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KIRIBATI

1991-1995

G.H. BALAZS

AND
MARSHALL ISLAND

Irojilaplap Murjel Hermios Eleemosynary Trust

Trust Manager: Robert Moore
KÖJELÄ

ÄMÄN RO TELLEÄER.

EXECUTIVE SUMMARY
 Irojilaplap Murjel Hermios Eleemosynary Trust proposes to issue Bonds for the financing of its projects in the Marshall Islands.

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 Robert Moore, Trust Manager
 L. N. Nevels Jr., Co-Trust Manager (Retired), but remains Senior Legal Advisor and Counselor to the Trust.
 Anwey Crown replaces Nevels as co-Trust Manager
 Serene Kamealoha Moore, Controller
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 Kamaal Ismail, Director
 Paul Davis, Research and Historian

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 Anthony Vincent Zahenni
 Joseph M. Medsawer
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 Kamaal Ismail
 Mark Victor
 Peter Ziegler
 Legal: Lope L. N. Nevels Jr., Senior Legal Advisor
 Frank Greenberg and Simone, a law firm and specifically Leslie J. Frank has been contracted to prepare the Citizenship Program for the RMI for the IMHET Trust Management
 Judge Victor Lope the firm representing the IMHET in the United States and at the United Nations.
ACCOUNTING AND AUDITING: Price Waterhouse,
 INVESTMENT BANKING: Lehman Bros.
UNITED STATES OFFICE: P.O. Box 8441, Honolulu, Hawaii 96830 Phone/Fax: (808) 239-5939

PUBLIC NOTICE

TO WHOM IT MAY CONCERN

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ACTIONS OF THE DIRECTORS:

Investors have agreed to supply the capital required to develop the Bond issue for the projects. Implementation is expected to be approximately \$5,000,000.
 The Trust will issue \$500,000,000 in bonds for a 20 year term bearing 6.5% compounded annual interest. Each Bond will be in \$25,000 denomination and have twenty coupons attached. Each coupon will be serialized, dated, and redeemable on a date bearing interest for one year.

The Bonds are guaranteed by the IMHET and underwritten by additional guarantors for the principal of the Bond. As funding occurs from the sales of the Bonds the Investment Banker, seller of the Bonds, will deposit the proceeds in an escrow. The proceeds less expenses, go to the investment account of the IMHET. Funds will be withdrawn, on an as needed basis, for the projects. The Investment Banker will be instructed to utilize the assets upon receipt toward liquid highly secured investments such as Prime Bank Notes and other "no risk" to earn as much as possible in "day trade" transactions.

USE OF FUNDS
FISHING: \$150 MILLION (USD)

The IMHET intends to enter a Joint Venture Agreement with a qualified company, or group sufficiently experienced and financed to operate the Fishing programs contemplated. A thorough on-going study will be conducted by Harza Northwest under the direction of Dr. Brian Ales, Marine Biologist. The program has started. The next phase, an site survey and study, will be completed this year. Negotiations are underway with interested parties as well as qualified scientists conducting study of the fishing potentials for both wild act farming of fish and marine products. (A one percent overall study cost is expected.) This study is based on the aquaculture development and fish production which include a Fishing Fleet, processing plants, storage plants, support and transportation infrastructure for wild fish and fish farming. Establish catch species, seasons, processing and marketing programs long term environmental considerations will be of paramount importance. The education and training of the workers for this industry is included. The JV investor would receive preferential treatment until their investment is recovered.
PHARMACEUTICAL INDUSTRY: \$75 MILLION (USD)

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The need for this project will be headed by qualified persons under the direction of Drs. Winthrop Hays of the BioMarine Corporation, a research and development firm currently in Tokyo, Washington. This can generate a high quality high tech industry for the people of the Marshalls. From the youth of the islands will be chosen those who are interested in this highly lucrative field. They will receive extended education at appropriate Universities to serve the development of the project. The purpose of the program is to produce products from Marine Algae, plankton and fish. This program will be led by a team of marine biologists and processors who have devoted years to the development of extracts from marine algae. Several patented processes and products have already been developed that have huge marketability such as natural Beta-carotene, DHEMBA and other extracts that have healing potentials as nutraceuticals.

TOURISM: \$30 MILLION (USD)
 The Marshall Atolls have some of the most beautiful waters in the world with water so clear that fish sight is 100 feet underwater is common, making it some of the most beautiful diving waters in the world. The reefs team with fish varieties unappreciated by biologists. Clams weighing up to a ton are found in these waters. Sport Fishing is untouched and world record battles abound. The magnificence of the atolls are spell binding and hold a once in a lifetime experience for tourists. A floating hotel has been proposed. This project holds good potential and a viable beginning for tourism in the RMI. Qualified operators will be sought.

Development was discouraged since the end of WWII nearly 60 years ago by the US. Development of a tourist industry has not been exploited. The possibilities and the great mass market of the United States, Europe, Japan and China hold tremendous possibilities for those seeking a truly unique experience.

PRIME BANK TRADING PROGRAM:

To secure the Bond program from failure it is proposed that the Trust Management direct a portion of the funds toward a very safe high return program suggested by certain Prime Banks who will guarantee a return through the trading of instruments (Prime Bank Guarantees) that support the International Monetary Fund World Bank program. This will be for the balance of the funds or until the funds are required for the project.

GENERAL DISCUSSION:

As part of an overall national development plan IMHET will issue a Letter of Credit to the RMI government for \$15 Million (USD) with 5 million drawn down per year over five years for use in the General Fund of the RMI government subject to acceptance by the RMI government of National Bank Issue (Investment Program). These projects can supply employment for the Marshallese people who are the Beneficiaries of the Trust and reveals that its prime objective is to develop a more secure and productive nation. A review of the purpose of the Trust reveals self sufficiency operating under the concept of "doing no harm".

It is also the Trust's purpose to give the Beneficiaries independence to conduct their own affairs free from the tyranny of poverty. Many interests will be forged that serve the long term benefit of the people as well as those who participate in that development. The eleemosynary purpose of the Trust will be served and will be protected by the Trust Management.

Other projects include agriculture, exotic fruits, herbal, hydroponics (terrace) and salvage operations in the RMI; Mining and mineral exploration - feasibility of exploration studies; (undersea mining); Communications - Satellite, telecommunications network access; Privatization of Government Services - authorized but not funded (i.e. Shipping, Airline, Telephone, Power).

This Summary was issued on April 20, 1994 by Trust Management.

Company and other man project in enaj bed umin tal in karok at. erel to ewer aer kabei in nej bed umin tal in karok jen Dr. Wingo im Heige jen BioMarine Corporation, juon reseser im development firm eo im ko ej bed ib Tukewa, Washington. Wewin in enaj bokok elap jerenman ijen kein jereb ko elap aer emman im kwatok jerenman nen amej in esion kein. Jen besikon jodokid ko karok ko Marshalle in ne, aer to ewer aer tok imo in bok kuzawer ko fier in elap tojen. Penej kaapok aer jetaokejen jen university ko rakter aer jereb ib project in wormanlek it. Un do nan program in ej nan kwatok merrin wasok ko jen bed. Program in enaj bed umin tal juon team in marine biologists to im to ewer aer kabei im nar jatak eion yio nan kwatok merrin jerenman ko jen merrin merr ko lojel. Ewer jen merrin aerok ko enaj kadode aer wasok im karuj in ap aer kwatok money emmer: uno ko im ermej nej merr jen im nej wasok merrin merr ko lo jekel.

JERBAL IN TOURIST:

Eion jekel ko im nej merrin wewin am abujok ib esion ko ko Marshalle in ap aer akwaj im komaron ko 100 ne ibunon jekel kaman bwe en jekel jekel ko merrin wasok ko lo in nan tubok. Besobes ko rekotok tok kin elon kein ek ko im rejent akwaj nen biologist m. Jias erod ej jekel wot komans in ek kein etarwa. ap aer len. Jekel nej jen jekel ko elap aer emman im nej lekok nan tawer ko juon merrin reben rekotok ko merr ko aer. Ermej emokote juon Hotel eo ej ebekob. Project in ej juon jimo eo enaj karuj in emman nan tawer ko im ap an kwatok jerenman. Naj bukot operator no elap aer kabei.

Jerbal in wormanlek aer bojek merrin jen kar bala eo an tal in keer karuo ebake tok 60 yio ko remotok jen U.S. Jerbel in wormanlek nan jerbal in tourist ejanin komar. Jerbel in tourist ej juon merrin eo ma elap an United States, Japan, Europe im China komono taka nen an tourist no tok nan Marshalle in im abujok nej an.

PRIME BANK TRADING PROGRAM:

Nan fikun labe bwe en ejekel jeren nan Banc program in, ermej emokote bwe Trust Management eo en bok merrin money in na to juon jekel eo im enaj lan an kwatok wasok eo im ermej tok karok jereb jen jen jen lan bank ko relap ko im nenaj gwarantise ko nenaj wasok ko nenaj jekel tok to ebek ko tok Wewin in enaj nan balance eo an fund mer' ek merrin eo enaj jekel kein bwe en dujok money ap nan gwarantise.

UN LEP IN KOMONO:

Eimaton wot ketober in wormanlek in, IMHET eraj kadok tok juon jekel of Credit nan kein eo an RMI in erman in \$15 million im nej kadok \$5 million (epen juon yio umin laem yio im ekel nen General Fund eo an klan esane enaj komaron development project in.

Project kein merrin lekok jerbal nen amej in esion kein ko, to im jereb jerenman jen Trust in im kamanens im jetaokejen nan jodokid ko nan aer wasok kabei ko aer im erman jekel ko aer to ewer jetaokejen ek ko im remoton kwatok jerenman ko. Juon esane eo nan emokot Trust aer kwatok ko un jekel in kerobor eo an Trust in ej jen lekok opportunity ko nan to nenaj bok jerenman jen Trust in. Project kein am nej nan komar bwe amej to nen merrin in merr jen er mikle lamen juon merrin eo im "eson jeren".

