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**SPREP**



**PROE**

*South Pacific Regional  
Environment Programme*

*Programme régional  
océanien de l'environnement*



## 1995 year of the sea turtle

### **BACKGROUND STRATEGY PAPER PREPARED FOR FIJI TURTLE WORKING GROUP MEETING, SUVA FIJI, 31 OCTOBER 1995**

#### **Introduction**

This document has been prepared to assist discussions by Fiji's Turtle Working Group in their development of a three year turtle conservation and management strategy for turtles in Fijian waters. It draws from the actions recommended in SPREP's 1994-96 Regional Marine Turtle Conservation Strategy (C. Limpus 1994), SPREP's Regional Marine Turtle Conservation Programme Database, "Sea Turtles of Fiji" (M. Guinea 1993) and from the recently released IUCN "A Global Strategy for the Conservation of Marine Turtles".

It is recognised that past harvests of turtles in Fiji in the last 100 years or so have been unsustainable and far exceed recruitment of turtles by Fijian nesting turtle populations. Turtles found in Fiji include both those bred in Fijian coastal areas, and significantly those that migrate to Fijian waters to feed or en route to other areas.

SPREP strongly supports the Fiji Turtle Working Group (FTWG) and the government, community and ngo agencies involved in the development of a three year turtle conservation management strategy. SPREP will provide advisory support to this process and will undertake to assist in securing resources to ensure the strategy is implemented.

#### **FIJI 1996-98 TURTLE CONSERVATION MANAGEMENT STRATEGY**

##### **Suggested 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 use of marine turtles in Fijian waters is sustainable and does not compromise the conservation, cultural, economic and nutritional values for the peoples of the South Pacific region.

financial

## Guiding Principles

Any use of marine turtles must be based on:

- ecologically sustainable utilisation,
- maintenance of biodiversity by focusing on natural resource and habitat conservation management,
- where there is a conflict of interests, cultural utilisation takes precedence over commercial utilisation and conservation of species takes precedence over cultural utilisation.

Fundamental to this approach is the recognition that turtles are a shared migratory resource and that active community participation will be needed to ensure their survival in the region.

## KEY ACTIONS (based on SPREP, 1994 and IUCN, 1995)

### Community Participation in Fiji's Turtle Conservation and Management

Local communities and their interaction with turtle resources and the wider marine environment provide key opportunities for building effective partnerships to ensure the conservation and sustainable use of Fiji's turtle populations. IUCN's strategy clearly articulates a number of useful approaches.

Key actions could include:

- Promote and facilitate the participation of coastal communities in turtle conservation research and monitoring.
- Improve the information base of coastal communities through education and training programs, the effective dissemination of culturally appropriate information and resource materials, establishment of networks amongst communities and the FTWG. In particular Fisheries Extension Officers could play a key role in working with communities to achieve effective turtle resource management.
- Identify and promote economic alternatives to turtle exploitation and economic incentives to conserve marine turtles e.g handicrafts, ecotourism.
- Establish a small grants programme for activities at the community level.

### Management Actions

The key initial management measure will be the successful extension of the current moratorium on take of sea turtles and promotion of this law and the reasons for it. Further restrictions on any traditional or cultural take should be made to allow only green turtles to be taken (and those only less than 80cm carapace length).

To achieve ecologically sustainable utilisation of marine turtles the following priority actions can be taken:

- Reduce negative impacts from human activities on marine turtle feeding areas and nesting beaches. For marine turtles, this particularly applies to maintenance of healthy coral reefs and seagrass pastures and their associated mangrove communities.

By Product

- Ban effectively the commercial harvest of turtles and products made from turtles for both domestic and international trade. This can be achieved through extension of the moratorium and its successful implementation.

X

- Reduce other forms of harvest e.g. traditional, cultural, ceremonial and subsistence harvest. If egg harvests are allowed ensure that a minimum of 70% of turtle egg clutches successfully produce hatchlings to the sea from nesting sites. Where there is an excessive harvest of turtle eggs, establish a community-based beach management project to increase hatchling production. Without increasing the numbers of turtles being harvested, reduce the numbers of adult and near adult turtles being killed. Where possible it is recommended that large turtles be protected, for example:

a. protect green turtles with a carapace length greater than 80cm.

b. protect hawksbill turtles with a carapace length greater than 60cm.

K

When turtles need to be harvested at courtship time, harvest the male rather than the female. Where nesting turtles are being harvested, limit the harvest to 1% of the nesting population. If possible, take turtles late in the nesting season rather than at the beginning, thus permitting her to lay the eggs she has prepared for the season.

- Support "turtle watching" tourist industry in Fiji at appropriate sites based on guidelines (currently being compiled by SPREP). Use these partnerships e.g. at tourist operations, to assist in low cost monitoring programs. Further support tourism by encouraging the development of turtle souvenirs not made from turtle e.g. t shirts, carvings.

- In collaboration with community leaders, develop mechanisms for maintaining the essential elements of cultural activities involving marine turtles while at the same time reducing the number of turtles required to be killed.

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- Address fisheries interactions including impact of bait and pole fishing and bycatch (trawls, gillnets, longlines).

- Promote and implement community-based conservation areas or their equivalent to conserve key nesting and feeding areas and protect these sites from incompatible development. See Attachment 1 for priority sites from Guinea (1993)

### Public Awareness, Information and Education Actions

The key target is to provide support in environmental education for the communities that depend on and or are the users of marine turtles and their habitats. All activities need to be carefully planned in order to reach targeted audiences.

- Facilitate the rapid transfer to the public of information and concepts being generated from the Fiji' turtle conservation and management programme (includes SPREP's RMTCP information) using radio, TV and print media.
- Produce teacher resource material and support education initiatives on turtles in Fiji, focusing on the conservation management issues and the laws/regulations regarding turtle use in Fiji. Include emphasis on the migratory nature of turtles, long life cycles and Fijian legends, customs and stories on turtles.

### Research and Monitoring

Developing partnerships with overseas researchers and agencies will significantly aid turtle management in Fiji. Equally priority must also be given to developing local expertise.

Crucially is the undertaking of monitoring and research of marine turtle populations in Fiji that is necessary for planning for ecologically sustainable utilisation and for determining the effectiveness of management activities. Encourage turtle research in Fiji and ensure that research results are appropriately used in management practices.

- end*  
*FORAGING*  
*AREAS*
- **NESTING SITES** - Confirm the nesting sites of turtles in Fiji and distribution of major feeding areas. Monitor the size of annual female nesting populations and from this estimate turtle population size. Monitoring of the nesting population needs to be conducted on a regular basis for stocks known to be actively harvested in any part of their range.
  - **HARVEST** - Determine the size and form of the annual harvest within the turtle stock(s). For marine turtles, harvest statistics are usually measured by species and size of turtles at each site. Ideally the harvest statistics should also include data on sex ratio. Quantify the size of egg harvests by rookery and species. The proportion of the egg production that produces hatchlings to the sea should also be recorded.
  - Quantify the size and sources of accidental mortality of marine turtles in fishing gear and other human related activities.
  - Sum the harvest and accidental mortality statistics in Fiji and determine the current status and threats to individual breeding stocks.
  - ↑ \* • Participate in genetic studies leading to stock identification of turtle populations.
  - Participate in the regional turtle tagging programme and other regional research initiatives where possible.

### Capacity Building

It is recognised that limited capacity to effectively work on turtle conservation and management currently exists in Fiji and that this issue needs to be addressed as part of developing local capacity and processes to successfully implement any turtle conservation management strategy.

- Support the development of the FTWG to include all relevant government, ngo and community agencies to ensure a coordinated, participatory approach.
- Support the development of local expertise including support for a tertiary training programme at USP with needed input of expertise from the region e.g. Queensland Department of Environment (Col Limpus) and Heritage, Hawaii NMFS (George Balazs).

### **SPREP's Regional Marine Turtle Conservation Programme**

The Fiji Turtle Conservation Management Strategy recognises that turtles are a shared, migratory resource for the peoples of the South Pacific region.

- Participate in SPREP's RMTCP and provide updates on turtle information in Fiji to be incorporated into the regional database.
- Participate, as appropriate and as resources will allow, in regional and international programmes aimed at conserving marine turtle resources.

### **Funding and Resources**

Resources are recognised as human, physical and financial and are all needed to ensure effective management. The Fiji Turtle 1996-98 Turtle Conservation Management Strategy should be produced and promoted as a product of the FTWG to assist securing of resources.

- Develop local, including government, ngo and private sector, resources for Fiji's turtle conservation management strategy.
- Develop capacity to secure bilateral sources of funding for Fiji's turtle conservation management strategy.
- Work with SPREP's RMTCP to secure multilateral and bilateral sources of funds and other resources for turtle conservation management in Fiji.

### **Review and Evaluation**

It is important for the FTWG to regularly review progress (success and failures) in the implementation of Fiji's turtle conservation management strategy in order to carry out more effective work during 1996-98 and to plan for 1999 and beyond.

*continuous needs  
and short courses*

### **Summary**

The creation of the Fiji Turtle Working Group and the consequent commitment to a three year turtle conservation management plan represents a significant step forward to ensure conservation and (unsustainable) use of Fiji's turtle resources. Work needs to be

*In Summary  
TO Summary*

carried out in a multi disciplinary fashion involving government, ngos, the private sector and particularly local communities. SPREP has prepared this document to assist discussions leading to the development of a Fiji Turtle Conservation Management Strategy and suggests that action needs to be focused in eight key areas:

- \* community participation
- \* management
- \* public awareness, information and education
- \* research and monitoring
- \* capacity building
- \* participation in SPREP's RMTCP
- \* funding and resources
- \* review and evaluation

These suggested key actions need completion and prioritisation by the FTWG and incorporated into a three year timeline for implementation with identified key agencies responsible.

SPREP remains committed to assisting the Government of Fiji and its working partner *S* in implementing effective conservation management of turtle resources in Fiji.

## References

1. Geermans, S (unpublished). Summaries of turtle resources, use, legislation and bibliography. Contract to SPREP.
2. Guinea, M. L. (1993). The Sea Turtles of Fiji. SPREP Reports and Studies Series no. 65. Copies available from SPREP.
3. IUCN (1995). A Global Strategy for the Conservation of Marine Turtles. Prepared by the IUCN/SSC Marine Turtle Specialist Group.
4. SPREP (1994). Report of the Third Regional Marine Turtle Conservation Programme Meeting. Apia, Western Samoa. Copies available from SPREP.
5. SPREP (1995). Report of the Fourth Regional Marine Turtle Conservation Programme Meeting. Apia, Western Samoa. Copies available from SPREP.

## Attachments

Copies of Reference 2 have been given to WWF South Pacific for distribution to meeting participants.

