pacific Island views to  
others - but I do think they  
are very important.  
lots of aroha Rick.

- Think differently  
- possibly different areas  
of brain (like demonstrated  
for Japanese)
- Required reading for all  
SPrep non-Pacific IS.
- Have for our Strategic planning  
A12
- Marydelle - small  
get grant affiliation  
from Fiji?  
a brain  
Nera



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EMAIL

-more  
interact email  
w/ Zug?

Sent to Zug?

Narrowed  
down!  
good!  
Zug & others  
1986? MTN

Canton IS  
Kimbati bone

Dear George

Just sending you a copy of my proposal to date. Please remember that it is only a outline of my project which may be amended once I reach Suva and start sampling. It needs a lot of work to be a 'nice' document so don't be worried too much about how it is written etc. I feel that it is important for me to start work rather than spend time perfecting a proposal.

Thanks for all your help so far. I hope to arrive in Suva by mid July. No doubt you will know when I am back on e-mail (haha). I WILL be in touch.

Thanks

Michelle Boyle

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**AGE AND SEXUAL MATURATION OF GREEN  
TURTLES (*Chelonia mydas*) BEING CAUGHT  
WITHIN FIJIAN WATERS.**

**MSc Thesis PROPOSAL** 15 June 1996

Proposer: Michelle Boyle

Proposed supervisors;

Prof P. Mladenov (Marine Science Dept., University of Otago)

Dr K. Probert (Marine Science Dept., University of Otago)

Prof P. Newell (Dept. of Biology., University of the South Pacific)

## Introduction

Presently, all species of sea turtles, except the Australian flatback, are listed in the IUCN Red List as Endangered or Vulnerable (IUCN 1988). All marine turtles are included in Appendix I of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), (Inskipp & Wells 1979) and all species except the flatback are listed in Appendices I and II of CMS (the Convention on the Conservation of Migratory Species of Wild Animals). Conservation and management programmes are, therefore, necessary to restore these sea turtle populations.

The development and implementation of rational management and conservation plans for endangered sea turtle species depends on an understanding of their population dynamics. Of particular importance, for any species, are growth rate, age at sexual maturity and other age related aspects.

Estimations of growth rates for wild sea turtles have been obtained by mark and recapture studies, such as those of Bjorndal and Bolten (1988), Ehrhardt and Witham (1992) and Limpus and Walter (1980). Such studies are, however, labour intensive, time demanding in the short and long term, and frequently logistically difficult and expensive (Zug *et al.* 1986). In addition, it appears that growth rates are geographically variable and differ between populations. For example, Balazs (1982) identified that *Chelonia mydas* in the Hawaiian chain have very slow growth rates.

Growth rates have also been determined by using captive-reared turtles as done by Witham and Futch (1977) and Wood and Wood (1980). However, experimental studies on captive sea turtles have shown that growth rates are dependant on temperature (Frazer and Ehrhart 1985), as well as on the quality (Wood and Wood 1981) and quantity of food provided (Nuitja and Uchida 1982).

Published estimates of age at sexual maturity have varied widely. For example, estimates of age at sexual maturity for captive loggerhead turtles (*Caretta caretta*), range from six to seven years (refer to Klinger and Musick 1992) to over 30 years for tagged-recaptured Australian loggerheads (Limpus 1979).

Results from studies that have been conducted to determine growth rates and age at sexual maturity in sea turtles are varied and may only apply to specific populations. Thus, information

derived from captive specimens in controlled experiments may offer some insight into growth and maturation of turtles, though particular caution must be used when drawing definite analogous conclusions with wild populations (Witzell 1980).

Studies have been complicated due to the presumed longevity of sea turtles and their long distance migrations. Furthermore, the determination of growth rates and age at sexual maturity is perplexed owing to common difficulties in determining actual age amongst sea turtle species. Having a technique that can correctly identify the age of a species is an important element in understanding the demography and life history pattern of a species. Once age estimates are available, they are used with the associated size data to calculate growth curve equations for the sample from which an age of sexual maturity can be calculated.

Previously, age has been estimated from carapace length (Klinger and Musick 1995), however, Bjorndal and Bolten's (1988) study shows that growth rates, and hence carapace length, are highly variable. Therefore, carapace length is not likely to be an accurate indicator of age.