Trust in ej benanew nan lekok im koman bwe amej to nej bok jerenman jen project kein nen merrin in rekot jen ne in komotoko im merrin in bojek aer jereb. Ebon jerenman ko enaj to aer koman nan ermej to im to nej bok kuzawer ib development project in. Kabei eo an Trust in enaj jereb in bed umin kejberok jen Trust Management eo. Project ko jekeloba agriculture, exotic fruits, herbal, hydroponics im salvage operation ko ko Marshalle in. Jerbel in esane im ekwaj kin merrin jerenman ko bukon jekel. Jerbel in letberok mikob — Satellite, telecommunications network access.—Privetize i service ko an klan — kamanlami bosap jek lekok esat nani. (wanjokok: Shipping, Airline, Telephone, Power).

Tobokin mikob kein nar dujok ko 20 nan in April, 1994 jen Trust Management.



GOVERNMENT OF KIRIBATI
Ministry of Environment and Natural Resources
Development

PO Box 64 Bairiki, Tarawa, REPUBLIC OF KIRIBATI

Facsimile Cover Sheet

To: George Balazs
Company: NOAA
Phone: 001808 943 1221
Fax: 001808 943 1290

From: Craig Wilson
Company: Ministry of Environment and Natural
Resources Development
Phone: 686 21099
Fax: 686 21120

Date: 26/5/94
Pages including this
cover page: 13

1994

Comments: Draft RMTCP Proposed Action Workplan

Ref: 16/16-es323F

Dear George,

Please find enclosed a draft Action Workplan for Kiribati

I would be most grateful if you could provide comments on the draft, in particular the budget section, before I submit it to SPREP.

Regards

Craig Wilson

Environment Unit

for, Secretary Environment and Natural Resources Development

Republic of Kiribati

Regional Marine Turtle Conservation Programme

Proposed Action Workplan

Environment Unit

Ministry of Environment and Natural Resource Development

INTRODUCTION

Current information regarding the status of marine sea turtles in the Pacific points to a general decline in numbers. The prospect for the future, with an ever increasing human population resulting in a greater harvest and associated effects of pollution and habitat destruction, is a further decline unless current patterns of use can be modified.

In order to address the situation Kiribati has recognized the need to contribute to the regional programme through the development of an in-country turtle conservation programme.

The status of marine sea turtles in Kiribati has been determined from limited surveys (Balazs 1975, Onono 1979) and from opportunistic sightings beginning with Captain Cook in 1777 to present day inhabitants of the 33 islands that constitute the Republic of Kiribati.

Status

At least five (5) species of turtle are known from Kiribati waters.

1. Green Turtle (*Chelonia mydas*) Te'om

This is the most widely distributed turtle and is found in all of the three island groups in Kiribati. On Kanton Island in the Phoenix Group Balazs (1981) reported nesting rates of up to 700 females and made reference to reports of heavy nesting activity on Enderbury Island. In the Line Islands random sightings have been reported but not in any large numbers since heavy extraction occurred in the 18th and 19th century. In the Gilbert Group Green turtles are reported as being very common on all islands and have been found to nest on most islands.

2. Hawksbill Turtle (*Eretmochelys imbricata*) Te'atakea

The Hawksbill has been recorded from a number of islands in the Gilbert Group but is not known to nest on inhabited islands.

3. Loggerhead Turtle (*Caretta caretta*) Te'om n'ar

Recorded from four islands in the Gilbert Group and has been known to nest on the same islands.

4. Olive Ridley Turtle (*Lepidochelys olivacea*) Te'om n'om

Recorded on two islands of the Gilbert Group.

5. Leatherback Turtle (*Dermochelys coriacea*)

Only one record of capture exists from the island of Banarua in the Northern Gilberts.

Nesting Status

Kanton Island

Kanton Island is the largest and most northernmost island of the Phoenix Group and is located at Latitude 2° 50' S, Longitude 171° 43' W. It is a low lying coral atoll with a fully encircling reef with one channel opening to the west. Balazs (1975) recorded four nesting sites of the Green turtle (Refer Figure 1) along the north, east and southern coastlines. At nesting area 1 (approximately 2.1 km long) 16 sets of fresh turtle tracks were recorded (the study was carried out in February 1973). At nesting area 2 (2.7 km long) one set of fresh tracks and more than 100 pits were observed. At nesting area 3 (0.4 km long) more than 30 pits were observed and at nesting site 4 (3.1 km long) more than 40 pits and four fresh tracks. Nesting seasonality was described as sporadic throughout the year with a greater frequency during October and November. Balazs has subsequently estimated the annual nesting numbers to be as high as 200 turtles.

In a report by the Wildlife Conservation Unit (Teahaki 1986) on the flora and fauna of Kanton island an additional nesting site was located in the southeast with 20 to 30 nesting pits.

Makin Island

Onorio (1979) reports that females nest in good numbers on low sandy beaches such as the Katangaleman Sandbank, a small sand area to the northeast of Makin. Information from the Fisheries Division (R. Tinga pers. comm.) would support this statement but not with any quantitative support. Onorio suggest that nesting occurs in two seasonal peaks April-May and from October to February. In Kiribati traditional turtle hunters mention that during the seasonal nesting months high nesting activity occurs three days after each of the four moon phases and that the October-November peak coincides with the flowering of *Calliphium incophyllum* (Te itai).

Traditional Usage

Turtles have a number of uses principally as a food source at a subsistence level. Turtle meat is not sold on a commercial basis however, products made from turtle shell and whole shells are sometime available on a limited basis. Turtle meat is considered a delicacy and is highly prized as are the eggs. For some groups such as pregnant or nursing women turtle meat is not eaten nor by those who hold turtles as a totem. Traditionally turtles were not eaten before a battle as the crawling nature of turtles was considered cowardly.

OBJECTIVES

The objectives of the programme focus at two levels.

National Level

At the national level there is a specified need to increase the awareness of the I-Kiribati people towards the conservation of the marine turtle. The concept of species extinction within Kiribati is not sufficient an issue to result in a change of attitude or in a change of traditional practices. In order to promote a change in attitude towards natural resource utilisation there needs to be a change in peoples attitude towards the use of single species. A media education campaign through radio and by the distribution of posters will be the first step in the process.

Objective 1.

To raise the awareness of the I-Kiribati people towards the conservation of the turtle through a widespread education campaign.

Kiribati needs the in-country capacity to monitor the numbers of turtles that nest on the many islands and atolls of Kiribati.

Objective 2.

To train Fisheries and Wildlife Conservation Officers in turtle survey and tagging techniques.

The development of a Kiribati Turtle Conservation and Management Plan will provide a baseline document that can be used to assess the current knowledge of turtles within Kiribati and to provide guidelines with which to manage the utilisation of turtles in the future.

Objective 3.

Prepare a Kiribati Turtle Conservation and Management Plan.

Regional Level

At the regional level there is an need to quantify the status of the marine turtle in the Pacific. Information to date on the status of turtles within the Pacific is sparse and points to the real need to expand the quantitative data base in regard to distribution and nesting frequency.

Objective 4.

To collect survey and tagging information from Kiribati that can be added to the RMTCP database.

ACTIVITIES

The project will have three main objectives in relation to turtle conservation and the three phases of the project will address these objectives.

Phase 1. Education Campaign

The objectives of the campaign will be to inform the community that the numbers of marine sea turtles in the Pacific is declining and it will be the actions of the community that will assist in reversing the trend.

This will involve an education campaign that will specifically target two areas.

Firstly, primary and secondary schools in Tarawa will receive information on the decline of turtles in the Pacific through the distribution of Turtle Fact Sheets and posters both in English and with local translations.

Secondly, the production of radio programmes which will be broadcast to the outer islands of the Gilbert Group through Radio Tarawa.

Phase 2. Turtle Tagging and Training Programme

The objective of the programme will be to establish a baseline study and to provide training to allow the Fisheries Division in cooperation with the local community to carry out ongoing tagging and assessment activities.

This will involve the implementation of a turtle tagging and training programme to establish a baseline for turtle conservation work in Kiribati. The programme will be guided by the requirements of the Regional Marine Turtle Conservation Programme to ensure compatibility of data and assessment methods.

Phase 3. Turtle Conservation and Management Plan

The objective of the management plan is to prepare a document that will be used essentially by government to manage the ongoing sustainability of turtles in Kiribati waters.

This will involve the preparation of a Kiribati Turtle Conservation and Management Plan (TCMP) to provide information and set guidelines that will be established to achieve the sustainable usage of turtles in Kiribati and to promote activities such as the protection of female turtles during nesting, the protection of eggs and restrictions to the size of collected turtles. The Management Plan will contain the results of the turtle survey and assessment projects which will be carried out on an annual basis.

METHODOLOGY AND SCHEDULE

Education Campaign

Phase 1 of the project will begin with an education campaign that will be targeted to specific sectors and locations.

As South Tarawa is the main population area an education campaign that presents the current status of marine turtles in the Pacific will be established in the primary and secondary schools. This will take the form of an information pack that will contain a range of pamphlets and accompanying posters that outline the current declining status of the marine sea turtle. The emphasis of the school programme is on the longer term aspects of natural resource conservation with the expressed hope that the school children will more likely absorb information and new ideas in environment and conservation.

The radio programmes that will be produced for transmission to the outer islands on Radio Tarawa will have a more immediate and direct emphasis. The aim of the radio programmes will be to encourage a modification to the existing usage of turtles. The emphasis will be to encourage a "sustainable usage" ethic amongst the villagers therefore the programme will encourage practices including the protection of all turtles when they are on land, the protection of small turtles at sea, the protection of turtle nests and a reduction in the number of eggs collected from a single nest. The intention of the campaign will be to modify existing habits rather than to stop the usage of turtles as turtles are recognised as an important subsistence food source for outer island people.

The radio programmes will be produced and scripted by the Environment Unit in cooperation with the Karibai Broadcasting Company.

Phase 2. Turtle Tagging and Training Programme

The Turtle Tagging and Training Programme will be split into two stages to best manage available personnel as a result of the geographical distance between the two proposed survey sites.

On Kanton Island in the Phoenix Group it is anticipated that turtle expert George Balazs, IUCN Marine Turtle Specialist, National Marine Fisheries Service, Hawaii will carry out the tagging and training programme. The turtle expert will be on Kanton for a period of two weeks during which time he will supervise the tagging programme and provide instruction to the Fisheries Officer and the Wildlife Conservation Officer on survey and tagging procedures. Prior to the beginning of the programme an assessment survey will be carried out to ensure that the tagging programme occurs during peak nesting time. The assessment will be carried out by the Meteorological Officer based on Kanton who will patrol the known nesting sites and report on nesting activity. As the peak nesting season is expected to begin around October the assessment survey will begin in September and occur 3 nights each week. Peak nesting activity will be judged from information supplied from Kanton and the tagging programme will be implemented for a period of two weeks at the estimated nesting peak to ensure a substantial proportion of the nesting turtles are tagged.