Attachment 1 Map of Fiji.

Attachement 2 Fiji Country Summary from SPREP database updated to August 1994.

Date: Mon, 25 Sep 1995 23:18:11 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: Sue Miller <sprep@pactok.peg.apc.org>  
Subject: MESSAGE FOR SUE MILLER FROM GEORGE BALAZS

Dear Sue- I have just this evening returned from 4 days camping out at remote FFS. I just read your fax. I am exhausted and sunburned, but must write this fast note to you. Today is the 25th of September. The trip to Rose is the 20th of October. It has been planned for that date for quite some time. We have been planning on my assisting sprep for many months. The likely need for travel to the deployment site has been mentioned by me to you throughout that time. The donation of a satellite transmitter and expertise from my program to sprep is a contribution on my part, that I had offered on my own volition.

I am very suprised that your fax is now requesting me to submit a "full proposal" for the travel to Am. Samoa. And this comes less than a month before the trip. I feel this is very unfair to me. I am sure you know that the duties and pressures I have on me in my "regular" job are at least equal to yours. There is no "extra" time. The travel to Samoa, if sprep still wants me to do this on its behalf, is a minor part of the total costs (satellite time, transmitter cost, data services from Argos, my salary, and the cost of chartering the vessel to get to Rose (covered by Am. Samoa gov.)). I have no time, nor mind, for preparing you a "full blown" proposal. Since this is suppose to be a sprep project, if a proposal is needed (for someone out side of sprep) then I would reasonably that sprep (you, I suppose) should prepare it from the educational/conservation/contest aspect. That was the idea from sprep.

Sorry, I hope this isn't coming across to you too harsh. It isn't meant to be that way. But this is very frustrating. Let me give an example. When I serve as technical advisor to sprep, and provide much time and input to sprep for sprep, and you pay my way to a steering committee meeting, do you ask me to prepare a full blown proposal, or any proposal at all, to justify attending the meeting? Of course not. And the travel to Samoa, to do something FOR sprep, is an identical case.

Please let me know how you want me to proceed. Sincerely, George

PS- Thank you for answering in your fax all of the other items and issues that have accrued since I last heard from you.

---

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: Thu, 7 Sep 1995 10:52:20 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: Sue Miller <sprep@pactok.peg.apc.org>  
Subject: Re: Colin Limpus e-mail address (fwd)

IMPORTANT MESSAGE FOR SUE MILLER AT SPREP REGARDING TURTLE WORK IN FIJI

Dear Sue- Today I received an email from a Sebastian Troeng in Fiji. His message, and my response, are attached below. Best regards, George

---

George H. Balazs	Phone: (808) 943-1240
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----- Forwarded message -----  
Date: Thu, 7 Sep 1995 10:50:30 -1000 (HST)  
From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>  
To: ahi <ahi@pactok.peg.apc.org>  
Cc: t.tucker@mailbox.uq.oz.au  
Subject: Re: Colin Limpus e-mail address

Dear Sebastian- Thank you for contacting me by email. As you may know, Col Limpus and I are the technical advisors for the SPREP Regional Marine Turtle Conservation Programme (RMTCP).. And of course we are now in the middle of the "1995 Year of the Sea Turtle" campaign. I believe that Sue Miller recently visited Fiji to promote conservation awareness, and to lay groundwork for more sea turtle studies there later this year, or early in 1996. In fact, it is my understanding that our next Steering Group Meeting of RMTCP will meet in Fiji next time, rather than in Apia. I hope you had the opportunity to meet Sue, or will be able to in the near future.

I am sorry that I can't supply you with Col Limpus' email address, because he does not have one at this time. His fax number, however, is 617-227-6386.

I believe that you wrote to me a few months ago requesting some information on sea turtles. I recall mailing you, or your organization, the materials asked for. I hope that they were received and have been of use to you. If there is any further way I can assist at this time, please feel free to ask. I am, of course, very interested in any studies you are planning. South Pacific turtles clearly overlap greatly the international boundaries. For example, three of the nesting green turtles that I have marked with satellite tags at Rose Atoll American Samoa migrated to the Fiji Islands.

Best regards, George Balazs

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On 7 Sep 1995, ahi wrote:

>  
> Dear Sir,  
> I am currently working as a marine biologist in Fiji for Action Humanitaire  
> Internationale, a French NGO aid organisation involved with the year of the sea  
> turtle. At the moment I am assisting the Fiji Fisheries Department in writing  
> research proposal for a sea turtle study. I am also preparing a module on sea  
> turtles for a textbook in biology produced by the Ministry of Education. In  
> conjunction with my work for the Fisheries Department I need to contact Dr  
> Colin Limpus of the Queensland Department of Environment and Heritage,  
> Australia. Unfortunately, I have not got Dr Limpus e-mail address and would  
> greatly appreciate if you could send it to me have you got it. I am looking  
> forward to your reply with anticipation.  
> Yours sincerely  
> Sebastian Troeng, BSc, MSc  
> e-mail: ahi@pactok.peg.apc.org  
> fax/tel: Int+370667  
>

AGRI. DEPARTMENT.

PMB 040

PORT VILA

VANUATU

5 August, 1995

GEORGE H. BALAZS

NATIONAL MARINE FISHERIES SERVICE

HONOLULU LABORATORY

HONOLULU, HAWAII 96822-2396

Dear Mr BALAZS,

Thank you very much for your recent letter, the literature and the stickers. I would like to remind you that I haven't received the T-shirt you promised me yet. Therefore I would like if you still have some, please send me one (extra large) before the end of 1995 which is declared by SPREP. "Year of the Sea Turtle in the Pacific".

By copy of this letter, I would like to request a copy of a video tape about problems of conserving sea turtles in the Pacific from SPREP. This tape will be used to educate the rural communities and especially the younger generations to look after the sea turtles and their environment as a whole.

For your information, sea turtle conservation was included in our last national environment week in Port Vila, Vanuatu. Activities carried out included, posters and model displays, poems by students and radio quizzes. I am sure some of our

conservation, but I still feel the vast majority of our people are not aware of your concept and need to be educated somehow to better manage the killing of sea turtles in Vannatu waters.

Thank you in advance.

Regards,

Richard.

Richard NAMELSON.

cc - S. Miller, SPREP

- File.

Date: Fri, 23 Jun 1995 01:06:20 -1000 (HST)  
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>  
To: Sue Miller <sprep@pactok.peg.apc.org>  
Subject: MESSAGE FOR SUE MILLER AT SPREP IN WESTERN SAMOA

NMFS, HONOLULU LAB  
Marine Turtle Research  
2570 Dole Street  
Honolulu, HI 96822-2396

URGENT MESSAGE FOR SUE MILLER AT SPREP FROM GEORGE BALAZS

Dear Sue: Thanks for your fax of 20 June sent to Col and I. The idea of a database officer visiting our lab to facilitate compatibility is indeed a good one. I look forward to hearing more about this plan. Also on the GIS component. We are currently looking at integrating our database with a large GIS up-and-running system funded by the State of Hawaii. I'm very interested in the potential.

Regarding tag supply and reordering, I'm suprised (pleasantly!) that we've used that many tags that a new order needs to be placed. I likely need not tell you that there are negative aspects to the tags we use. They are costly, too large for some turtles, misapply not infrequently, and sharp on the edges. They were purchased "way back when" without much input being possible on my part. The alternative is the tag I use here in Hawaii. They are US 60 cents each (applicators are US \$15). Col thinks they are too small for some turtles, and he's right. But not for near as many as he thinks. Another down side is that you can't print much of an address on them. And this is exactly one of the reasons I have retained the same address on mine, in spite of the fact that I haven't worked for the University of Hawaii for 15 years (tags say "write HIMB, University, Hawaii 96744". The address is foolproof. If it's written on the envelope, it get here. The comedy comes when the letters are addressed "Mr. Write"! By the way, both tags are equally resistant to sea water corrosion (a critically important factor). The difference is that titanium is very brittle, while the Inconel (an alloy of cadmium and nickel) isn't.

What is my bottom-line recommendation, you ask? Continue to purchase the same as in the past. However, stress in the order that the applicators must be each checked to be CERTAIN they are sealing the tags properly. And please let me know in advance what tag numbers you intend to use so I can crosscheck with my database to make certain we are not duplicating. How many tags will you purchase, and what return address will you inscribe? Remember, in emergencies (such as have regularly come up over the years in RMTCP) my small tags are always available for use in limited quantities without obligation or \$\$ reimbursment to me. My free-will contribution to SPREP.

Thanks for the update on communications with Taiwan. Now it is either "put up or shush up" for them with regard to \$\$\$ for SPREP from their Rotary Club. I emailed Dr. Cheng this morning and stressed the urgency of quickly getting a commitment on money, and specifying exactly how much it would be. He has the same sentiments and I'm awaiting his answer now.

It's been 48 hours now and no response yet from Aisake. My fingers are crossed. I'll send a follow-up message if nothing received by next Monday. Until we know something for certain, I don't want to spend the time and effort writing a proposal for you. But... you will indeed get one quickly when we have positive signals.

Yes, the work in Fiji pastures that I've mentioned to you for months now does have a genetic component. That ties to the nesting greens at Rose in Am. Samoa going to Fiji (AND to Fr. Polynesia!); the superb turtle fisherman contact I've made at Vanua Levu; an ongoing project by

USP in the Argo reefs (where one of our satellite tagged turtles settled in); and, last but not least, my contact/communications about turtles at Rotuma (one of which Philippe Siu and I tagged nesting at Scilly that ended up being harpooned at Rotuma.

Col knows about all of these interests, so of course I suppose it's just a matter of time before he lets me in on his plans, which I know nothing about at this point. But eager to learn. You must know it's frustrating for me at times because he's such a good friend, but uneven correspondent. Coordination and cooperative work is the ideal, however. I'm satisfied to let my role be principally deploying the transmitter. We do, however, have a major dna turtle genetics effort now at our Fisheries Science Center, so the collection (and sharing) of samples in any cooperative effort in Fiji would be most welcomed.

The two adult male greens that I put transmitters on 2 weeks ago at French Frigate Shoals are now on-the-move across the open ocean. Headed in my direction. This is always the exciting part! Aloha, George

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## TRANSMITTAL SHEET



U.S. DEPARTMENT OF COMMERCE  
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Telefax: (808) 943-1290



**URGENT**

TELEFAX FOR: SUE MILLER- SPREP

DATE: 26 MAY 95 YOST

FROM: GEORGE BALAZS

(808) 943-1240  
TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE: DEAR SUE: IT WAS INDEED A PLEASURE TO HEAR BACK FROM YOU, AND TO HAVE YOUR MESSAGE COME SO PROMPTLY. I KNOW YOU'RE BURNING THE MIDNIGHT-OIL ON THIS CAMPAIGN, AND WITH GREAT OUTCOME! I ALSO SUSPECT THAT IN SPITE OF ALL THE HARD WORK YOU ARE ENJOYING WHAT YOU'RE DOING. AND THAT IS HOW IT SHOULD BE.