Sexton (1959) estimated ages of painted turtles from counting visible growth lines on carapaces. However, marine turtles, except the hawksbill, do not retain layers on the scutes of the carapace. Counting growth layers on the scutes of hawksbills is likely to underestimate ages as layers are lost through wear (Dr C. Limpus pers. com.).

A number of authors have noted growth layers in cross-sections of humerus bones of loggerhead (Zug *et al.* 1986, Klinger and Musick 1995) and Kemp's ridley turtles (Zug *et al.* In press.), as a potential means of ageing. These layers have been postulated to be the product of annual growth, i.e., one growth layer represents one year (Zug *et al.* 1986). Each growth layer consists of a light wide band, presumably representing a fast growth period during spring and summer, followed by a narrow dark band, presumably representing a slow growth period during fall and winter (Klinger and Musick 1995).

Suzuki (1963) presumed that the growth layers in the long bones of *Trachemys scripta elegans*, were annually deposited however, he adamantly rejected the use of these growth layers for age determination owing to the extensive resorption and remodelling that occurs throughout growth. Skeletochronological samples, prepared by Zug *et al.* (1986) of the humerus of *Caretta caretta*

showed distinct marks of skeletal growth (MSGs), as did the sclerotic ossicles from *Dermochelys coriacea* (Zug and Parham *In Press*). Like Suzuki (1963) Zug et al. (1986) noted the problem that bone resorption-remodelling presents to accurate age determination. However, Zug et al. (1986) believed it possible to estimate the number of MSGs lost by using the average width of extant MSGs to estimate the total numbers of MSGs formed from hatching to death. This method potentially over estimates age, particularly in older turtles (Zug 1990). The earliest MSGs are wider owing to faster growth in young turtles, but the average width derives from later growing phases and its narrower layers. Hence, dividing the bone's radius by the average width yields more MSGs than actually existed. Zug has since derived several other techniques (Zug 1990, Parham and Zug *In Press*) while attempting to more accurately account for the resorption and remodelling of bones.

Growth layers have been found in recording structures in a variety of animals (refer to Klevezal 1980, for review). Recording structures being hard tissues that grow by adding layers. The deposition of annual rings in these structures; bones, teeth, scales, otoliths, shells and keratinous structures has provided scientists with a potentially powerful tool in age-estimation. However, for growth layers to be useful in the determination of age of an animal the rate of deposition must be known. A valuable procedure in establishing the deposition rate of growth rings is the labelling of recording structures. A spectrum of dyes and metal salts have been administered to test their effectiveness as in vivo stains in recording structures for this purpose. The most commonly used markers have been alizarin red, lead acetate and tetracyclines (Frazier 1985a). The discovery that bones of animals treated with tetracycline have a band that fluoresces under Ultraviolet light prompted the use of these fluorochromes with a variety of organisms to mark recording structures and thereby measure depositional rates (Frazier 1985a). Yagi *et al.* (1963) performed one of the earliest experiment of age determination with tetracycline, by marking the teeth of a fur seal. Since then, other studies have been conducted using tetracyclines on a variety of animals, both vertebrates and invertebrates, in order to measure depositional rates. One such study was that of Klinger and Musick's (1992) research with immature Chesapeake Bay loggerhead turtles marked with tetracycline. Recapturing oxytetracycline marked juvenile loggerheads verified that the rings observed in these turtles were annually deposited.

Skeletochronology, therefore, offers a methodology for estimating ages and calculating growth rates of sea turtles without the investment of time necessary for mark-recapture studies (Zug 1990).

Another potential means of determining age in sea turtles maybe using the weight of the eye lens (Zug pers. com.), as this increases throughout the life of an individual. Aging animals by measuring eye lens dry weight has been tried in several pinniped species (refer to McCann 1993, for review). There is a correlation between age and average lens weight in harp seals, but the predictive equation had wide confidence intervals, and hence this method is not recommended (McCann 1993). Zug (pers. comm.) has tried using eye lens weight as an age indicator of age in sea turtles but was unsuccessful due to drying techniques.

From previous work (Zug and Parham *In Press*, Zug *et al. In Press*, Zug 1990, Zug *et al.* 1986, Klinger and Musick 1992) on sea turtles I conclude that skeletochronological techniques present the most accurate age determination methods to date. Therefore the aims of my study 'Age and sexual maturation of green turtles being caught within Fijian waters' are as follows;

- 1) Determine the age of green/hawksbill sea turtles being caught within Fijian waters, using the number of MSGs in the humerus.
- 2) Determine whether the rate of deposition of MSGs are annular. i.e. does one MSG = one year.
- 3) Produce a growth equation of sea turtles being caught in Fijian waters.
- 4) Determine at what size/age sea turtles have reached sexual maturity.