On Makin a turtle expert will be recruited under the auspices of Dr. Colin Limpus, Department of Environment and Heritage, Queensland, Australia. A similar procedure will be carried out on Makin whereby the resident Fisheries Assistant will carry out the assessment survey. The tagging and training programme will be carried out over a four week period to ensure that a substantial proportion of the nesting stock is tagged and that the Fisheries Officer is trained in survey and tagging procedures.

Phase 3. Turtle Conservation and Management Plan

The preparation of the Turtle Conservation and Management Plan will involve the compilation of data that is collected through Phase 2 into a form that will provide a baseline from which to assess the status of the turtle population on islands in Kiribati. The baseline study will complement the work initially performed on Kanton by Falagg (1975) and will give a good indication of a change in nesting numbers over the intervening 20 year period. It is critical that a standardised method of assessment be established in order to quantify changes in population numbers as the present method of assessing population size is based on unsubstantiated verbal reports of questionable validity. The Conservation and Management Plan will be prepared by the Environment Unit in cooperation with the Fisheries Division to provide a clear direction for the continuation of Kiribati involvement in the turtle programme. The training programme outlined in Phase 2 will allow the Fisheries Division to carry on the tagging programme on Kanton and Makin on a regular basis and will be expanded to other islands as estimates of turtle nesting areas are obtained. The Conservation and Management Plan will be updated on an annual basis to incorporate new data and to ensure a measure of flexibility so that the turtle programme is focussed on the fundamental requirements that are unique to Kiribati. The directions and findings established by the Conservation and Management Plan will be assessed on a regional level to ensure that the programme that is implemented in Kiribati is compatible with other regional assessments. As evident in the literature there are large gaps in the understanding of marine turtles in the Pacific Region and it is critical that the work that is being carried out in all areas of the Pacific is done in a standardised form so the results can be utilised on a regional basis.

BUDGET

All costs in SAUD

Phase 1 Education Campaign

Posters

Design, production and distribution of 1000 education posters in 1 Karibia 2,000.00

Radio broadcasts, 1 per week for 20 weeks x \$25 500.00

Sub-total 2,500.00

Phase 2 Turtle Tagging and Training Programme

Salary

Kanton

Pre-tagging Assessment Survey 1 x 4 weeks x \$50 per week 200.00

Field Assistants (Local Island Residents) 3 x 2 weeks x \$50 per week 300.00

Makin

Field Assistants 3 x 4 weeks x \$50 per week 600.00

Sub-total S 1,100.00

Travel Costs

Kanton

Turtle Expert Honohala - Kanton - Hanululu 1,500.00

Fisheries Officer Kirimati - Kanton - Kirimati 500.00

Wildlife Conservation Officer Kirimati - Kanton - Kirimati 500.00

Makin

Turtle Expert Australia - Tarawa - Makin - Tarawa - Australia 1,250.00

Facilities Officer Tarawa - Makin - Tarawa 150.00

Environment Officer Tarawa - Makin - Tarawa 150.00

Sub-total S 4,050.00

Per Diem

Kanton

Turtle Expert	14 days x \$200	2,800.00
Fisheries Officer	14 days x \$45	630.00
Wildlife Conservation Officer	14 days x \$45	630.00

Makin

Turtle Expert	14 days x \$45	630.00
Fisheries Officer	21 days x \$45	945.00
Environment Officer	14 days x \$45	630.00

Sub-total \$6,265.00

Field Supplies

2 Pressure lamps	2 x \$50	100.00
4 Heavy duty waterproof torches	4 x \$40	160.00
10 Carbons of batteries	10 x \$20	200.00
10 Field log books	10 x \$5	50.00

Sub-total \$510.00

Transport (Vehicle Hire)

Kanton

14 days x \$50 per day	700.00
------------------------	--------

Makin

21 days x \$40	840.00
----------------	--------

Sub-total \$1,540.00

Phase 3. Turtle Conservation and Management Plan

Turtle Conservation and Management Plan

Printing and production costs	200.00
	Sub-total \$200.00
	Total \$16,165.00
Contingency at 10%	\$1,616.00
	Grand Total \$17,781.00

Additional Budget Details

Phase 1. Education Campaign

Posters

The use of posters has through past experience been shown to be successful where they carried a simple message in the local language and presents a local theme that can be readily identified by the recipients of the programme. It is intended to use a local artist to design a poster that will incorporate traditional turtle mythology with a conservation ethic.

The cost for the poster is based on estimates provided by the Health Education Unit which has prior experience in poster production in Kiribati.

Radio Broadcasts

The current cost for radio broadcasts through the Broadcast and Publications Authority (BPA) is \$25 for a 15 minute session. Radio is a popular medium in Kiribati as it is transmitted to all of the Gilbert Group islands. The radio broadcasts will outline the current state of turtle populations in the Pacific and provide information on turtle conservation programmes that are occurring both in the Pacific and other parts of the world.

Salary

The Pre-tagging Assessment Survey will be carried out by the Macrozoology Officer based on Kanton. The assessment will begin in September as Balazs (1975) indicated that a seasonal nesting cycle appears to occur during October and November. By beginning the assessment in September a comparison in nesting numbers will be obtained in order to gauge the peak nesting period.

The turtle experts will provide their services on an allowance (per diem) basis to cover travel to and from Kiribati, accommodation and food costs for the period of the programme.

The role of the Field Assistants on Kanton and Mifin will be to support the turtle expert and the Fisheries Officer with the tagging programme.

Travel Costs

Travel costs have been supplied by Air Tugana on Air Nauru international flights and on Air Tugana domestic flights.

Per Diem

Per diem costs are based on standard Government of Kiribati service rates for Outer Island activities.

In Kind Support from the Government of Kiribati

The salaries for the Fisheries Officer and the Environment Unit Officer.

The Environment Unit in collaboration with the Fisheries Division will prepare a full and concise report at the completion of the Programme and will prepare the Turtle Conservation and Management Plan based on the information collected from the Programme and from existing information.

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194 24 194 24 194 24 194 24 194 24
Considering your time constraints we would be able to fly you in and out of Kanton within a 12 day period. At present Air Nauru departs Honolulu on a Thursday returning on a Tuesday. In regard to report preparation we would be able to cover all requirements in that regard if you are able to prepare a sub-report as you suggested.

In order to complete the submission I require details on the level of your per diem and a list of the field supplies that you would require for inclusion into the budget.

If you have additional requirements or wish to discuss other aspects of the programme please contact me.

I look forward to hearing from you.

Regards

Craig Wilson
Environment Unit



22 June 91
Craig Wilson
ONE

GOVERNMENT OF KIRIBATI
Ministry of Environment and Natural Resources
Development

P.O. Box 64 Bairiki, Tarawa, REPUBLIC OF KIRIBATI

Facsimile Cover Sheet

To: George Balazs
Attention Shaun

Company: NOAA
Phone: 001 808 943 1221
Fax: 001 808 943 1290

From: Craig Wilson
Company: Ministry of Environment and Natural
Resources Development
Phone: 686 21099
Fax: 686 21120

Date: 24/5/94

Pages including this
cover page: 2

Comments: Kiribati Submission to RMTCP

Ref: 16/16-es317F

Dear Shaun,

I would be most grateful if you could pass this fax onto George when he returns.

Craig

Dear George,

Thank you for your fax 18 March. I am finalising our submission to the RMTCP and have designed a programme with your time constraints in mind. As I mentioned in my original contact your involvement in the Kanton work would be most appreciated considering the original work you carried out there in 1973.

1994



Queensland Department of Environment and Heritage

10 Ann Street • Brisbane Queensland • PO Box 155 • Brisbane Albert Street Qld 4002
Telephone (07) 227 7907 • Facsimile (07) 227 8388

Date 01/06/94 18:00

Please deliver the following pages to:

Name George BALAZS

Business/Section _____

Fax number 00 111 (508) 743 1290

From:

Name Col Limpus

Business/Section CONSERVATION STRATEGY BRANCH

Number of pages 5 including facsimile cover sheet

Special precedence Confidential Urgent

Notes Hi George! Col & I have a beautiful baby
boy - (James Charles) All is well & looking
forward to meeting you!

Laura



Queensland Department of Environment and Heritage

160 Ann Street - Brisbane Queensland - PO Box 155 - BRISBANE ALBERT STREET QLD 4002
Telephone (07) 227 7111 - Facsimile (07) 227 6554

Dr. Colin Lispos

07 2277718 (Fax: 07 2276386)

1 June 1994

Dear Craig,

RE: Draft NHTCP Proposed Action Workplan

Over all the project looks good and achievable. There will be very useful long term data gathered from a study like this.

I make the following comments fro your consideration:

1. Re the monitoring of track counts etc., that will be done before the teams arrive at each site. These data will be significant if gathered consistently. In addition, those observations should be continued for 2 - 4 weeks after the team leaves as well. This way you will know that which part of the season you have sampled. This would add considerable value to the years data with minimal additional cost.

I can't find copies of the data sheet that SPREP uses to check - therefore I am enclosing a sample of our nesting beach survey sheet for your consideration for use.

2. You really should have as part of the study a literature review/summary of all existing knowledge to the present of your country. This is very important for interpreting the current status. This could be an expected among the work output of the team. There is a considerable body of that literature already summarized on the SPREP turtle literature database. I have copies here if you do not have alternate access to it.

3. Given that the major costs of getting to your rookeries is already covered, I would strongly recommend that tissue samples be collected from each of your major rookeries for genetic analysis along with the other SPREP region rookeries. The result from this work are proving to be a very powerful management tool. It will allow for identification of the extent to which your turtles are unique to your area or whether they are part of a larger breeding stock. In addition, once the genetic marker for your stock(s) is identified, then

turtles being killed in distant localities can be tested to identify for the presence of your turtles.

Don't be put off by the technology of this type of study. Both George Balazs and the person who comes from my team will be able to organize the tissue collection from up to 30 different females from each site. If you could budget for \$1000 to contribute to the cost of the genetic analysis this would be very helpful. This would cover 80-90% of the actual cost of the analysis. The job study that I have with Dr. Craig Horvitz, University of Queensland can cover the remainder.