I KNOW YOU'RE ON THE RUN IN VANUATU, SO WILL KEEP MY RESPONSES AS SHORT AS POSSIBLE.

RMTCP MEETING- I AGREE, THERE MAY NOT BE MUCH TO GAIN FROM HAVING IT IN AUG RATHER THAN MARCH 96. FIJI LOCATION WOULD BE IDEAL. OF COURSE IF HELD IN AUG THE FIJI FORAGING PASTURE STUDY COULD BE CONDUCTED BACK-TO-BACK, AND IT WOULD BE DURING YOST. FIJI OFFICIALS MIGHT BE MORE HONORED. BUT ON ALL OF THIS I "BOW" TO YOUR BETTER UNDERSTANDING OF OVERALL SITUATION.

KIRIBATI/CRAIG -I'VE JUST AIR POSTED YOU A COPY HIS LETTER. HE WROTE IT IN LIGHT BLUE INK. I SIMPLY CAN'T MAKE IT DARK ENOUGH BY PHOTOCOPYING IN ORDER TO FAX TO YOU. I SUMMARIZED MOST OF IT ANYWAY IN MY LAST FAX. I'M VERY OPEN TO YOUR IDEA PUTTING A TRANSMITTER ON A TURTLE IN THE SOLOMONS. THERE ARE SOME PROBLEMS, HOWEVER. JULY COULD BE DIFFICULT FOR ME DUE TO OTHER OBLIGATIONS (DEPENDING UPON TIME IN JULY AND HOW LONG TRAVEL/DEPLOYMENT TAKES). I WORRY ABOUT PUTTING THE UNIT ON A HAWKSBILL. DIVE PATTERNS ARE DIFFERENT THAN GREENS, RESULTING OFTEN IN FAR FEWER SATELLITE HITS. I WORRY ABOUT THE ULTIMATE SUCCESS OF THE TRACKING. ARE THERE ANY GREENS NESTING AT ARNAVON OR NEARBY. I BELIEVE SO. FOR SOLOMONS I ALSO WORRY ABOUT HUNTING PRESSURE. OUR TURTLE WITH TRANSMITTER BEING KILLED SHORTLY AFTER DEPLOYMENT (HENCE PREMATURE END OF STUDY!) LET'S TALK MORE ABOUT THESE ISSUES AND TRY TO RESOLVE. ALSO, CAN SPREP BUY ANOTHER TRANSMITTER (\$3500) SO WE CAN PUT 2 OUT? *THAT WOULD BE HIGHLY DESIRABLE, BUT NOT ESSENTIAL.* I'M LOOKING FORWARD TO RECEIVING PUBLISHED MEETING REPORT. ANOTHER ACCOMPLISHMENT DURING YOST FOR SPREP!

THE HONU PROJECT WILL PROMOTE AND ADVERTISE RESOLUTION MY HAWAII STATE LEGISLATURE. BASICALLY IT IS JUST A STATEMENT OF OFFICIAL ENDORSEMENT. LETTER FROM SPREP TO LEGISLATURE, THANKING THEM FOR SUPPORT, MAY BE APPROPRIATE. SEND COPIES TO LOCAL NEWSPAPERS FOR PUBLICATION. I'LL CONFER WITH MY HONU PROJECT FRIENDS TO DETERMINE WHAT IS BEST ROUTE. YOU WILL HEAR FROM THEM OR ME AGAIN ABOUT THIS. *soon.*

KEEP UP YOUR GOOD WORK! TALOFA,

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



Dear George

17 Oct 94

Sorry for the delay in replying, but I had misplaced your letter. The comments you mailed me on the draft training manual for SPREP arrived on my last day at work. I mailed them DIRECTLY to Andrew. Colin should have known that, + so should Andrew, unless he never received them. If not, there may be a copy on file at Colin's office - get him to check if he hasn't already done so.

Hope you are well + keeping busy. I have been working in Port Douglas (north of Cairns) for the past 5/6 months, and am leaving in 2 weeks time. My boyfriend Rob has landed a job in Mackay for National Parks (an upgrade) so we will head down there for a while. I will then travel across to Alice Springs to meet some friends by Xmas. I'm looking forward to a change of scenery! North Qld is beginning to "wear itself out" in my mind!

Hope you have already found the notes for SPREP. All the best, Susie ☺



**URGENT**

TRANSMITTAL SHEET



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National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
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Telefax: (808) 943-1290

TELEFAX FOR: SUE MILLER DATE: 1 NOV. 94  
FROM: GEORGE BALAZS TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) 2

MESSAGE: DEAR SUE: IT WAS INDEED GREAT TO HEAR FROM YOU. ALTHOUGH YOU'VE BEEN ILL, THE LIST OF YOUR ACCOMPLISHMENTS CERTAINLY DOESN'T REFLECT A SLOW-DOWN. MY GOSH YOU'VE BEEN GETTING A LOT DONE ON BEHALF OF SEA TURTLES AND THE YEAR OF THE SEA TURTLE! MY CONGRATULATIONS AND PERSONAL THANKS TO YOU.

TODAY IS MY FIRST DAY BACK IN THE OFFICE AFTER BEING IN AM.SAMOA FOR A WEEK. WE SPENT 5 DAYS ON ROSE ISLAND. NO TURTLES CAME ASHORE TO NEST UNTIL THE VERY LAST NIGHT. I WAS WORRIED SICK THE TRIP WOULD BE A FAILURE. NEVERTHELESS, THE TURTLE "GODS" WERE GOOD TO US, AND SENT TWO. BOTH WERE FITTED WITH SATELLITE TRANSMITTERS SO THE STUDY SHOULD NOW PROCEED IN A SUCCESSFUL MANNER, AS IT DID LAST YEAR. I AM SURE THAT PETER CRAIG WILL BE IN CONTACT WITH YOU ABOUT THE CONTEST HE PLANS TO DO AGAIN (WITH YEAR OF THE TURTLE EMPHASIS TO IT).

I FULLY AGREE ABOUT THE GREAT IMPORTANCE OF GETTING THE TURTLE CONSULTANT POSITION FUNDED. HAD NOT COL INDICATED TO YOU HE WOULD BE GETTING BACK TO YOU SHORTLY ABOUT THAT MONEY? IF NOTHING ELSE CAN WORK, THEN PERHAPS HAVING THE POSITION IN APIA (PART OF A POSITION) WILL BE THE ONLY OPTION. CERTAINLY THAT WOULD BE FAR BETTER THAN NOTHING AT ALL.

I'M VERY PLEASED TO HEAR THAT YOU WILL BE THE SPREP PERSON ATTENDING CITES. THERE INDEED MAY BE SPECIAL THINGS THAT YOU CAN DO THERE ON BEHALF OF SEA TURTLES. KAREN BJORNAL, THE MARINE TURTLE SPECIALIST GROUP CHAIR, AND OUR EXECUTIVE OFFICER MARYDELE DONNELLY, WILL BE THERE ALSO. YOU MUST MEET THEM. I WILL LAY THE GROUND WORK FOR THAT IN MESSAGES TO THEM OVER INTERNET. BY THE WAY, IS INTERNET AN APPROPRIATE AND EFFECTIVE WAY FOR ME TO COMMUNICATE WITH YOU? OR IS IT A NUISANCE AND/OR POSSIBLE PROBLEM FOR LOST MESSAGES GETTING TO YOU WITHIN SPREP?

THE LAST ISSUE I WANT TO BRING UP HAS TO DO WITH THE TAGGING AND FIELD MANUAL THAT SUZIE PRODUCED AS A DRAFT. YOU MAY RECALL AT THE AUGUST MEETING THAT I MENTIONED HAVING SENT SUZIE EXTENSIVE COMMENTS FOR REVISION JUST PRIOR TO HER DEPARTURE. THAT WAS LAST OCTOBER. THERE WAS SOME QUESTION IF MY COMMENTS HAD REACHED HER, OR HAD GOTTEN LOST IN THE MAIL. COL THOUGHT THE LATTER, SINCE HE COULDN'T REMEMBER SEEING THEM. IN ANY EVENT, I'M STILL IN TOUCH WITH SUZIE, SO WROTE TO ASK HER, AS YOU WILL READ IN THE ATTACHED LETTER FROM HER, SHE DID RECEIVE THEM, AND INDICATES THEY WERE MAILED TO ANDREW. PLEASE CHECK WITH HIM TO SEE IF THE MANUSCRIPT, MARKED WITH MY COMMENTS, CAN BE LOCATED AT SPREP. A LOT OF WORK WENT INTO THIS ON MY PART.

I'M LOOKING FORWARD TO RECEIVING THE FINALIZED VIDEO. RIGHT NOW I'M WORKING WITH A LOCAL CONSERVATION GROUP ("THE HONU PROJECT") TO GET BUTTONS AND BUMPER STICKERS MADE WITH YEAR OF THE SEA TURTLE EMPHASIS. I'LL DO MORE ALONG THESE LINES JUST AS SOON AS WE HAVE THE MOTTIF LOGO FROM THE CONTEST.

JUST NOW HEARD FROM MY COLLEAGUE FRIEND IN TAIWAN. HE HAS BEEN CONTACTED BY A COMPANY THERE THAT WANTS TO PRODUCE A SILVER COMMEMORATIVE COIN FOR YEAR OF THE SEA TURTLE. POSTAGE STAMPS FOR THE YEAR ARE ALSO A DISTINCT POSSIBILITY FOR TAIWAN.

ALOHA,



FOR  
SUE MILLER

17 Oct 94

Dear George

Sorry for the delay in replying, but I had misplaced your letter. The <sup>Comments</sup> comments you

mailed me on the draft training manual for SPREP arrived on my last day at work

I mailed them DIRECTLY to Andrew. Colin should have known that, & so should Andrew, unless he never received them.

If not, there may be a copy on file at Colin's office - get him to check if he hasn't already done so.

Hope you are well & keeping busy. I have been working in Port Douglas (North of Cairns) for the past 5/6 months, and am leaving in 2 weeks time.

My boyfriend Rob has landed a job in Mackay for National Parks (an upgrade) so we will head down there for a while. I will then travel across to Alice Springs to meet some friends by Xmas.

I'm looking forward to a change of scenery! North Qld is beginning to "wear itself out" in my mind!