I will accomplish the above by the methods outlined in the following section.



## Materials and Methods

### Turtles

I will measure the carapace length and collect the humeri from sea turtles being caught and killed by fishermen and villagers within the Fijian Islands. The main turtles being caught are Green turtles and Hawksbill turtles, therefore, I will concentrate my study on these two species. When a dead turtle is obtained, I will take measurements of carapace length (both curved carapace length, cCL, and straight carapace length, sCL) and record species and sex. From the turtle I will take the right humerus, and a sample from the reproductive system. The humerus will provide samples for skeletochronological data while the sample from the reproductive system will allow me to determine whether or not the animal was reproductively mature.

The following sections describe the methods that I propose to use in order to obtain the information that I require.

### Humerus

I have chosen to take bone samples exclusively from the humerus for skeletochronology following the reasoning of Zug (1990). The entire right forelimb will be removed, macerated in water, washed, and air dried. Prior to sectioning each humerus will be weighed and measurements made of the maximum length and width.

Using a rotary diamond saw 0.5-0.8 mm cross-sections will be taken immediately distal to the deltopectoral crest. Zug *et al.* (1986) found that this area is the narrowest region of the humerus and contains the greatest number of unmodified periosteal layers. These layers will be examined for MSGs via transmitted light, by placing on a slide and immersing in a ethanol-glycerine (6:4) solution. All slides will be reviewed before any data gathering in order to gain familiarity with them and their general appearance.

#### Counting and data collecting

Bone sections will be measured grossly and microscopically. The length and width of bone sections will be measured with a calliper. The periosteal layers will be measured and counted on a transmitted light microscope. For each section a series of long measurements will be taken, along the long (ab-to adaxial) axis, for the diameters of the resorption core, each periosteal growth

layer, and the exterior. Counts for MSGs will be done along the long axis and will be recounted by an independent counter.

#### **Tetracycline mark and recapture.**

During 1996 I will inject live juvenile green/Hawksbill turtles being released from the Makogai Island turtle head-start programme with a known time label, oxytetracycline. These animals will be measured and tagged on each foreflipper. The turtles will be routinely released after being injected with 30mg/kg of body weight of oxytetracycline administered intramuscularly on the ventral shoulder of either foreflipper. This technique follows that described in Klinger and Musick 1992.

It is hoped that one of these oxytetracycline injected turtles will be recaptured in one years time. Upon recapture, humeral bone biopsies will be taken from the recaptured turtle. Biopsied bone plugs (3 mm in diameter) will be processed as undecalcified section. Tetracycline bands will be observed under ultraviolet light. Undecalcified bone sections will be processed with methyl methacrylate and 50 - 70 mm ground sections were mounted on microscopic slides. Measurements will be taken from the fluorescent layer to the periosteum and from the fluorescent layer to the bone medullary cavity. The methods followed will be those outlined in Klinger and Musick (1992).

It will be 12 months before this information is available for processing assuming that a tagged-marked turtle is recaptured. Thus, this information may not be included within my Master's thesis.

#### **Examine ovaries and testes.**

The ovaries and testes will be examined from each individual skeletochronological sampled in order to determine whether the individual was sexually mature prior to death.

After ovulation the corpus luteum eventually regresses to form a hard fibrous body, the corpus albicans. These scars persist for at least three years in sea turtles (Colin Limpus Pers.Com.). Therefore, it is possible to tell if the female has ovulated although not being able to determine the exact number of years for which she has been reproductively mature.

A histological section taken through the testes will allow me to look for sperm, an indication that the individual has reached sexual maturity. The tissue will be dehydrated, cleaned and embedded in paraffin wax as described in Appendix A. A microtome will be used to slice thin sections which will be mounted and stained in haematoxylin. The sections will be viewed in order to determine either the presence or absence of sperm.