4. Loggerhead turtles: This species is now endangered for the south pacific region. The breeding population is declining badly. Any loggerhead nesting that you have is probably very significant - from a biodiversity standpoint, more important than your green turtles. Any tissue samples you can obtain to link into the global genetics study of this species will be very significant (with any female lead turtle that turns up, freeze a piece of muscle or liver and contact George or myself).
5. Education: 1995 is the International year of the turtle in the Pacific. Are you sure you have allowed enough for a special emphasis to be placed on this aspect for 1995?
6. Budget: Why the disparity in per diem for the turtle expert for Kanton and for Makin. If you can provide a higher per diem for Makin, I will be able to persuade a good person from my volunteer team to for-go a summer job to join you.

Wishing you well in this study.


Dr. Colin LIMPUS
Manager, Research and Monitoring (Maritime)

b/c George Balazs, Hawaii

BEACH _____

ISLAND/BEACH: _____

RECYCLED: _____

YEAR: _____

MONTH: _____

SPECIES: _____

Record each species on a separate sheet

WEATHER (Wind, Sun, Cloud)	DATE	TAGGED TURTLES		CLAS	TOTAL TURTLES	TRACK COUNT	EMERGED CLUTCHES	HEATING TURTLES OVID
		New	Resights					
On arrival								
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
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	25							
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	27							
	28							
	29							
	30							

KEY TO BEACH SURVEY SHEET

* Note: Use a separate sheet for each species.

ON ARRIVAL: Track counts, emerged clutches and dead turtles should be recorded, and the date of arrival written in the date column.

DATE: The actual date of the survey, i.e. data collected on the 12th January should be recorded on row 12 of the date column.

* In tagging surveys, record the date at the start of the night. DO NOT change date at midnight.

TAGGED TURTLES:

NEW: Number of turtles given new tags, i.e. have not been tagged before.

RECAPTURED: Number of turtles which have been tagged before, i.e. old tags.

CLUTCHES LAID: Number of clutches laid by all turtles on the beach for the night.

TOTAL TURTLES: Total number of turtles visiting the beach for the night.

TRACK COUNT: The number of tracks on the beach for the night.

* Note: One track up and one track down the beach = one track.

* The track count may be higher than the number of turtles counted, as some turtles may come up the beach more than once during a night.

* Track count should be recorded for the date of the night that the turtles visited the beach.

EMERGED CLUTCHES: The number of clutches of hatchlings that emerged from nests that night.

RESTING TURTLES DURING: Nesting turtles that have washed in, or found dead on the beach.

MARINE TURTLES IN KIRIBATI - SUMMARY

Species

Green turtles are the most common species, and are sighted in all island groups. Hawksbills are frequently observed, and there are sporadic reports of loggerhead and olive ridley turtles. There has been one recorded capture of a leatherback turtle (Onorio 1979).

Nesting

Bailey (1977, quoted in Onorio 1979) reports green turtles nesting in abundance on Christmas Island at the time of Captain Cook. After that time, the crew on the whaling ships used the island to replenish their meat stocks (Whittow undated). Likewise, Katangateman Sandbank and Nanouti Island were used by the Japanese and US forces respectively, for the same purpose (Onorio 1979).

Nesting occurs mainly on Canton Island in the Phoenix Group, but some nesting is also evident on Hull, Phoenix, Sydney, Gardner, Birnie and Enderbury Islands (Phoenix Group), and in low numbers at Christmas and Fanning (Line Group) (Groombridge & Luxmoore 1989b).

Nesting occurs all year round at Canton with a peak in Oct-Nov (Balazs 1975) and possibly a second peak in April-May (Onorio 1979). The population on Canton Island may involve as many as 200 nesting females (Balazs 1981).

There are no records of hawksbill or olive ridley nesting, but there is the occasional report of a nesting loggerhead (Onorio 1979).

Feeding

Green and hawksbill turtles are commonly seen feeding in the lagoons and reefs around Tarawa and the island groups (Onorio 1979, Teebaki 1986). Butaritari and Kuria are mentioned as feeding areas, and the only recorded capture of a leatherback turtle occurred at Butaritari (Onorio 1979).

Utilization

Onorio (1979) states that it was common practice for men to return from Gardner, Hull of Canton Islands with barrels of salted turtle meat.

Maude (1968, quoted in Onorio 1979) states that tortoiseshell was obtainable in small quantities. Fijian customs statistics show imports of worked tortoiseshell in 1973, 1975, 1977, 1978 and 1979, but none is known since (Groombridge & Luxmoore 1989a).

Today the meat and eggs are eaten, and the meat and carapaces are sold locally (Daly 1990).

Methods of capture

The most common method for catching turtles is the use of gillnets, which contributed to more than 80% of the 66 turtles captured in Tarawa in 1978 (Onorio 1979). Spears, hooks attached to bamboo poles and the tying of ropes to resting turtles, have all been recorded as methods of catching feeding turtles in Kiribati (Onorio 1979). Nesting females are sometimes captured on the beach. If

the tracks are seen, the local people may dig up the eggs to examine them in order to determine when she will return to the beach to lay the next clutch of eggs (Onorio 1979).

Farming

A gentleman from Tarawa raised 50-60 turtles for one year to sell for festive occasions. Turtles were mainly only kept for feasts and celebrations (Onorio 1979).

Poisoning

Two fatal cases of poisoning by the hawksbill turtle have been recorded (Bataua 1990).

Legislation

Kiribati is not a party to CITES.

Wildlife Conservation Ordinance 1975

The taking of any wild turtle on land is prohibited except under licence.

The taking of C. mydas is prohibited in some areas

The possession of species, their products or eggs which have been illegally acquired is prohibited.

Tradition

Turtles are considered totem creatures worshipped by the groups Teborauea and Tabakea. No member of these groups may eat the totem creature worshipped (Onorio 1979).

Turtles are not eaten by pregnant women and nursing mothers, or adults at the time of war, as it is believed to cause cowardice on account of its crawling habit (Onorio 1979).

Surveys

George Balazs of the National Marine Fisheries Service, Honolulu Laboratory, carried out a scientific survey of Canton Island between 13-20 February 1973 (Balazs 1975).

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GOVERNMENT OF KIRIBATI

**MINISTRY OF ENVIRONMENT AND NATURAL
RESOURCES DEVELOPMENT**

P.O. Box 64, Bairiki, Tarawa, Republic of Kiribati

Cable: RESOURCES TARAWA Tlx: KI 77039 MINNRD Tel: (686)21099 Fax: (686)21120

Ref: 16/6-es255L
March 21, 1994

George Balazs
Deputy Chairman, IUCN Marine Turtle Specialist Group
National Marine Fisheries Science Centre
Honolulu Laboratory
2570 Dole Street
Honolulu, , Hawaii 96822 - 2396

Dear George:

Thank you for your fax 25/10/93 and the articles regarding your work on Kanton Island. Since I last contacted you, regarding advice on an appropriate turtle programme for Kiribati, an air service to Kanton was established in January on a weekly basis by Air Nauru providing a connecting flight between Tarawa, Kanton, Kiritimati and Honolulu. With this development I am particularly interested to include Kanton in the turtle work programme along with Makin Island in the Northern Gilberts.

I am in the process of developing a turtle work plan for submission to SPREP and would like to know if you would be interested in leading the Kanton and Makin survey. As you carried out the preliminary assessment on Kanton I am keen to offer you the opportunity to follow up your original work with a tagging and assessment programme to be implemented in the October/November nesting season 1994. As Kanton is to be the site for a tourist development I would like to implement the turtle project before the tourist development to ensure that there will be minimum impact on the nesting areas.

If you are interested in being part of the programme I would require from you a range of details covering project methodology, a schedule for action and a preliminary budget, in order to complete the submission to SPREP.

If you are able to participate in the project please contact me to discuss appropriate details. If you are unable to participate but could recommend an alternative please do so at your earliest opportunity.

In regard to your question on ships to the Southern Line Islands there will be an ornithological study to all of the Southern Line Island in September 1994. Please contact me if you require additional details of the voyage.

I have sent a similar request to Dr. Limpus in Australia for his comments and as yet not received a reply,

Sincerely,

Craig Wilson
Environment Unit

for Secretary Environment and Natural Resource Development



GOVERNMENT OF KIRIBATI

**MINISTRY OF ENVIRONMENT AND NATURAL
RESOURCE DEVELOPMENT**

P.O. Box 64, Bairiki, Tarawa, Republic of Kiribati
Cable: RESOURCES TARAWA Tlx: (582) 1545133 Tel: (686)21099 Fax: (686)21120

June 23, 1994

George Balazs
Marine Turtle Research
National Marine Fisheries Service
Southwest Fisheries Science Centre
Honolulu Laboratory
2570 Dole Street Honolulu, Hawaii 96822-2396

Dear George:

Thank you for the information on satellite tracking and mtDNA. With the range of proposed actions in the Kiribati workplan I'm hopeful that SPREP will look with favour on the submission so that we can implement our programme when and as planned. I am hoping to be in Apia for the August RMTCP so it may give me the opportunity to help sell the submission to SPREP.

I came across a report by the Wildlife Conservation Unit that included some information on turtles in Kanton so thought it may be useful for your records.

Yours sincerely,

A handwritten signature in blue ink, appearing to be 'Craig Wilson', written over a large, faint, illegible stamp or watermark.

Craig Wilson

Environment Unit

enclosure: Report

REPORT OF VISIT TO CANTON ISLAND (KANTON)

(170)

BY KATINO TEEBAKI, WILDLIFE CONSERVATION UNIT, KIRITIMATI

1. Kanton Island was visited by the Wildlife Warden from April to August 1986. The purpose of the visit was to carry out a general survey of the islands flora and fauna with a view to updating the Unit's knowledge and information of the atoll. As can be seen in the report the visit deserves the purpose in that the writer was able to confirm on:

- a) the breeding and other aspects of certain species whose previous status have been uncertain.
- b) the absence or non-existence of feral dogs which have been reported of the island
- c) the status of Green Turtles which are under an early stage of threat from human activities.

The writer wishes to thank the Ministry of the Line and Phoenix Islands for their approval of the visit and it is hoped that similar visits to other islands within these groups can be made should opportunity permits in future.