Hope you have already found the notes for SPREP. All the best, Sueie ☺

COL  
SAYS  
NO →

FAKED 9-11-94 7:12  
396 SK

TRANSMITTAL SHEET



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COPY TO SUE MILLER

TELEFAX FOR: COLIN Limpus  
CC SUE MILLER  
FROM: GEORGE BALAZS

DATE: 6 SEPT. 94

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

NUMBER OF SHEETS TRANSMITTED (including this page) 3

MESSAGE: Dear Col:

Many thanks for your fax of 19 August that arrived while I was in Taiwan. I returned just a few days ago, and am heading out now for U.S. Pacific Sea Turtle Recovery Team meeting in San Diego.

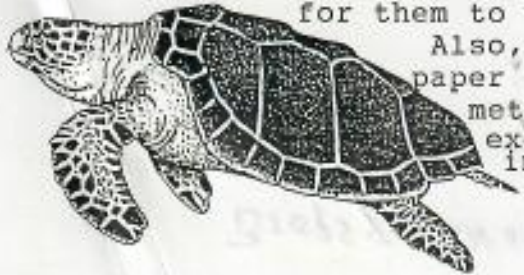
A photocopy of the wrapper of the 6mm biopsy punch accompanies this fax. You shouldn't have any problem locating a source of supply. You referred to this in your fax as "skin sampling". Such is not the intention, nor did I ever discuss it in terms of skin. The purpose is to sample muscle- a small plug of muscle as is commonly requested for your program and other dna work. If you have been "...unable to locate the biopsy punch ..." that I described, I don't understand how Craig's lab can be in the process of testing the procedure. Unless, I suppose, you mean testing whether skin itself is sufficient for dna. Certainly that would be a worthwhile inquiry. If it works, it's even less invasive than biopsying a 6mm plug of muscle. I'm anxious to hear the results.

By sending a couple of biopsy punches to Tony in Apia I was responding to his direct and urgent request that I do so. He indicated that at the present time they only had access to living juvenile greens for tagging and release. They had no intention of killing them for dna or any other purpose. Consequently, IF they were going to obtain tissue for your dna study, they needed an alternate technique. They had already tried cutting out a small piece of pectoral muscle with a knife, but felt it was too crude. The biopsy punch sounded like a viable alternative, so he asked that I send them. Naturally I responded in a positive manner.

In my earlier fax I had asked you for a copy of the written protocol that you distribute along with your media vials for dna collection. I haven't received that from you, but Peter Craig sent me a copy of what you had given to him in Apia (appended). Is this what you have given to others, or is there something else for them to work from?

Also, I haven't received the paper you mentioned about methods "to avoid the excessive abuses..." in your fax. Please send. promised

BEST regards, *[Signature]*



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July 94



**Queensland  
Department of  
Environment and Heritage**

**Dr. Col Limpus PSM**

Manager  
Research and Monitoring (Maritime)  
Conservation Strategy Branch

8th Floor  
160 Ann Street  
BRISBANE QLD 4000  
Telephone (07) 227 7718

PO Box 155  
BRISBANE ALBERT  
STREET QLD 4002  
Fax (07) 227 6386

GENETICS TISSUE COLLECTION

1. Obtain small piece of muscle or liver  
about this big
2. Finely chop the sample
3. place in numbered vial
4. Record data on data sheet
5. Keep shaded
6. Notify me & I will send Australia  
import permit
7. Obtain export permit → SEND

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TELEFAX FOR: SUE MILLER- RMTCP/SPREP APIA

DATE: 15 August 1994

*cc COL Limpus*

FROM: GEORGE BALAZS

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

NUMBER OF SHEETS TRANSMITTED (including this page) 2

MESSAGE:

DEAR SUE: I TRUST THAT YOU RECEIVED THE FAX I SENT YOU EARLIER TODAY WITH MY REPORT FOR WORK IN THE HAWAIIAN ISLANDS.

AFTER RETURNING TO HONOLULU I STARTED WORRYING THAT POSSIBLY STATEMENTS I MADE DURING THE RMTCP MEETING MIGHT NEED TO BE CLARIFIED--OR AT LEAST SET FORTH IN WRITING SO THERE WOULD BE NO CONFUSION AS TO WHAT I WAS SAYING REGARDING KILLING TURTLES FOR RESEARCH PURPOSES, SPECIFICALLY DNA ANALYSIS. IN ORDER TO SET MY RECORD STRAIGHT, I'VE PREPARED THE ACCOMPANYING ONE-PAGE RECOMMENDATION. I SUPPOSE AT THIS POINT IT MAY NOT BE APPROPRIATE TO INCLUDE IT IN THE MEETING REPORT. HOWEVER, IF YOU FEEL IT IS, YES PLEASE, GO AHEAD AND USE IT. OBVIOUSLY NO VOTE TOOK PLACE, BUT IT DOES REPRESENT MY PROFESSIONAL OPINION ON WHAT RMTCP POLICY SHOULD BE ON THIS ISSUE, ESPECIALLY FOR "YEAR OF THE SEA TURTLE". I WANT TO BE PROTECTED, AND SPREP TO BE PROTECTED, FROM LATER BEING CALLED A HYPOCRITE.

I'LL BE OUT OF MY OFFICE ALL DAY TOMORROW, BUT BACK IN ON WEDNESDAY. I HOPE THAT THE INTERNET EMAILS SENT TO YOU LAST WEEK GOT THROUGH. COLIN AND I HAVE COMMUNICATED ABOUT OUR PAST REVIEWS OF THE TAGGING/TRAINING MANUAL, AND BOTH HOPE THAT MAYBE THE INPUT WE MADE WILL SHOW UP SOMEWHERE IN APIA IN RMTCP FILES.

BEST REGARDS,

CC COL



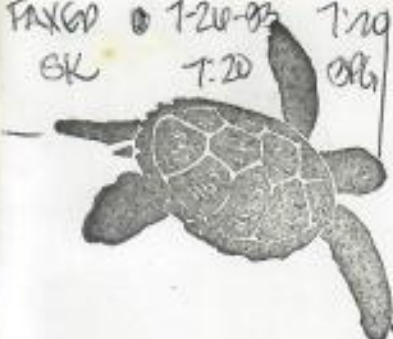
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TELEFAX FOR: SUZIE GEERMANS  
COL LIMBUS DATE: 23 JULY 93  
FROM: GEORGE BALAZS TELEPHONE EXT: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) 2 3

SUZIE - I am sincerely sorry to hear you weren't accepted, honestly.

MESSAGE: Dear Col and Suzie: Attached is the response just received from Vili to my message about RMTCP satellite tracking. This is a real pity, but apparently he wants to downplay "research". That seems clear. I respect his wishes, but at the same time, wish we all would have done a better job of explaining various aspects of "research" to both Adrienne and Vili.

Suzie - regarding photos to photocopy for your manual, you should use Col's camera to shoot what you need. Get a helper to hold, load, and use applicators. The whole thing could be done in a few hours. See WATS manual, for examples. I see no issue at all about copyrights. Just give SPRP the photos. Hope you had a nice vacation. SGC



SD 11-24-93 7:39  
2lu - st



TRANSMITTAL SHEET



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SPREP

TELEFAX FOR: MS. ADRIENNE FARAGO

DATE: 22 NOVEMBER 93

FROM: GEORGE BALAZS

TELEPHONE EXT: 808-943-1240

NUMBER OF SHEETS TRANSMITTED (including this page) TWO

MESSAGE: DEAR ADRIENNE: I SPOKE WITH SUZIE BY TELEPHONE LAST FRIDAY (HER LAST WORKING DAY) AND LEARNED THAT YOU WILL BE LEAVING APIA THIS VERY WEEK. ONCE AGAIN, I WANT TO SINCERELY THANK YOU FOR THE FINE WORK YOU HAVE DONE FOR SPREP ON BEHALF OF TURTLE CONSERVATION IN THE PACIFIC. MY COMMENDATIONS TO YOU! I WISH YOU THE VERY BEST IN YOUR FUTURE ENDEAVORS. PERHAPS OUR PATHS WILL ONCE AGAIN CROSS IN THE PACIFIC WEBB OF TURTLE MIGRATIONS AND BIODIVERSITY CONSERVATION.

I UNDERSTOOD FROM SUZIE THAT ANDREW WILL BE HOLDING DOWN THE FORT WITH REGARD TO SPREP TURTLE MATTERS UNTIL A REPLACEMENT FOR HER IS HIRED ON. THAT PLACES THINGS IN VERY GOOD HANDS, ALTHOUGH I REALIZE THAT HE ALREADY HAS MANY PRESSING RESPONSIBILITIES. THERE ARE TWO TOPICS LEFT UNFINISHED THAT I WANT TO BRING TO YOUR ATTENTION FOR TRANSFER TO ANDREW. FIRST, ABOUT A MONTH AGO SUZIE HAD SENT ME THE REVISED DRAFT OF THE SPREP TURTLE FIELD ASSESSMENT MANUAL SHE HAD BEEN WORKING ON. ON 31 OCTOBER I MAILED SUZIE A LETTER CONGRATULATING HER ON THE GOOD JOB OF REVISION, BUT ALSO SUPPLYING HER WITH SOME ADDED COMMENTS TO IMPROVE THE MANUSCRIPT. UNFORTUNATELY, I DIDN'T SAVE A COPY OF MY HANDWRITTEN LETTER FOR MY OWN FILES. WHEN SPEAKING TO SUZIE FRIDAY I WAS DISMAYED TO LEARN THAT SHE STILL HADN'T RECEIVED MY LETTER. SHE SAID THAT IF IT ARRIVED AFTER HER DEPARTURE (WHICH IT SHOULD EVENTUALLY) THAT IT WOULD BE FORWARDED TO SPREP. SO, PLEASE HAVE

ANDREW KEEP AN EYE OUT FOR IT. MANY THANKS.