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## **Appendix A [Embedding]**

### **Day (1)**

9.00am Formalin fixed material to 100% ethanol  
4.30pm Formalin fixed material to 100% ethanol

### **Day (2)**

9.00am All material change 100% ethanol  
4.30pm All material change 100% ethanol

### **Day (3)**

9.00am All material change 100% ethanol  
11.00am All material into xylene  
12.00 All material with labels into molten wax  
1.00pm change wax  
2.00pm change wax again (apply vacuum if appropriate)  
3.00pm Embed specimens

- in captivity for weeks  
- Released Nadi

Put  
in  
Fiji File

4/18/96  
Hawkbill

CC  
49.9

<sup>strip</sup>  
R10503  
R10504

RH  
SKIN

4/18/96  
Hawks

58.2

<sup>strip</sup>  
R10505  
R10522

RH  
SKIN

TAG  
4-E (HIMB) LH  
5-E (HIMB) RH

4/18/96

45.0

• R10521  
R10523

RH  
SKIN

RMTCP  
5th

~~Demo Tagging~~



Date: Mon, 23 Sep 1996 15:51:05 +1200  
From: SUE\_D@usp.ac.fj  
To: gbalazs@honlab.nmfs.hawaii.edu  
Subject: Re: Turtles!

Hi George!

Found some info on a Udu Pt hawksbill poisoning incident. Occurred on the 20th of Feb (not sure which year), happened in Yasawa Village where 2 children died. One was 8 months old (mother's breast milk was contaminated) and the other was 3 years old.

Various locals have been asking/telling me that adult turtles eat hatchlings. Most have never seen it happening but have heard of it occurring and I think there was someone who said they saw it!!!!

Have to get back to work, Bye! Deborah

# People back ban on killing of turtles

HAVE you ever seen a turtle being subjected to a slow, agonising death at the hands of a fisherman?

It is a pitiful sight. A helpless creature out of water, a sad look on its face, tears tumbling from its eyes, lying on its back waiting for the knife to slice its throat.

The only defence it can muster is the feeble flapping of its flippers.

If you cannot stand the sight of turtle slaughter, you are not alone.

Apart from the many environmental groups which have called for a ban on turtle killing, most people in Fiji are likely to share the same distaste for the slaughter of the animals.

Earlier this year a trial ban on the killing of turtles was lifted.

But the Tebbutt-Times poll has found that more than four out of every five people (81 per cent) agreed that the ban should be continued indefinitely.

Eighteen per cent believed the ban should have been lifted, while one per cent were not sure.

Of the 18 per cent who supported the lifting of the ban, a number of subgroups of the population were disproportionately represented.

These included Fijians (36 per cent compared to 12 per cent of Indians), older people (32 per cent among those aged 45 and over compared to 19 per cent among those aged 30-44 and 18 per

cent among those aged 18-29) and those in Suva (31 per cent compared to 11 per cent of those in the West).

Despite these differences, there was still over 70 per cent of people in each subgroup who supported the continuation of the ban.


South Pacific Regional Environment Programme deputy director Doctor Don Stewart warned earlier this year that if turtles continued to be hunted for food then they would become extinct.

He said people had continued to destroy the habitats of the turtles and over-harvest them.

Fiji's Environment Director Epeli Nasome has said that the turtle ban may be reinstated because of growing fears that the animals face extinction.

■ *Kalibetaki Page 6*

FIJI TIMES  
APR 2/15/1996 AUG



## TEBBUTT TIMES OPINION POLL

**DATES:** 6-10 April 1996

**SAMPLE:** 509 Fijians and Indians aged 18 years and over

**COVERAGE:** Suva, Lautoka, Nadi.

**METHOD:** Personal interview

**QUESTION:** Do you agree with the lifting of the ban on killing turtles, or do you think that there should still be a ban?

**CONDUCTED BY:** Tebbutt Research on behalf of The Fiji Times

Do you agree with the lifting of the ban on killing turtles?

	TOTAL %	RACE			AGE			SEX		LOCATION	
		FUJIAN %	INDIAN %	18-29 %	30-44 %	45+ %	MALE %	FEMALE %	SUVA %	WEST %	
BAN SHOULD BE LIFTED	18	26	12	14	19	22	19	18	21	11	
BAN SHOULD CONTINUE	81	73	87	86	81	78	80	82	78	88	
NOT SURE	1	1	1	1	0	2	1	0	1	1	

copy of Rick Thorpe email



WWF World Wide Fund  
For Nature

WWF South Pacific Program  
PMB, GPO Suva  
FIJI  
Tel: +679 315533  
Fax: +679 315410  
e-mail: 100245.3405@compuserve.com

George Balazs  
National Marine Fisheries Service

December 4, 1996

George

It is with great pleasure that we can finally send you a copy of the Fiji Sea Turtle Conservation Strategy and thank you all for your contributions. This also seems like a good opportunity to bring you up to date with recent developments.