2. Present situation

Kanton Island which had been a center of military occupation and activities in the Phoenix Groups is now a peaceful port of call for Kiribati ships between Tarawa (the Nation's capital) and Kiritimati (the Line Islands capital). To the yatchmen it is a convenient stepping stone on a southbound or westbound route. No doubt it will become to be regarded as the capital of the Phoenix Group. The withdrawal of the Americans from the island has meant the abandonment of facilities, plants, equipments, etc from the time when it was used (after the second world war) as a civilian airport and subsequently later as a NASA and Military satellite and missile tracking station. Kanton Island was handed over peacefully to Kiribati and since the nation's independence in 1979, the island has been looked after by a handful of I-Kiribati employees who were being stationed as caretakers.

For the Phoenix Groups as a whole, Kanton is undoubtedly a center of consideration for future developments. It has the best anchorage in the whole nation to facilitate the mooring of some 2,000 ton vessel. Among the infrastructures left by the Americans is the one mile long tarmac runway which can facilitate large planes. This runway was in excellent condition at the time of the visit. The tarmac road from the wharf to the airport was also in excellent condition but it continues around the entire perimeter of the island unsurfaced. Other facilities left by the Americans include the hanger (nearing corruption) the hospital, tennis, squash and basketball courts, warehouses and motorpools, a terminal building, open and roofed cinema theatres etc., etc. The plants and equipments include two separate central heavy power-generating plants, radar tracking (satellite and missile tracking) equipments, powerful communication antennas and installations etc.

The I- Kiribati employees stationed on the island as caretakers comprised a Police Sergeant who acts as District Officer for the Phoenix Groups, a meteorological service officer who also do the

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postal and radio telecommunications service and the teaching, a nursing officer and a carpenter. Altogether they numbered 14 persons with their children and relatives.

3. Position and weather

On a world scale, Kanton is positioned at 2° 49'S, 171° 40'W. Situated in the equatorial dry belt, the rainfall is low and unpredictable, and there are periodic and severe droughts. In July, however an unusual semi-torrential rainfall was witnessed for several alternate days. The prevailing winds are easterly which blow throughout the years. The temperature is as warm as with other islands in the Line groups.

4. Physical feature

Kanton is the most northerly situated of the Phoenix Groups lying about 70 km north-west of Enderbury Island. It is a true atoll enclosing a lagoon which is connected to the ocean by a channel. The lagoon is shallow reaching perhaps 3 metres of depth in certain places, here and there in the lagoon, however, are numerous coral heads and coral patches many of which are subjected to exposition at low tide. Spam island at the lagoon entrance and three others are the only visible man-made features in the lagoon. The island in most places is generally narrow from lagoon to the ocean beach. The widest place in this sense being less than half a Kilometer broad with the narrowest part about 15 meters wide. As with most atolls the beach crest around the entire perimeter of the island is generally high but slopes gently down towards the lagoon. In many places, however, heaps or hills of sand or rubble were visible. These were formed by the Americans during their occupation to form revetments.

Direct from north-east to southeast the island measures about 9 miles long but the perimeter by road measures approximately 21 miles.

5. Birdlife

a) Species abundance

The birdlife of Kanton is limited in species diversity and abundance. Fourteen species of seabirds were recorded resident. With the exception of the Christmas Island shearwater, all were either confirmed or believed breeding species. The migratory birds observed were the Bristle-thighed Curlew, the Pacific Golden Plover, the wanderling Tattler and the Sanderling.

b) Nesting distribution

The nesting was confined almost entirely to the south-east corner (Te kabi) of the atoll. Here all except the Brown and Black Noddies and the White Tern concentrated. The two noddy species nest on the three artificial islets at the lagoon entrance. The White Tern occurred mainly in and around settlement areas nesting high up in Casuarina equisetifolia as well as in ruined buildings.

(172)

c) Population abundance

The seabird population was relatively small compared with other islands that had been visited in the past - in particular Malden. By species comparison and assessment amongst the island's individual species, the Grey-backed Tern and the Red-footed Booby have significant populations for an atoll with limited habitat and space. To a lesser extent the lesser Frigatebird and the Brown Noddy also have some significance in population. The following is a rough estimate of the individual species population.

<u>Native Species</u>	<u>Estimated Population</u>
Great Frigatebird	50+100 birds
Lesser Frigatebird	200-300 birds
Masked Booby	6 nesting pairs counted on whole island
Brown Booby	200 birds
Red-footed Booby	1500+ birds
Red tailed Tropicbird	50 birds
Wedge-tailed Shearwater	50 birds
Christmas Shearwater	Only one individual seen flying
Phoenix Petrel	50+ pairs
Sooty Tern	1500-2000 birds
Grey-backed Tern	1500+ birds
White Tern	150-200 birds
Brown Noddy	1000-1500 birds
Black Noddy	1000 birds
<u>Migratory species</u>	<u>Averager per day from 10 different days count</u>
Bristle thighed Curlew	2.8
Pacific Golden Plover	2.4
Wandering Tattler	1.9
Sanderling	1.4

d) Breeding

All seabird species recorded except the Christmas Shearwater were confirmed breeding in Kanton as indicated below:

<u>Species</u>	<u>Breeding</u>
Great Frigatebird	confirmed
lesser Frigatebird	"
Mashed Booby	"
Brown Booby	"
Red-footed Booby	"
Red-tailed Tropicbird	"
Wedge-tailed Shearwater	"
Christmas Shearwater	suspected
Phoenix Petrel	confirmed
Sooty Tern	"
Grey-backed Tern	"
White Tern	"
Brown Noddy	"
Black Noddy	"

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Kanton lacked the following birds as breeding species which do occur in Kiritimati.

Crested Tern
Blue-grey-noddy
White-throated Storm Petrel
Audubon Shearwater

g) Count/estimate of nests and nestlings

The following count/estimate of the nestlings of each species were made in late June. In the case of certain species the count may be quite accurate as there were no other place on the island they nest.

<u>SPECIES</u>	<u>TYPE OF NESTLING SEEN</u>	<u>NEST</u>	<u>COUNTED</u>	<u>NESTLINGS COUNTED</u>
Great Frigatebird	large downy chicks*	Est.	3+	Only 3
Lesser Frigatebird	Egg	Est.	30+	3 only
Masked Booby	Egg	6		4
Brown Booby	Egg	13		7
Redfooted booby	Egg & young	Est.	20	Est 200
Red tailed Tropicbird	Egg & young	5		5
Sooty Tern	a) Young fledged*			5 remained
	b) Egg (following season)	-		20+
Grey-backed Tern	Fledged young and few eggs	-		Est 150+
White Tern	Egg	5		5
Brown Noddy	Egg & young	-		Est 500±
Black Noddy	None	none		none
Wedge-tailed Shearwater	Eggs	21		6
Christmas shearwater	none	none		none
Phoenix Petrel	none	Est	2	none

* - represents nestling from the season preceding the writer's arrival on Kanton.

6. a) Habitat

The existence of suitable habitats for the birds was to be found at the south-east regions which include the "Kabi", where the least modification from introduced plants and past bulldozing activities were obvious. The following habitat types were identified:

- 1) Trees - Messerschmidia argentea
Casuarina equisetifolia
- 2) Large shrubs - willow spp.
- 3) Low shrubs - Suriana maritima
- 4) Open and partly vegetated grassland/herbland
 - Digitaria pacifica
 - Lepturus repens
 - Beccharvia repens
 - Portulaca lutea
 - Triumfetta procumbens

- 5) Open unvegetated ground
- 6) Partly open lepturus grassland - Lepturus repens
- 7) Coral debris/rubble
- 8) Roadside dunes
- 9) Open unvegetated or partly vegetated areas.

Habitat No. 6 also exist in low-lying areas on the scarp regions of atoll.

b) Birds and habitat association

Numbers under habitat types refer to habitat classification under 6 (a).

<u>Habitat types</u>	<u>Bird species</u>
(1)	Red-footed Booby and White Tern
(2)	Great and lesser Frigatebird and Red-footed Booby
(3)	Great and lesser Frigatebirds (An important habitat)
(4)	Sooty and Grey-backed Terns
(5)	Brown and Black Noddies and (Grey-backed Tern only on Spam Island)
(6)	Phoenix Petrel
(7)	Brown Booby
(8)	Wedge-tailed Shearwater
(9)	Masked Booby

c) Amount of habitat

The amount of habitat on the whole is generally limited. The mingling of the Sooty and grey-backed Terns on the ground which was observed in April perhaps suggested insufficient habitat. On the other hand the concentration of the majority of the different bird species at the 'Kabi' and its regions may suggest availability of suitable habitats on this part of the island. The Kabi or South-east corner received the least modification from recent human activities. Large-scale bulldozing of land were noticeable on most other parts of Kanton.

7. a) Marine Turtle

Turtles were common sights throughout the duration of the stay on Kanton. They were seen regularly in the lagoon and on the ocean reef at high tide either swimming close to land or appearing on the surface. They also frequent the wharf area regularly coming often so close to land that makes identification easy. Many of those seen within close range were of the Green type. The sighting record at different part of the atoll is indicated on map 4.

b) Nesting distribution

Like the birds, nesting of Green Turtles was confirmed to one particular spot along the south-east regions. This spot, about two miles west of the Kabi (on the northern rim of the island) supported between 20 and 30 suspected nests. The entire extent of the beach westward from the Kabi along the northern rim was about two miles long but broken at intervals either by deposits of coral rubbles or base-cemented slabs. Turtles used only one space between these beach/rubble intersections to nest. Certain other parts of Kanton supported good deposits of beach sand particularly the coastal areas of the runway.

Trace of beaching by a turtle on the south rim of island amongst a mixture of sand and small loose corals were seen. No nesting suspected.

8. Plantlife

a) Native Plants

The native flora of Canton is comprised of the following species.