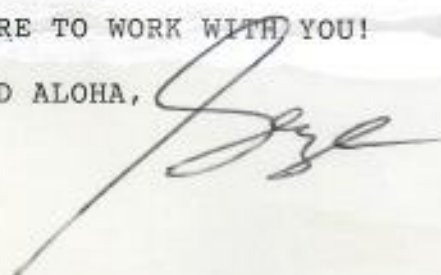




THE SECOND ITEM IS A TROUBLING ONE, TO ME PERSONALLY. IT HAS TO DO WITH THE MARSHALL ISLANDS TURTLE PROJECT AT BIKAR DURING THE SUMMER OF 1992, AND THE ABSENCE AS YET (TO MY KNOWLEDGE) OF ANY REPORT RESULTING FROM THE WORK. I AM PERSONALLY TROUBLED BECAUSE I STRONGLY RECOMMENDED THAT THIS WORK BE UNDERTAKEN, AND THE PERSON THAT HEADED UP THE WORK LIVES HERE IN HAWAII, AND I PERSONALLY SUGGESTED HIM FOR THE JOB BECAUSE OF HIS KNOWLEDGE OF TURTLES AND PAST RESIDENCY IN THE MARSHALLS. I HAVEN'T HEARD FROM <sup>HIM</sup> IN MANY MONTHS, FOLLOWING A STRING OF PROMISES THAT HIS REPORT WOULD BE FORTHCOMING "SOON". APPARENTLY "SOON" HAS NEVER HAPPENED, AND THAT IS VERY DISAPPOINTING TO ME. SPREP IS ENTITLED TO THEIR REPORT. ALTHOUGH IT IS TECHICALLY MR. WASE IN THE MARSHALLS THAT OWES YOU THE REPORT, IT IS THE MAN HERE IN HAWAII THAT WAS SUPPOSE TO PREPARE IT. I KNOW THAT SUZIE HAS WRITTEN TO HIM MONTHS AGO, WITH THE RESPONSE OF PROMISES TO SUBMIT IT. I WOULD LIKE TO SUGGEST THAT YOU (OR ANDREW) NOW WRITE TO HIM DIRECT FROM THE SPREP OFFICE. PERHAPS SOME OTHER PROBLEMS HAVE ARISEN THAT I JUST DON'T KNOW ABOUT. IT WOULD BE INAPPROPRIATE FOR ME TO CONTACT HIM AGAIN, AS THE ISSUE HAS BECOME SENSITIVE BETWEEN US. YOU SHOULD WRITE TO: MR. WILLIAM PULELOA, DIVISION OF AQUATIC RESOURCES, P.O. BOX 247, KUALAPUU, MOLOKAI, HAWAII 96757. IT WOULD BE APPRECIATED IF MY NAME WAS NOT MENTIONED. THANK YOU.

IT WAS A PLEASURE TO WORK WITH YOU!

BEST REGARDS AND ALOHA,



808 Tel.  
553-3778 →

M. Farago - 982-90931

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SPREP, APIA

TELEFAX FOR:

ADRIENNE FARAGODATE: 4 OCTOBER 93

FROM:

GEORGE BALAZSTELEPHONE EXT: 808-943-1221

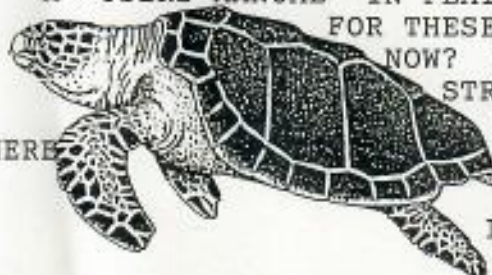
NUMBER OF SHEETS TRANSMITTED (including this page)

TWO(2)

MESSAGE: DEAR ADRIENNE: THIS MAY BE ONE OF THE FEW TIMES THAT I'M FAXING YOU FOR REASONS OTHER THAN RESPONSE TO YOUR REQUEST FOR INFORMATION OR PROPOSAL REVIEW! I TRUST THAT YOU RECEIVED MY COMMENTS A WEEK OR SO AGO REGARDING PALAU. I FIND THAT I HAVE SOME EXTRA TIME RIGHT NOW TO THINK ABOUT SPREP TURTLE MATTERS, SINCE MY TRIP FOR THIS WEEK TO ROSE ATOLL WAS CANCELED (OR POSTPONED) DUE TO VESSEL PROBLEMS.

- 1.) THE ACCOMPANYING LETTER WAS RECENTLY RECEIVED FROM CRAIG HEBERER OF MICRONESIAN MARITIME AUTHORITY (MMA). HE TALKS ABOUT AN INQUIRY TO YOU ABOUT THEIR OBSERVERS COLLECTING TURTLE DATA ON FOREIGN LONGLINERS AND PURSE SEINERS. I SUSPECT THAT SOME VERY GOOD INFORMATION COULD BE OBTAINED FROM THEIR EFFORT THAT WOULD BE APPLICABLE TO EEZ'S THROUGHOUT THE SPREP REGION. I RECOMMEND THAT YOU EXPLORE THIS PROJECT IDEA. THIS MIGHT BE LOW COST, OR EVEN FREE, EXCEPT FOR COST OF TAGS. AS A FIRST, I SUGGEST THAT YOU FIND OUT JUST WHAT KIND OF TURTLE CATCH DATA THEY ALREADY HAVE. NOTE FROM THE LETTER THAT THESE DATA CAN BE OFFICIALLY REQUESTED FROM MR. BERNARD THOULAG, DIRECTOR OF MMA IN POHNPEI. ALTHOUGH THE DATA BASE IS HELD BY SPC, IT IS ONLY THROUGH A REQUEST TO MR. THOULAG THAT IT CAN BE OBTAINED. AT YOUR EARLIEST OPPORTUNITY, I STRONGLY ENCOURAGE YOU TO WRITE TO REQUEST IT FOR SPREP SO WE CAN DETERMINE RESEARCH OPPORTUNITIES (AT VERY LOW COST), AND ALSO POSSIBLE IMPACTS TO SPREP REGION TURTLE POPULATIONS. KEEP IN MIND THAT THE TURTLES BEING CAUGHT IN THESE FOREIGN FISHERIES ARE PELAGIC-PHASE, OR "LOST-YEARS" TURTLES ABOUT WHICH WE KNOW VERY VERY LITTLE.
- 2.) THE REPORT OF OUR THIRD MEETING LOOKS EXCELLENT! MY CONGRATULATIONS TO YOU AND SUZIE. YOU SENT ME SEVERAL COPIES, SO I WILL SEE TO IT THAT ONES GET DISTRIBUTED TO PEOPLE IN THE SEA TURTLE "WORLD" THAT WILL GIVE IT SOME FAVORABLE COVERAGE (IN NEWSLETTERS, ETC.),
- 3.) WHAT IS THE STATUS OF SUZIE'S POSITION? IS SHE STILL LEAVING SPREP? IF SO, WHAT PROSPECTS FOR REPLACEMENT ARE AVAILABLE, AND HOW SOON MIGHT THEY BE IN THE POSITION? I HAVE NO CURRENT KNOWLEDGE ON THIS TOPIC, EXCEPT THAT I UNDERSTAND THE POSITION THAT SUZIE PLANNED TO MOVE TO DID NOT MATERIALIZE.
- 4.) MY RECENT "MEDITATIONS" HAVE SURFACED SOME CONCERNS ABOUT OUR "DATA FILES AND PROGRAMS AVAILABLE FOR dDXL AND dBASE IV SOFTWARE" (ANNEX 6 OF REPORT). SUCH PROGRAMS MAY BE EASILY ACCESSED, AND DATA ENTERED, ONE IS FAMILIAR WITH THE PROGRAM(S). BUT IF NOT, FOR MANY OR MOST IT COULD BE A NIGHTMARE! ADRIENNE, A "USERS MANUAL" IN PLAIN ENGLISH IS CLEARLY NEEDED FOR THESE FILES. DOES ONE EXIST NOW? I REALLY DOUBT IT. STRONG RECOMMENDATION: HAVE ONE PREPARED AT THE EARLIEST OPPORTUNITY WHILE THERE IS STILL SOMEONE AROUND WHO KNOWS HOW IT WORKS. I'M SORRY I DIDN'T THINK OF THIS IMPORTANT TASK MUCH SOONER.

THERE



ALOHA

*George Balazs*

COPY TO  
ADRIENNE FARAGO  
SPREP

9/23/93

FACSIMILE TRANSMISSION



MICRONESIAN MARITIME AUTHORITY  
FEDERATED STATES OF MICRONESIA  
P.O. BOX PS122  
PALIKIR, POHNPEI

FEDERATED STATES OF MICRONESIA, E.C.I. 96941

PHONE (691) 320-2700/320-5181 FAX (691) 320-2383 TELEX: (729) 6812 MMAFSM

FROM: Craig F. Heberer  
Tuna Biologist, MMA  
TO: Mr. George Balazs *808 943-1290*  
Zoologist, NMFS Honolulu, HI  
Date: September 23, 1993  
Subject: MMA Fisheries Observer Program *this file: bio/balazs1.doc*

Dear Mr. Balazs,

Greetings from Pohnpei. I just received your letter and information packet dated September 15, 1993 concerning the marine turtle biological sampling procedures. Thank you very much for the materials.

In response to your request for data on hooked turtles encountered by MMA Fisheries Observers, please direct any official requests for said data to our Executive Director, Mr. Bernard Thoulag. I recently supplied turtle hooking and mortality data from longline observer trips to Dr. John Hampton of the SPC. I believe Dr. Hampton used the data as reference material for the recently concluded Council meeting in Honolulu.

*Purse Seine* I am interested in the agenda for the upcoming workshop in November concerning marine turtle research objectives. If so desired, I might be able to put together the historical data on file concerning turtle hooking rate from the PS and LL observer trips.

*Long Line* The MMA has expanded considerably its Fisheries Observer Program during the past year (August 1992-present). As a result, we now have increased opportunities to collect at sea biological turtle data utilizing our trained work force of observers. To this end I sent a communication to Adriana Farago of SPREP asking for assistance in setting up a tagging program for our MMA observers. To date I have not received a response.

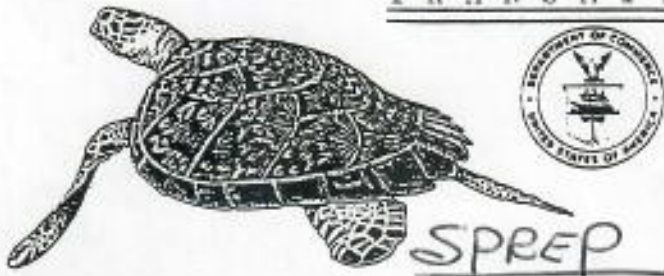
The opportunities to collect vital baseline data on the foreign LL fleets should not be squandered. We will be placing observers on Japanese, Taiwanese, Mainland Chinese and domestic LL vessels. Any research objectives that involve biological sampling can potentially utilize the services of our observers if the logistical issues are properly addressed and prior agreements worked out.

To this end, I would be interested in the upcoming workshop in Honolulu in November and the potential for some cooperative research efforts.

Thank you for your time and consideration. I look forward to your response. I can be reached on the PEACE-SAT network if so desired (MMA POHNPEI FISHERIES).