A cabinet paper has been written by Epeli Nasome, the Director of the Department of Environment, in which the Minister of Environment requests that, firstly, the Government of Fiji formally recognizes the Fiji Sea Turtle Conservation Strategy as prepared by the Fiji Sea Turtle Working Group, thereby elevating its status to an official national strategy for Fiji. Secondly, that the Government of Fiji formally recognize the Fiji Sea Turtle Working Group as an official advisory body to Government on sea turtle management. Cabinet are reviewing this at present and hopefully a positive outcome will not be too long in coming.

A small amount of funding has already been found from the Global Marine Turtle Specialist Group, who have given \$2,400. This money is to be used to develop an environmental education kit for churches, action plan 12Di of the strategy. Once we have formal support from the Government, for the strategy, we will again approach the European Union for funding.

Following recent talks with Sue Miller of SPREP, the Director of Fisheries confirms that, the Minister of Fisheries is considering extending the current nesting season ban for a further three years as a moratorium, starting March 1997.

If you require further copies of the strategy or any additional information please do not hesitate to contact us.

Having said all the official bits and pieces, I would also like to introduce myself. I am working with WWF in Fiji for one year, as part of my degree, in England. Whether it is luck or not I seem to have landed the title of volunteer coordinator for the turtle strategy. I will fill this position until we have formal recognition of the strategy, it is funded and a formal coordinator is recruited. At present I am pulling together background information for action 12Di as mentioned above as well as preparing background information for school kits and the funding proposal. So, if you have enough energy and enthusiasm during this season of parties, to come up with any ideas, comments or just want to talk turtle, I would be most interested.

Yours sincerely,

  
Paul Carrington.  
Volunteer Coordinator

Date: Tue, 1 Apr 1997 01:03:49 -0500  
From: WWF Pacific <wwf\_pacific@compuserve.com>  
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
Subject: Message for Rick Thorpe

FIJI

Sue who will  
FILE on  
what?

George

Sorry not to have written earlier in person. I have been busy on other projects and have left a lot for Paul to respond to.

A quick summary of the Fiji situation:

- . Fiji Government has publicly announced a 3 year moratorium as of March 1997,
  - . Fiji Fisheries Division and Ministry have endorsed the Strategy (have the letter in my hand),
  - . the strategy goes to Cabinet next week for full support (should not be a problem),
  - . We have been able to technically support Fijis local theatre group to become involved in the strategy (financial support from SPREP),
  - . The small grant from Turtle Specialist Group is happening.
- Unfortunately the gentleman from the Church we were working through died. The project lay for awhile but has been picked up again. SPACHEE, Paul and the Methodist Church are working on it. We will send news through to the Specialist Group soon,
- . We were successful in obtaining US\$20,000 from Taiwan Ministry of Agriculture. Thankyou hugely for all your efforts. We collected the cheque last week and have prepared a newspaper story linking the moratorium, strategy and the gifting together,
  - . Sue has some money for conducting work on Tourist and Turtles. Paul has pulled parts from the strategy and I think we will get US\$35,000 or more for that work,
  - . The Fiji Sea Turtle Working Group meet again next week to remind everyone of our goals over the next three years.

So all in all some progress. It has taken 18 months but well worth while. The major issues with Fisheries was that they were (and still are) being audited by the Police as there has been a lot of money go missing and a lot of money given by the business community for favours. The Minsiter has been the first to Court but others will follow.

The important thing is to now visit the coastal communities to share the information we have collected over the last couple of years and to prepare ourselves for 'sustainable management' of turtle at the end of the moratorium.

Liz and I are off to manage a partnership program for WWF in the Cook Islands. While we are there we will work with Jacqui Evans and her turtle project in the Northern Islands (SPREP funded). Liz and I are keen to keep in touch. If there is anything we can do to help while we are that neck of the Pacific please ask.

Lots of love for now George. Thankyou for all your support. So much technical, financial and moral support. Kia kaha, loloma Rick