- | | |
|--------------|-------------------------|
| Trees | Messersdimidia argentea |
| Large shrubs | Scaevola taccada |
| | Casuarina glauca |
| Low shrubs | suriana maritima |
| Herbs | Digitaria pacifica |
| | Lepturus repens |
| | Eragrostis whitneyi |
| | Potulaca lutea |
| | Portulaca oleracea |
| | Boeharvia repens |
| | Sesuvium portulacastrum |
| | Cassytha filiformis |
| | Triumfetta procumbens |
| | Tribulus cistoides |

b) Introduced Plants

A variety of exotic plant species occur mainly in and around settlements. A number of these have spread to the remote parts of the island - in particular the willow plant species which can tolerate salt spray and as a result occur widely along lagoon marginal areas over much of the island. The writer identified the following species:

- | | |
|-------------|----------------------------------|
| Trees | - <u>Cocos micifera</u> |
| | - <u>Pandanus tictoria</u> |
| | - <u>Casuarina equisetifolia</u> |
| | - <u>Casuarina glauca</u> |
| | - <u>Terminalia catapa</u> |
| | - <u>Cordia subcordata</u> |
| | - <u>Cordia sebestena</u> |
| | - <u>Quettarda speciosa</u> |
| | - <u>Callophyllum inophyllum</u> |
| | - <u>Morinda citrifolia</u> |
| Shrubs | - <u>Plucles odorata</u> |
| | - <u>Terminalia spp</u> |
| | - <u>Willow spp</u> |
| | - <u>Lantana camara</u> |
| Grass/Herbs | - <u>Eragrostis amabilis</u> |
| | - <u>Fimbristylis attolensis</u> |
| | - <u>Eleusine indica</u> |
| | - <u>Cenchrus echinatus</u> |
| | - <u>Euphorbia hirta</u> |
| | - <u>Euphorbia prostrata</u> |
| | - <u>Euphorbia heterophylla</u> |

- Ornamental plants
- Crinum assiat...
 - plumeria rubra
 - Nerium orleanda...
 - Hibiscus tilaceo...
 - Hibiscus rosa-sinensis
 - Ipomea tuba
 - Ipomea pes - ...
 - Carica papaya

c) Plant Distribution

The bulk of introduced plants grew on the western part of the island. This was the most industrialised part of Kanton during the British and American occupation. Similarly along the roads grew which sprang up in mid July after the rain. species which the writer assumed was introduced to salt spray 'screen' had spread out to some extent in areas. At the Kabi for example the shrub for air and seldom attract the odd Frigatebirds. R. ...

of the island. the British ... plants ... plant ... a wind and ... thicket ... in.

Native plants generally have a widespread distribution but they have been excluded to a certain extent in some regions. The herbaceous communities have ... those on Kiritimati. In many cases, however, ... formed part of these plant communities. This ... occur on Kiritimati. It is common and widespread in Kanton may suggest its introduction to the island.

... but western ... on to ... does not ... means.

Typical composition of native herbaceous communities

- A. Portulaca Lutea, Boeharvia repens Digitaria procumbens and Lepturus repens
- B. Boeharvia repens Portulaca Lutea Digitaria procumbens
- C. Triumfetta procumbens Lepturus repens Digitaria procumbens
- D. Triumfetta procumbens, Portulaca Lutea, Boeharvia repens Digitaria procumbens

... triumfetta ... lepturus ... Digitaria

9. Feral and domestic animals

a) Dogs

The writer confirmed from the visit of the north-western part of the island which have been reported in previous papers. There was no record of any domestic dog on Kanton until the arrival of the ship in mid July 1986 which brought two pups to the island. The ship returned to Kiritimati on this ship and did not have a record of the sex of the pups.

... dogs ... been ... in ...

b) Pigs

Feral pigs were not present in the wild. There were some owned by the families of caretakers on Kanton. During the visit numbered some twenty animals. These pigs were kept in pens but were often allowed to roam by their owners. There was no problem so far to the environment.

... pigs ... of the ... pens ... posed

c) Cats

Feral cats exist in the wild but the writer suspected their number to be relatively small. Only five sightings of feral cats were recorded throughout the duration of the visit. Three of the sightings were either of a cat seen running across or alongside the road. The other was of a cat roaming on the beach/reef margin on the ocean side of the runway. The fifth record was in the form of tracks near the south-east corner of the island - seen on the edge of a small colony or burrows (of some 25 birds) of Wedge-tailed shearwater. Evidence of predation by the cat, however, was absent. Each of the four families of employees on the island owns a male cat. Stray cats were seen in camp areas only.

10. a) Effect on Birdlife

The writer was almost certain of the minimal effect (if any) of feral cats on the birdlife. This was believed by the virtual lack of corpses or bird carcasses which would have been easily found if predation persist. The writer, however, admitted that hermit crabs which were abundant over all of the island could easily scavenge and consume even the last fragments of any bird carcasses that feral cats might leave. A proper survey on feral cats on Kanton is needed before one could present a more accurate information on population, predation etc.

b) Sex and colour of cats on Kanton

Only two female cats were seen on Kanton. These are stray ones as none of the four families of employees on the island own a female. Most of the stray cats seen in and around camp were males. Kittens were never seen throughout the stay. The feral cats seen in the wild could not be sexed. The following colours were recorded:-

Domestic cats

- a) All black (a)
- b) Black and White (as?)
- c) Black with white spot (as)
- d) Dilute black (a, d)

Stray cats

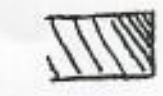
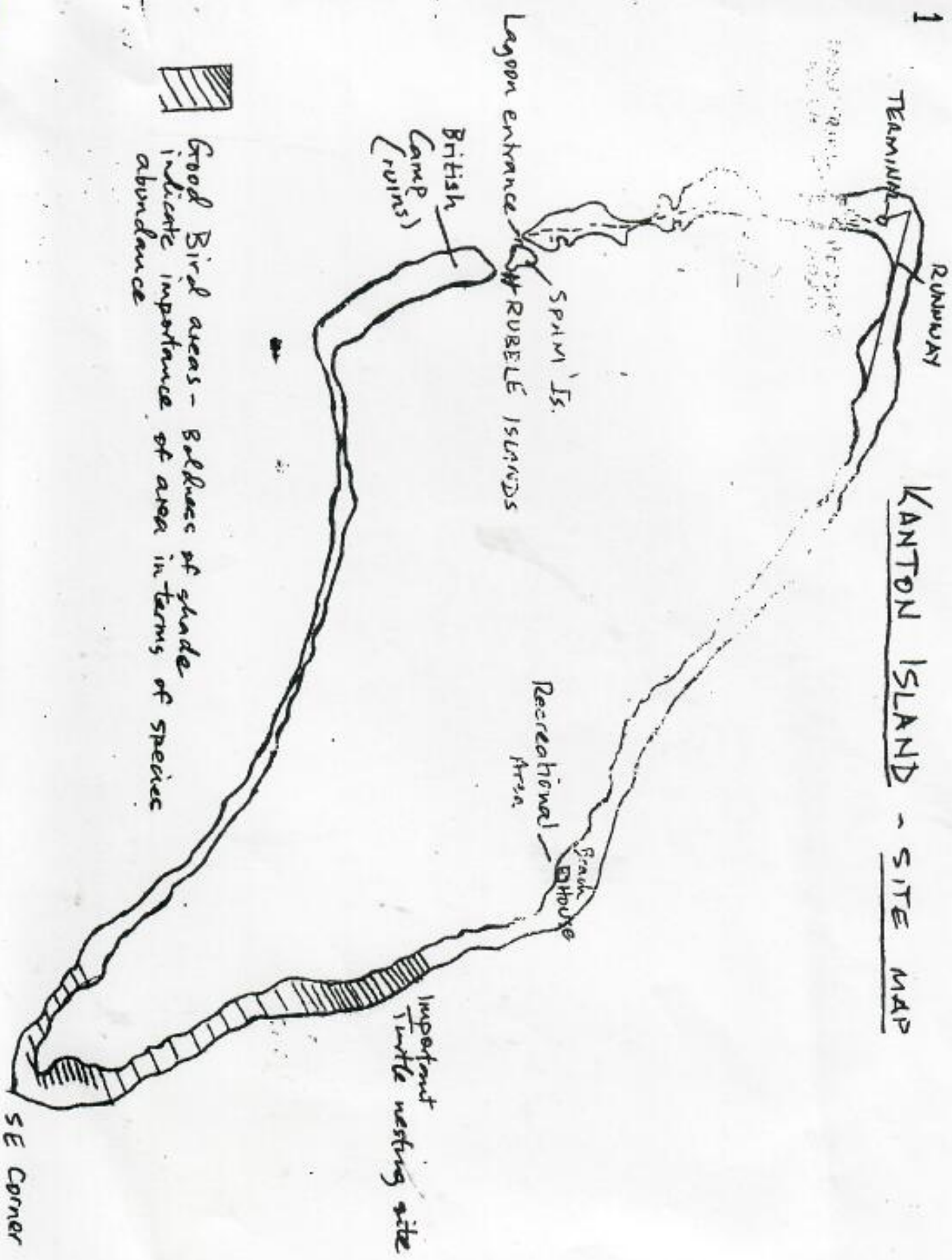
- e) Blotched tabby (t+)
- f) striped tabby (tb)
- g) All black

Feral cats

- h) Orange or ginger o/?
- i) All black (a)