Respectfully Yours,  
*Craig F. Heberer*  
Craig F. Heberer  
Tuna Biologist, MMA

TRANSMITTAL SHEET



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SPREP

TELEFAX FOR: ADRIENNE FARAGO

DATE: 19 MARCH 93

FROM: GEORGE BALAZS

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

NUMBER OF SHEETS TRANSMITTED (including this page) 2

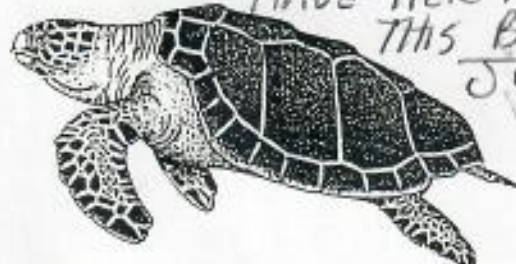
MESSAGE:

DEAR ADRIENNE: THANKS FOR YOUR FAX SENT TO THE THREE OF US, I'LL BE IN TOKYO ALL NEXT WEEK ATTENDING ANOTHER WORKSHOP ON HAWKBILLS HOSTED BY THE JAPANESE (MITI & BEKKO INDUSTRY). COL HAS ALSO BEEN INVITED, SO I'M EXPECTING TO SEE HIM THERE.

HERE ARE SOME QUICK THOUGHTS ON THE 2 PROPOSALS: THE OROLUK PROPOSAL IS SUBSTANTIALLY OVERPRICED. THERE'S VIRTUALLY NO DETAILS PROVIDED OF WHAT, HOW, WHY AND WHEN (I RECEIVED 3 PAGES). I'M DEAD-SET AGAINST THE "REPAIRING AND RELEASE" THEY WANT TO DO THERE. "RELOCATION OF 14 PENS" SOUNDS GOOD, BUT IT'S ALL A "BANDAID" APPROACH. THE FEW PEOPLE LIVING THERE HAVE NO BUSINESS BEING THERE; THEY ARE RECENT SETTLERS. IN 1976 PRITCHARD RECOMMENDED THAT THEY BE RESETTLED BEFORE THEY ATE EVERY SINGLE LAST TURTLE. HIS ADVICE IS JUST AS SOUND NOW AS THEN.

I ENDORSE THE VANUATU PROPOSAL. WE REALLY NEED TO KEEP SOMETHING GOING THERE; IF WE DON'T, THE JAPANESE WILL. MY RECOMMENDATION: ASSIGN SUZIE TO HELP THEM WRITE THE PROPOSAL INTO PROPER SHAPE. HAVE HER ASSIST THEM TO DO THIS BEFORE THE JUNE MEETING.

BEST WISHES,  
*George*



P.S. LETTER FROM FIJI SENT HERE ALSO.





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TELEFAX FOR: SPREP, ADRIENNE FARAGO

DATE: 18 JUNE 1993

FROM: GEORGE BALAZS

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

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

DEAR ADRIENNE:

MANY THANKS AGAIN FOR HOSTING SUCH A PRODUCTIVE AND ENJOYABLE MEETING. EVERYONE BENEFITED, ESPECIALLY THE TURTLES.

I WOULD LIKE TO KNOW THE STATUS OF REFUND FOR THE AIR NEW ZEALAND TICKET I PAID FOR HERE IN HONOLULU. IS EVERYTHING NOW IN ORDER, AND MY REFUND CHECK IN THE MAIL TO ME? IF NOT, PLEASE ADVISE. THANK YOU.

TRUSTING THAT ALL CONTINUES TO GO WELL WITH YOUR WORK AT SPREP.

WARM REGARDS,

**Sherman's Lagoon**

FILLMORE, WHILE I'M AWAY ON VACATION, I WANT YOU TO KEEP AN EYE ON THINGS AROUND HERE.



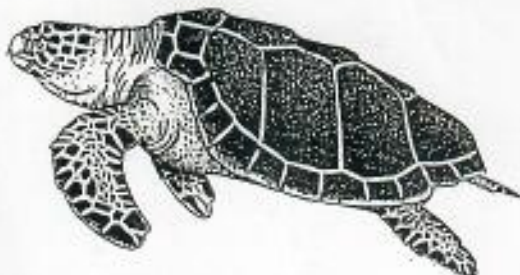
WITHOUT A SHARK AROUND TO KEEP THINGS IN CHECK, SOME OTHER CRITTER IS LIKELY TO TAKE OVER THE ENTIRE ECOSYSTEM.



NO KIDDING? REALLY? WOW. DO YOU THINK THAT COULD REALLY HAPPEN?



PERISH THE THOUGHT.



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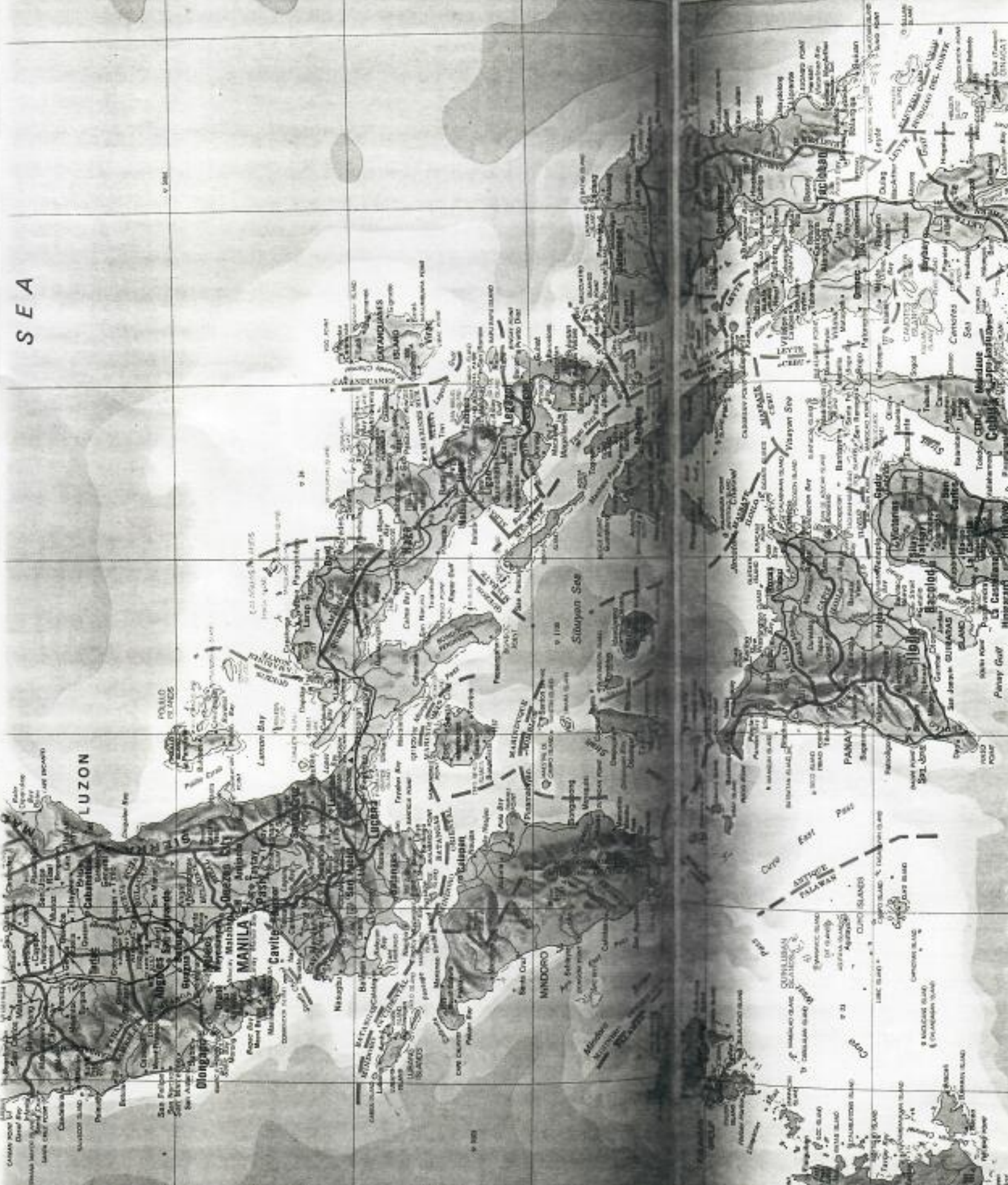
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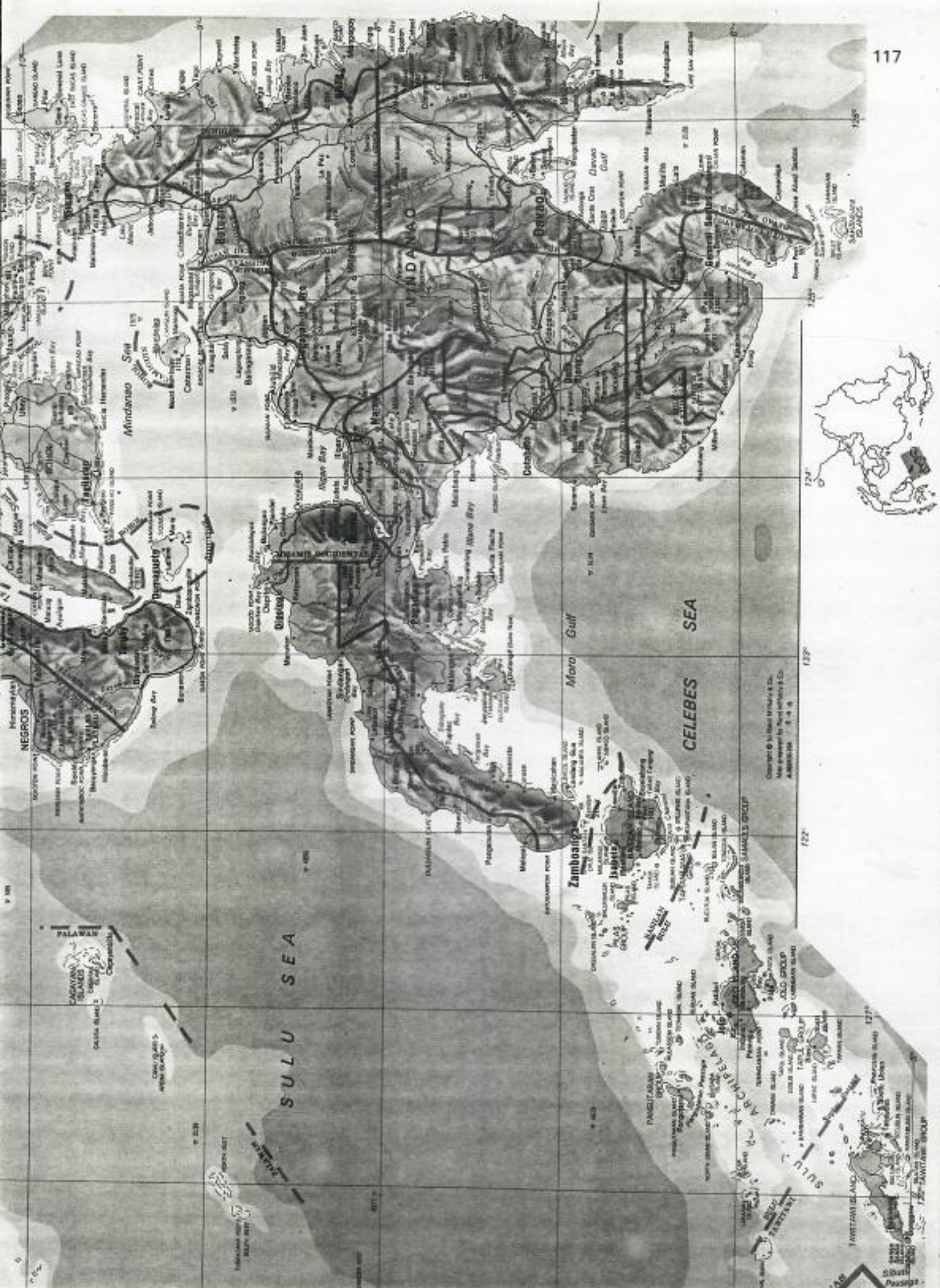
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# Marine Turtle Newsletter