MAP 1

KANTON ISLAND - SITE MAP



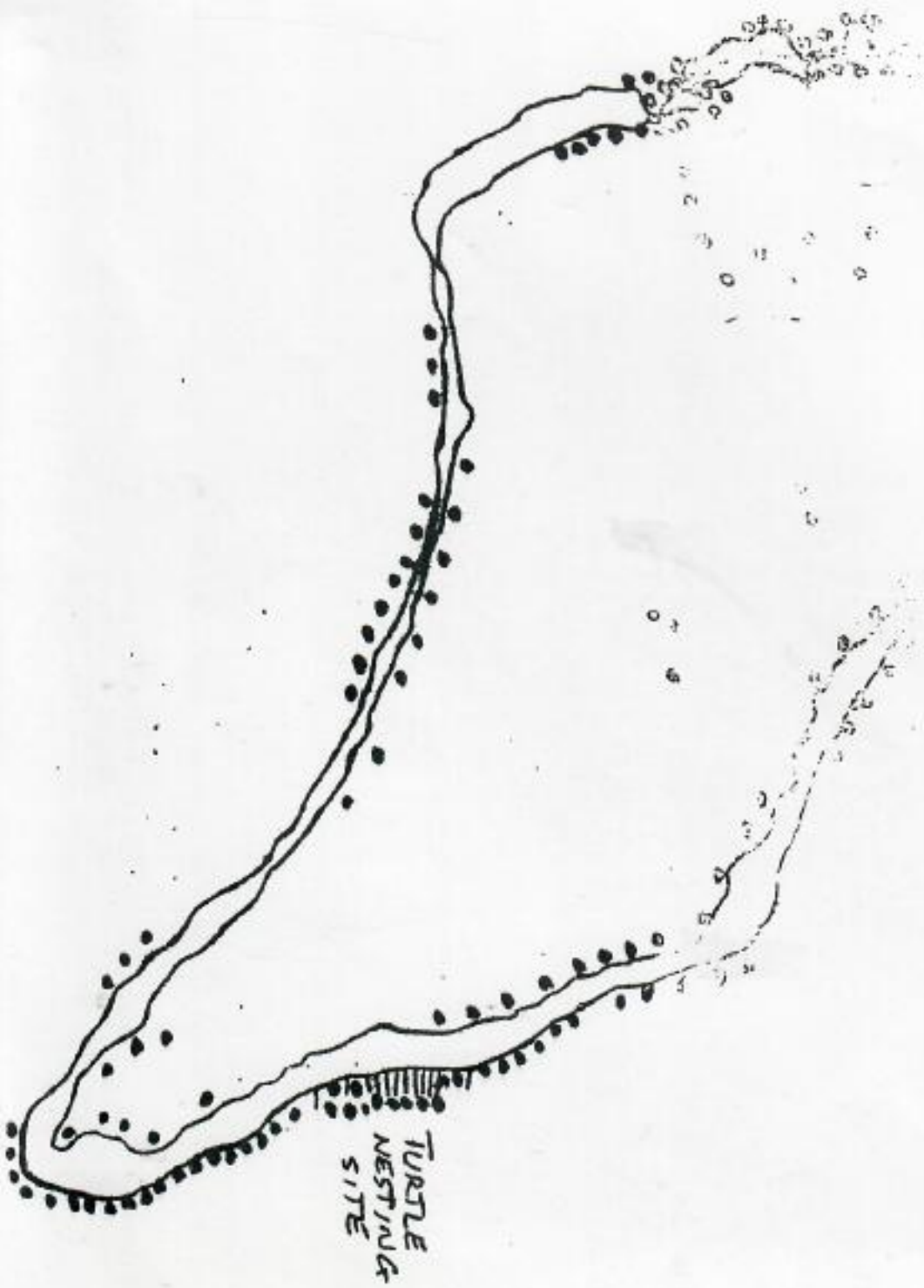
Good Bird areas - Balance of shade indicate importance of area in terms of species abundance

Important turtle nesting site

SE Corner



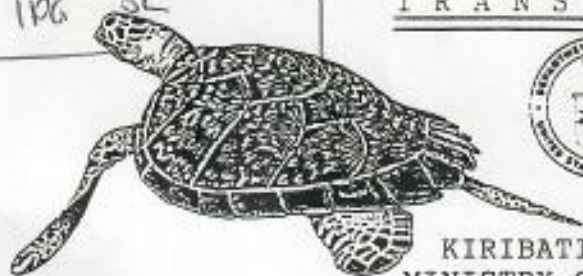
KANTON ISLAND - Distribution of the Green
Turtle by sight on land



TURTLE
NESTING
SITE

FAKED 9-6-94 7:17
1pg SK

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

KIRIBATI
MINISTRY OF ENVIRONMENT & NATURAL RESOURCE DEVELOPMENT

TELEFAX FOR: CRAIG WILSON

DATE: 6 SEPTEMBER 94

FROM: GEORGE BALAZS

TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

Dear Craig:

I have just returned from 10 days in Taiwan working with green turtles in the Peng-Hu Islands (Taiwan Strait). Tomorrow I leave for San Diego for one of those very bureaucratic meetings on sea turtle recovery in the U.S. Pacific region. The only interesting part of that one will be that I've been asked to give an overview of our recent RMTCP meeting, and the "Year of the Sea Turtle" campaign.

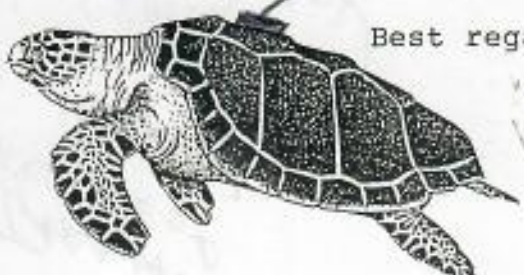
Since leaving Apia I haven't heard anything from you (fax or otherwise), so trust you didn't send something that never arrived. Except for one short note, I've not heard from Sue Miller either. However, I understand she's been traveling extensively on other aspects of her new position unrelated to turtles.

When I return from San Diego at the end of this week, I will immediately be immersed in 2 weeks of field work right here in my own backyard (i.e., Kaneohe Bay on Oahu). I have visiting investigators coming from S. Carolina and Colorado to work with me on tumor and DNA studies. So that consumes all of this month. And now, just recently, Peter Craig has proposed to me that we go again to Rose Atoll during the 3rd or 4th week of October to deploy 2 more transmitters he has been able to purchase. In short, time is running out! At this point, I am wondering if it might not be wiser for us to consider rescheduling the Kanton component of your project until 1995. Or, less preferred for me, delaying until early January, ASSUMING that we can obtain local confirmation from Kanton that there are some numbers of turtles still nesting at that time. In any event, the transmitter I have "reserved" for Kanton does indeed remain reserved for that location, whether it be 1994, or 1995.

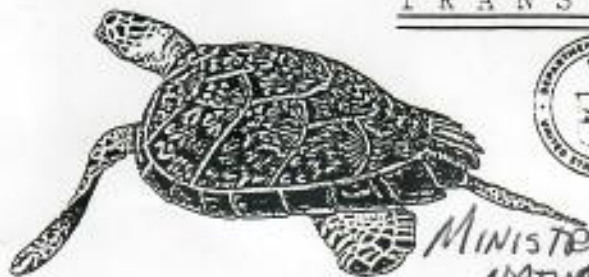
Your thoughts on this important matter will be greatly appreciated.

Best regards,

George Balazs



289-91-130



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:

CRAIG WILSON

DATE: 11 OCTOBER 94

FROM:

GEORGE BALAZS

TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page)

ONE

MESSAGE:

Dear Craig - I wanted to briefly update you about my trip to Rose Atoll to deploy perhaps as many as 4 satellite transmitters. We will now be there 23-30 Oct.

I presume that the airline scheduling for Kenton still hasn't been worked out, thereby making our postponing to 1995 a wise idea. However, will you still be in Kiribati in 1995 to make the arrangements? I certainly hope so. Also, have you heard anything from SPREP, since our Apia meeting, regarding funding of the Kiribati project? Has it now been officially approved? Again, I certainly hope so. Please keep me advised as the information becomes available to you.

Aloha, Gyl



Project Title

Kiribati Turtle Conservation Project: Proposed Action Workplan

Department Undertaking the Project

The Environment Unit and the Fisheries Division of the Ministry of Environment and Natural Resource Development will be the coordinating ministry for the project in cooperation with Ministry of Line and Phoenix who manage activities in the Line Islands and Ministry of Home Affairs and Rural Development who will be involved in activities on the Outer Islands of the Gilbert Group.

Survey Locations

Field Surveys and tagging operations will be carried out in two locations that are known turtle nesting areas from previous survey reports and from local knowledge of turtle resources. Survey locations will be Kanton Island in the Phoenix Group and Makin Island in the Gilbert Group.

Duration of Project

It is proposed that the project will begin in September with the pre-assessment survey. Tagging will be carried out during the peak turtle nesting times of October to December 1994. Post-assessment surveys will be carried out and a comprehensive report will be prepared and submitted to SPREP within six weeks of completion of the project. The intensive programme will occur in the first year and will be followed up by the Fisheries Division Assistants in the following two years.

Personnel Required

Phase 1. Education Programme

Personnel One Project Officer (temporary - 3 months)
One Fisheries Division Officer for the outer islands component
One Environment Unit Officer for the South Tarawa component

Phase 2. Field Operations

Personnel Two turtle experts with previous turtle tagging operations experience
Two Fisheries Division Officers
One Environment Unit Officer
One Wildlife Conservation Officer
Six Field Assistants

Phase 3. Kiribati Turtle Conservation and Management Plan

One Fisheries Division Officer
One Environment Unit Officer

INTRODUCTION

Current information regarding the status of marine sea turtles in the Pacific points to a general decline in numbers. The prospect for the future, with an ever increasing human population resulting in an increased extraction combined with the effects of pollution and habitat destruction, will result in further decline unless current patterns of use can be modified.

In order to address the situation, Kiribati has recognised the need to contribute to the regional programme through the development of an in-country turtle conservation programme.

The status of marine sea turtles in Kiribati has been determined from limited surveys (Balazs 1975, Onorio 1979) and from opportunistic sightings beginning with Captain Cook in 1777 to those by present day inhabitants of the 33 islands that constitute the Republic of Kiribati.

Status

At least five (5) species of turtle are known from Kiribati waters.

1. Green Turtle *Chelonia mydas* Te on

This is the most widely distributed turtle and is found in all of the three island groups in Kiribati. On Kanton Island in the Phoenix Group Balazs (1981) reported nesting rates of up to 200 females and made reference to reports of heavy nesting activity on Enderbury Island. In the Line Islands random sightings have been reported but not in any large numbers since heavy extraction occurred in the 18th and 19th century. In the Gilbert Group Green turtles are reported as being very common on all islands and have been found to nest on most islands.

2. Hawksbill Turtle *Eretmochelys imbricata* Te tabakea

The Hawksbill has been recorded from a number of islands in the Gilbert Group but is not known to nest on inhabited islands.

3. Loggerhead Turtle *Caretta caretta* Te on n ae

Recorded from four islands in the Gilbert Group and has been known to nest on the same islands.

4. Olive Ridley Turtle *Lepidochelys olivacea* Te on mron

Record on two islands of the Gilbert Group.