Number 41 September 1987

**Editor:** Nat B. Frazer  
Department of Biology  
Mercer University  
1400 Coleman Avenue  
Macon, GA 31207 USA

**Associate Editor:** John P. Eylers

**Editorial Board:** Peter C. H. Pritchard, Anders G. J. Rhodin, Harold F. Hirth, N. Mrosovsky

## REPORT FROM OROLUK

Oroluk is a low coral atoll in the Caroline Islands in the mid-Pacific region. It is located about 1600 km ESE of Guam and about 300 km east from Pohnpei Island. This small island (18 hectares) historically has had large numbers of nesting green turtles, and Pritchard (1977) felt Oroluk was the most important nesting ground in the state. From June through July 1985 and May through August 1986 turtles were tagged and their activities watched.

The arrival of turtle project personnel on Oroluk in May 1986 was a sad day for them. The residents of the island (7 people) killed three female turtles and cooked turtle eggs to take with them on the field trip ship back to Pohnpei. Project staff also found that two turtles tagged in May 1985 were eaten in August of the same year.

During the 1986 period, some preliminary work was done to protect two nests with wire cages and to look at hatching success. Humerus bones were collected, and forwarded to Dr. George Balazs of US National Marine Fisheries Service in Honolulu.

So far, one turtle tagged during the project has been seen elsewhere. A 99 cm female was tagged while nesting on Oroluk 2 June 1986 and laid 72 eggs. The turtle was captured alive in Nan-Way Bay in Taiwan on 18 April 1987.

It should be noted that for 1985 observations, turtle nesting averaged 2.3 nests/month, and in 1986, 3.4 nests/month were seen. This is considerably fewer than the 9-15 nests per night reported by Pritchard (1977). We do not know if the current nesting pattern has two peaks in December-January and June-July as has been reported. Nesting (maybe some false crawls) is reported by Oroluk residents all year round.

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June-August and December-January, but commercial sales are illegal. The impact on the turtles by the residents of Oroluk is certainly great. Changing technology has also resulted in making catching turtles easier (McCoy 1974, 1981). Other people (from Truk and Pohnpei, for example) now have boats which can easily go to Oroluk to fish and possibly take turtles and turtle eggs. There have also been reports of dynamite fishing off the atoll reefs.

At the end of the 1986 project, workers made several recommendations to Pohnpei State government about the turtles of Oroluk. The sandy beach facing the ocean should be left out for turtle nesting ground and houses and pig pens moved inland. Pigs and dogs should be kept in fences or tied up. A proposal is being made to make Oroluk a sanctuary for wildlife, but state finances are very limited.

Funding for the turtle tagging project has been irregular. The past two years the project has been funded by Pohnpei Economic Development Authority, Pohnpei Marine Resources Division, a private grant from Ms. Donna Matson (Western Instructional Television, Los Angeles), and organized by Teresa Herring, a US Peace Corps volunteer. While a proposal to establish monitoring has been made, no funding has been granted for 1987. Attempts are also being made to make Oroluk a marine sanctuary (including seabirds and turtles). Project workers are continuing to seek sources of funding for the project, as well as for educational materials which can be used for turtle conservation education.

TABLE 1.

	<u>JUNE '85</u>	<u>JULY '85</u>
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CLAY EDSON and FLINN CURREN, Marine Resources Division, P.O. Box B, Kolonia, Pohnpei, Federated States of Micronesia 96941



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Pacific Area Office - Southwest Region  
2570 Dole St. - Honolulu, HI 96822

Commercial: 808/955-8831  
FTS: 551-2928  
FAX: 808/949-7400

FAX MESSAGE FOR: SUSAN WARE

DATE: 6/12/92

FROM: R. CLARKE

PHONE: \_\_\_\_\_

NUMBER OF SHEETS TRANSMITTED (including this page) 2

MESSAGE:

Susan:

Attached is a copy of a fax that I received from George Balazs in reference to the RMI Turtle project. Shortly there after I got a call from Danny Wase, asking if it were possible to get PIN assistance with the shortfall of funds for the project. I told Wase the best thing to do was forward the proposal as funded by SPREP, and illuminate the areas, as yet unfunded and a letter requesting support from PIN. John Bungitak is expected up here for another meeting next week and will bring the proposal and request (according to Wase), which I will send to you. I am forwarding this directly to give you and Tom advanced warning and you are as familiar with the project as anyone at the UHGrant Office.

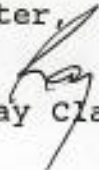
I will make a official recommendation on the project after reviewing the information Bungitak brings next week.

As to the RMI EPA situation I have done nothing since Majuro. I was under the impression this would be back burnered until firm establishment of the on-island PIN agent position, so as not to confuse the issue.

I will be forwarding a copy of my trip report w/in the week, then it's off to Guam/Pohnpei/Saipan on the 20 until the 4 th of July. I hope to have this turtle thing worked out before my departure.

FYI-the RMI Marine Resource Profile project is already on-going in Majuro.

Later,

  
Ray Clarke





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Pacific Area Office - Southwest Region  
2570 Dole St. Honolulu, HI 96822-2396  
PH: (808)955-8831 FAX: (808)949-7400

## SEA TURTLE SURVEY AT OROLUK ATOLL AND MINTO REEF

John J. Naughton  
U.S. National Marine Fisheries Service

### Introduction

An expedition was undertaken to assess marine and terrestrial resources at Oroluk Atoll (Lat. 7°32'N., Long. 155°19'E.) and Minto Reef (Lat. 8°10'N., Long. 154°18'E.) from November 28 to December 6, 1990. The objective of the expedition was to document the existing conditions of these living resources and their habitats and to provide recommendations to the Government of the Federated State of Micronesia (FSM) and Pohnpei State regarding conservation and preservation of the resources and environments of the two atolls. An important component of these surveys was to document the occurrence of sea turtles at both sites.

### OROLUK ATOLL

Oroluk Atoll is well known as an important nesting site for the green turtle (*Chelonia mydas*). Pritchard (1977) states that Oroluk Atoll is apparently the only nesting ground of importance for the green turtle in Ponape District (Pohnpei State). He estimated that during the nesting season between nine and fifteen turtles nested on Oroluk on an average night, with up to twenty on a good night.

Prior to this expedition little observational work had been done underwater at Oroluk to document the importance of the atoll as foraging habitat for sea turtles. Underwater observations at other sites relatively close to Oroluk (i.e. Pingelap, Mokil, Kosrae, Pohnpei, Nukuoro) indicate some importance of these sites as foraging habitat (Pritchard, 1977). Because there is little nesting reported at these atolls and islands the populations of green turtles found there may be using Oroluk for nesting purposes. However, tagging studies conducted during 1985-86 by the Marine Resources Division, FSM have yielded only one long range recovery from the fifteen adult female green turtles they were able to tag. A 99 cm. female green turtle tagged while nesting on Oroluk on June 2, 1986 was captured alive in Nan-Way Bay, Taiwan on April 18, 1987 (Edson and Curren, 1987).



Underwater surveys were undertaken at Oroluk from November 29 to December 3. A total of 46 stations were conducted using both scuba and snorkeling gear (Figure 1). Two teams of 3 or 4 divers each conducted the surveys with specialists recording on underwater slates those species in major groups for which they were responsible (i.e. corals, reef fish, macroinvertebrates, benthic algae, and sea turtles). Stations were selected in order to sample the major biotopes of the atoll. These included the ocean drop-off, passes, lagoon back reef, lagoon slope, and lagoon pinnacles.

### Survey Results - Oroluk Atoll

A total of sixteen turtles were sighted during underwater surveys and from the vessel at anchor during the five day period at Oroluk Atoll (Table 1). Fifteen of the turtles sighted were green turtles and one was a hawksbill turtle (Eretmochelys imbricata). Of the fifteen green turtles sighted fourteen were estimated to be juveniles or sub-adults less than 75 cm. in carapace length. The one adult green turtle was sighted at anchor (Station 45) off Oroluk Island and was approximately 100 cm. in carapace length. None of the turtles observed had been tagged and all appeared to be free of fibropapilloma, a life-threatening tumor disease which occurs in the Hawaiian green turtle population.

Ten of the turtle sightings were made at lagoon pinnacle stations, indicating that the lagoon pinnacles probably contain the most desirable foraging and/or resting habitat. Caulerpa racemosa was one of the common forms of benthic algae found on the pinnacles and is a major green turtle food source in other areas (Balazs, 1990). A listing of benthic algae from Oroluk will be presented elsewhere in the expedition report.

Natural predators of sea turtles were recorded when observed during the surveys. Numerous sharks of four species were observed at most stations. In order of abundance sharks recorded were the blacktip reef shark (Carcharhinus melanopterus), gray reef shark (C. amblyrhynchos), whitetip reef shark (Triaenodon obesus) and the nurse shark (Nebrius concolor). Although these four species of sharks are not known predators of sea turtles they are capable of feeding on hatchlings and small juveniles. No sightings were made of the tiger shark (Galeocerdo cuvier), the only known major predator of juvenile, sub-adult, and adult green turtles. However, this shark is nocturnal and likely occurs at Oroluk. Several large groupers (Epinephelus lanceolatus) well over 100 kilograms were observed. They have been known to occasionally take juvenile green turtles (Balazs, 1980).

On November 29 the team surveyed the coastline of Oroluk Island. No turtles, haulout tracks, or nesting pits were seen. However, Typhoon Owen had passed just north of Oroluk approximately 8 days earlier and had caused considerable damage to the island and reefs. Much of the sand and rubble beach on the north and northwest side of the island had eroded. The most viable nesting beaches occur on the south side of the island close to the small village. Although the sand beach here was intact, pig pens and house platforms severely encroached on the limited turtle nesting habitat. Approximately 25 meters off the southwest shore of Oroluk Island a coral block enclosure had been built. Villagers claim the enclosure is used for raising turtle hatchlings. Large turtle bones were seen on the bottom both within and outside the enclosure.

During the present expedition two interviewers spent several days and nights ashore to assess the use of marine and terrestrial resources by the thirteen people from Kapingamarangi now residing on the atoll. Details of the existing level of turtle harvesting will be presented elsewhere in the expedition report. However, an individual on the island stated that between five and eight turtles haul out at Oroluk Island every month, except June and July when they are "too numerous to count." He reported that island residents take every turtle they find. Only in the peak summer nesting season are some turtles allowed to return to the sea. The shell from a recently butchered large adult green turtle was observed drying next to a hut in the village.

### Discussion

There is little question that Oroluk Atoll is a critical site for green turtles in the Caroline Islands, and probably the most important unit for the species in the Eastern Caroline Islands. Nesting activities continue at Oroluk Island, although at a reduced level from that reported in the 1970's by Pritchard (Edson and Curren, 1978).

In addition to the importance of Oroluk for nesting, survey results from this expedition reveal that juvenile and sub-adult green turtles utilize the lagoon for foraging purposes. Juvenile abundance at prime nesting sites is not always the case in Micronesia. As an example, during a similar expedition to the northern Marshall Islands in September 1988 (Thomas, P.E.J. et al, 1989) intensive green turtle nesting activity was recorded at Bikar and Erikub Atolls and Jemo Island, however virtually no juvenile turtles were sighted during numerous underwater surveys at these sites. Therefore, unlike other turtle nesting islands, Oroluk may be important as a resident area for most of the life cycle of a population of green turtles.

Recommendations For Oroluk Atoll

The survey team strongly recommends that harvesting of turtle eggs and nesting female green turtles at Oroluk Island be totally prohibited. In addition, the prime nesting habitat along the south and southwest coastline of Oroluk Island should be allowed to revert to natural conditions. All pig pens and house sites should be removed from the intertidal and supratidal areas as soon as possible.

MINTO REEF

On December 4 and 5, 1990 the team conducted surveys within 23 underwater stations at Minto Reef (Figure 2). Surveys were conducted by two teams utilizing two small boats as was done at Oroluk. Stations were conducted both on scuba and using snorkel equipment.

Survey Results - Minto Reef

No sea turtles were sighted during the two days of survey work at Minto Reef. Typhoon Owen had hit Minto about eight days prior to the survey and caused extensive damage. Some reef areas were reduced to rubble berms killing most of the live coral and many of the reef associated invertebrates. The small islet at the north end of Minto atoll (rumored to support limited turtle nesting) had completely disappeared. However, this may have occurred prior to Typhoon Owen.

Regardless of the dramatic changes to Minto Reef rendered by Typhoon Owen, it is doubtful that the atoll supported many sea turtles. The team observed only one small pinnacle in the entire lagoon, indicating a greatly reduced area of potential shallow foraging habitat, particularly in comparison to Oroluk Atoll which has numerous pinnacles rising from the lagoon floor. In addition, Minto Reef lagoon encompasses an area less than one quarter the size of Oroluk Atoll lagoon.

Recommendations for Minto Reef

The lack of turtles and turtle nesting and foraging habitat found by the survey team suggests that preservation status for Minto Reef based on sea turtle conservation and protection is not warranted at this time.

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Table 1. Sea Turtle Sightings at Oroluk Atoll,  
November 29 - December 3, 1990

<u>Station Number*</u>	<u>Species</u>	
	<u>Green</u> <u>Juvenile</u>	<u>Hawksbill</u> <u>Adult</u>
5	6	
19	1	
22	1	
27	1	
31	1	
35		1
42	2	
45		1
46	1	
From ship at anchor	1	

\*See Figure 1 for location of stations at Oroluk Atoll.



References

- Balazs, G.H.  
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CLAY EDSON and FLINN CURREN, Marine Resources Division, P.O. Box B, Kolonia, Pohnpei, Federated States of Micronesia 96941

9 December 1991

Alan Davis  
Box BN  
Chuuk  
East Caroline Islands, FM 96942

Dear Mr. Davis:

Thank you for your letter of 20 November, which I received today. As chairman of the Marine Turtle Specialist Group of the International Union for the Conservation of Nature, I have been asked about hatcheries many times. Basically our advice is to establish hatcheries only when absolutely necessary. Only if eggs cannot be protected where they are laid should the nests be moved. Moving eggs introduces many problems for the developing embryos. We are well aware of many of these problems and can attempt to avoid them. The more frightening concern is that there are probably many problems that we are not aware of and therefore cannot avoid.

I have forwarded your letter to George Balazs, Deputy Chair of the Marine Specialist Group. He coordinates activities in the Pacific (he is based in Hawaii) and is familiar with your area, so he will be in a better position than I am to offer advice.

Thank you for your interest in sea turtle conservation.

Sincerely,

Karen Bjorndal  
Director

20 November 1991

P.O. Box  
Chuuk, E. Caroline Islands  
96942 FM

Archie Carr Center for Marine Turtle Research  
University of Florida  
Gainesville, FL 32611

To whom it concerns:

There is an interest in developing a sea turtle hatchery at one of our junior High Schools. This work is proposed as part of the developing Marine Science programs at each of the High School with a specific focus.

I am now responsible for developing these programs. For that reason, I request your assistance.

First, we need to identify existing turtle hatcheries which we may contact for assistance, advice, and perhaps training. Can you provide addresses of turtle researchers and hatchery projects?

Second, any extant offprints & publications concerning turtle biology are needed. Your assistance would be appreciated in providing such materials.

Media, especially VHS cassettes, are needed. We may be able to provide blank tapes if you can <sup>copy</sup> provide them for us.

Please place the Chumuk Science Center on your mailing list.

I am interested in contacting turtle biologists who are interested in turtles in Micronesia. I receive the Marine Turtle Newsletter; however Micronesia still seems to be out of the mainstream. Turtle is hunted by motorboat; there seems no concern or awareness of declining abundance; traditional management strategies & channels are declining. There seem to be certain clays which have been determined recently not to eat eggs, and a few Chumuk are made aware & concerned. But by and large, we are outside the worldwide sphere of concern about turtles.

Any persons who are developing educational materials are requested to contact me; and your assistance in providing addresses will also be appreciated. Video tapes may be most effective in this case. Books are also needed, especially picture books that graphically portray the plight of turtles worldwide.

Turtle shell is used to make women's combs, and other ornaments. Chamorros who try to take/wear them to Guam or the U.S. are surprised to have them confiscated. This shell is the byproduct of consumption of turtle meat, not <sup>itself</sup> the object of a fishery. ~~It~~ In the mind of the Chamorro, turtle has always been a valued ~~of~~ food resource. It seems unlikely that a ban on turtle meat would be effective in Chuuk, but perhaps at least certain restrictions—such as seasonal restrictions, restrictions on egg consumption, or on certain threatened species—may be possible in the future. But only after education has demonstrated the need for such measures would they be accepted. Turtle hatcheries are another possibility, ~~and~~ perhaps the most viable of ~~all~~.

I look forward to hearing from you.

Yours truly

Alan

Alan Davis

Faichuk Jr. High School



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 16, 1991 F/SWC2:GHB:JLB  
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Mr. Alan Davis  
Box BN  
CHUUK  
East Caroline Islands  
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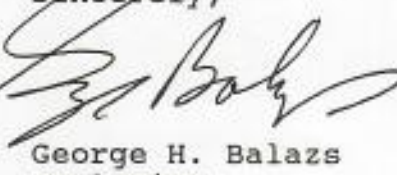
Dear Mr. Davis:

I am writing to respond to your letter of November 20, 1991, addressed to the Archie Carr Center for Sea Turtle Research. In a letter, dated December 5, 1991, Dr. Karen Bjorndal acknowledged your inquiry and requested that I get in contact with you.

I share the views that Dr. Bjorndal expressed in her letter regarding sea turtle hatchery projects. Hatcheries should only be recommended when absolutely necessary in those cases where eggs cannot be protected on the spot from excessive predation. Moving the eggs introduces many problems. There are other ways that your group can work on behalf of sea turtle conservation. By copy of this letter, I am asking Ms. Suzanne Geermans and Mr. Paul Holthus of the SPREP Regional Marine Turtle Conservation Program based in Noumea, New Caledonia, to send you educational materials and other helpful information. I am enclosing several items herein, including a copy of SPREP's annual meeting report for August 1990.

I would like to recommend that you get in contact with John Iou and Steven Kolinski of the Marine Resources Management Division in Yap (P.O. Box 251, Yap, FM 96943). John and Steve are involved in a very successful and valuable tagging program of sea turtles in Yap. I am sure they will be happy to provide you with some additional advice for your specific area.

Sincerely,

*Best regards,*  


George H. Balazs  
Zoologist

Enclosures

cc: S. Geermans  
P. Holthus  
S. Kolinski  
K. Bjorndal





9 December 1991

Dr. Karen Bjorndal  
Archie Carr Center For  
Sea Turtle Research  
Bartram Hall  
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Media, especially VHS cassettes, are needed. We may be able to provide blank tapes if you can <sup>copy</sup> provide them for us.

Please place the Chumk Science Center on your mailing list.

I am interested in contacting turtle biologists who are interested in turtles in Micronesia. I receive the Marine Turtle Newsletter; however Micronesia still seems to be out of the mainstream. Turtle is hunted by motorboat; there seems no concern or awareness of declining abundance; traditional management strategies & channels are declining. There seem to be certain islands which have determined recently not to eat eggs, and a few Chuukers are made aware & concerned. But by and large, we are outside the worldwide sphere of concern about turtles.

Any persons who are developing educational materials are requested to contact me; and your assistance in providing addresses will also be appreciated. Video tapes may be most effective in this case. Books are also needed, especially picture books that graphically portray the plight of turtles worldwide.

Turtle shell is used to make women's combs, and other ornaments. Chamorro who try to take/wear them to Guam or the U.S. are surprised to have them confiscated. This shell is the byproduct of consumption of turtle meat, not <sup>itself</sup> the object of a fishery. ~~It~~ In the mind of the Chamorro, turtle has always been a valued ~~of~~ food resource. It seems unlikely that a ban on turtle meat would be effective in Chamorro, but perhaps at least certain restrictions—such as seasonal restrictions, restriction on egg consumption, or on certain threatened species—may be possible in the future. But only after education has demonstrated the need for such measures would they be accepted. Turtle hatcheries are another possibility, and perhaps the most viable of all.

I look forward to hearing from you.

Yours truly

Alan

Alan Davis

Fairbank Jr. High School