5. Leatherback Turtle *Dermochelys coriacea* Te kabiniwa

Only two records of capture exists. One from the island of Butaritari in the Northern Gilbert Group and the other from Abemama in the Central Gilbert Group

Nesting Status

Kanton Island

Kanton Island is the largest and most northernmost island of the Phoenix Group and is located at Latitude 2 50' S, Longitude 171 43' W. It is a low lying coral atoll with a fully encircling reef with one channel opening to the west. Balazs (1975) recorded four nesting sites of the Green turtle (Refer Figure 1) along the north, east and southern coastlines. At nesting area 1. (approximately 2.1 km long) 16 sets of fresh turtle tracks were recorded (the study was carried out in February 1973). At nesting area 2 (2.7 km long) one set of fresh tracks and more than 100 pits were observed. At nesting area 3 (0.4 km long) more than 30 pits were observed and at nesting site 4 (3.1 km long) more than 40 pits and four fresh tracks. Nesting seasonality was described as sporadic throughout the year with a greater frequency during October and November. Balazs has subsequently estimated the annual nesting numbers to be as high as 200 turtles.

In a report by the Wildlife Conservation Unit (Teebaki 1986) on the flora and fauna of Kanton island an additional nesting site was located in the southeast with 20 to 30 nesting pits.

Makin Island

Onorio (1979) reports that females nest in good numbers on low sandy beaches such as the Katangaeman Sandbank, a small sand area to the north east of Makin. Information from the Fisheries Division (R. Tinga pers. comm.) would support this statement but not with any quantitative support. Onorio suggest that nesting occurs in two seasonal peaks April/May and from October to February. In Kiribati traditional turtle hunters mention that during the seasonal nesting months high nesting activity occurs three days after each of the four moon phases and that the October/November peak coincides with the flowering of *Callophylum inophyllum* (Te itai).

Tradition Usage

Turtles have a number of uses principally as a food source at a subsistence level. Turtle meat is not sold for export however, products made from turtle shell and whole shells are sometime available on a limited basis. Turtle meat is considered a delicacy and is highly prized as are the eggs. For some groups such as pregnant or nursing women turtle meat is not eaten nor by those who hold turtles as a totem. Traditionally turtles were not eaten before a battle as the crawling nature of turtles was considered cowardly.

OBJECTIVES

The objectives of the programme focus at the national and regional level.

National Level

At the national level there is a specified need to increase the awareness of the I-Kiribati people towards the conservation of the marine turtle. The concept of species extinction within Kiribati is not sufficient an issue to result in a change of attitude or in a change of traditional practices. In order to promote a change in attitude towards natural resource utilisation there needs to be a change in peoples attitude towards the conservation of single species. A media education campaign through radio and through the distribution of posters will be the first step in the process.

Objective 1.

To raise the awareness of the I-Kiribati people towards the conservation of the turtle through a widespread education campaign.

Kiribati needs the in-country capacity to monitor the numbers of turtles that nest on the many islands and atolls of Kiribati.

Objective 2.

To train Fisheries and Wildlife Conservation Officers in turtle survey and tagging techniques.

The development of a Kiribati Turtle Conservation and Management Plan will provide a baseline document that can be used to assess the current knowledge of turtles within Kiribati and to provide guidelines with which to manage the utilisation of turtles in the future.

Objective 3.

Prepare a Kiribati Turtle Conservation and Management Plan.

Regional Level

At the regional level there is an need to quantify the status of the marine turtle in the Pacific. Information to date on the status of turtle within the Pacific is sparse and points to the real need to expand the quantitative data base in regard to distribution and nesting frequency.

Objective 4.

To collect survey and tagging information from Kiribati that can be added to the RMTCP database.

ACTIVITIES

The project will have three main activities in relation to turtle conservation.

Phase 1. Education Campaign

The intention of the campaign will be to inform the community that the numbers of marine sea turtles in the Pacific is declining and it will be the actions of the community that will assist in reversing the trend. The programme will also emphasise the role that Kiribati will take in the "1995 International Year of the Turtle in the Pacific."

This will involve an education campaign that will specifically target three areas:

Firstly, primary and secondary schools in Tarawa will receive information on the decline of turtles in the Pacific through the distribution of Turtle Fact Sheets and posters both in English and with local translations.

Secondly, the production of radio programs which will be broadcast to the outer islands of the Gilbert Group through Radio Tarawa.

Thirdly, the education campaign will highlight the turtle tagging programme and encourage the return and reporting of tagged turtles that are recaptured.

Phase 2. Kiribati Turtle Tagging and Training Programme

The intention of the programme will be to establish a baseline study and to provide training to allow the Fisheries Division in cooperation with the local community to carry out ongoing tagging and assessment activities. Local island assistants who will be employed on the project will receive training which will allow them to provide on-going assistance to the Fisheries Assistants and the tagging programme.

This will involve the implementation of a turtle tagging and training programme to establish a baseline for the turtle conservation work in Kiribati. The programme will be guided by the requirements of the Regional Marine Turtle Conservation Programme to ensure regional compatibility of data and assessment methods.

Phase 3. Kiribati Turtle Conservation and Management Plan (TCMP)

The intention of the management plan is to prepare a document that will be used essentially by government to manage the ongoing sustainability of turtles in Kiribati waters.

This will involve the preparation of a Kiribati Turtle Conservation and Management Plan (TCMP) to provide information and set guidelines that will be established to achieve the sustainable usage of turtles in Kiribati and to promote activities such as the protection of female turtles during nesting, the protection of eggs and restrictions to the size of collected turtles. The TCMP will contain the results of all survey and assessment projects which will be carried out on an annual basis.

METHODOLOGY AND SCHEDULE

Phase 1. Education Campaign

Phase 1 of the project will begin with an education campaign that will be targeted to specific sectors and locations. The Education Campaign will be coordinated by the Project Officer.

As South Tarawa is the main population area an education campaign that presents the current status of marine turtles in the Pacific will be established in the primary and secondary schools. This will take the form of an information pack that will contain a range of pamphlets and accompanying posters that outlines the current declining status of the marine sea turtle. The information pack will include material developed for the "1995 International Year of the Turtle in the Pacific". The emphasis of the school programme is on the longer term aspects of natural resource conservation with the expressed hope that the school children will more likely absorb information and new ideas in environment and conservation.

The radio programmes that will be produced for transmission to the outer islands on Radio Tarawa will have a more immediate and direct emphasis. The aim of the radio programs will be to encourage a modification to the existing usage to turtles. The emphasis will be to encourage a "sustainable usage" ethic amongst the villagers therefore the programme will encourage practices including the protection of all turtles when they are on land, the protection of undersized turtles at sea, the protection of turtle nests and a reduction in the number of eggs collected from a single nest. The intention of the campaign will be to modify existing habits rather than to stop the usage of turtles as turtles are recognised as an important subsistence food source for outer island people.

The radio programs will be produced and scripted by the Project Officer with assistance from the Environment Unit and Fisheries Division and in cooperation with the Kiribati Broadcasting Company.

Phase 2. Turtle Tagging and Training Programme

The Tagging and Training Programme will be split into two stages to best manage available personnel as a result of the geographical distance between the two proposed survey sites.

On **Kanton Island** in the Phoenix Group it is anticipated that turtle expert George Balazs, IUCN Marine Turtle Specialist, National Marine Fisheries Service, Hawaii will carry out the tagging and training programme. The turtle expert will be on Kanton for a period of two weeks during which time he will supervise the tagging programme and provide instruction to the Fisheries Officer and the Wildlife Conservation Officer on survey and tagging procedures. Prior to the beginning of the programme an assessment survey will be carried out by the Meteorological Officer based on Kanton who will patrol the known nesting sites and report on nesting activity. As the peak nesting season is expected to begin around October the assessment survey will begin in September and occur three nights each week. Peak nesting activity will be judged from information supplied from Kanton and the tagging programme will be implemented for a period of two weeks at the estimated nesting peak to ensure a substantial proportion of the nesting turtles are tagged. A post assessment survey will be carried out for four weeks following the tagging programme to determine if the tagging did actually occur at the estimated peak. Information obtained from the pre and post assessment surveys will

provide valuable information on seasonal nesting frequency. In addition to the tagging it is planned to attach a satellite transmitter to one of the nesting green turtles in order to track its progress following nesting. This procedure has not been carried out in Kiribati and would provide important data in regard to seasonal migration on a national and regional level. Blood samples for DNA analysis will be taken in order to determine the genetic makeup of the Kanton turtle community.

On Makin a turtle expert will be recruited under the auspices of Dr. Colin Limpus Department of Environment and Heritage, Queensland, Australia. A similar procedure will be carried out on Makin whereby the resident Fisheries Assistant will carry out the assessment survey for a two week period prior to the tagging and for a four week period following the tagging to determine which phase of the nesting season has been sampled. The tagging and training programme will be carried out over a three week sequential period (2 weeks training and tagging, 1 subsequent week tagging) to ensure that a substantial proportion of the nesting stock is tagged and the Fisheries Officer is experienced in survey and tagging procedures. Tissue samples for genetic analysis will be collected from approximately 30 individual female turtles. Genetic analysis will be carried out to determine if the Makin Island turtles are a discrete breeding colony or part of a wider breeding colony within Kiribati. Following genetic identification of the turtles on Makin tissue material can be compared with material collected from turtles from other regions to determine inter-breeding and mobility characteristics.

Phase 3. Kiribati Turtle Conservation and Management Plan

The preparation of the Kiribati Turtle Conservation and Management Plan will involve the compilation of data that is collected through Phase 2 into a form that will provide a baseline from which to assess the status of the turtle population on islands in Kiribati. The baseline study will complement the work initially performed on Kanton by Balazs (1975) and will give a good indication of a change in nesting numbers over the intervening 20 year period. A literature review of known information on the turtles of Kiribati will be carried out as part of the management plan documentation. It is critical that a standardised method of assessment be established in order to quantify changes in population numbers as the present method of assessing population size is based on insufficient information. The Conservation and Management Plan will be prepared by the Environment Unit in cooperation with the Fisheries Division to provide a clear direction for the continuation of Kiribati involvement in the turtle programme. The training programme outlined in Phase 2 will allow the Fisheries Division to carry on the tagging programme on Kanton and Makin on a regular basis and will be expanded to other islands as estimates of turtle nesting areas are obtained. The continuation of the tagging programme will constitute the Government of Kiribati's commitment to the project. The TCMP will be updated on an annual basis to incorporate new data and to ensure a measure of flexibility so that the turtle programme is focussed on the fundamental requirements unique to Kiribati. The direction and findings established by the TCMP will be assessed on a regional level to ensure that the programme that is implemented in Kiribati is compatible with other regional assessments. As evident in the literature there are large gaps in the understanding of marine turtles in the Pacific Region and it is critical that the work that is being carried out in all areas of the Pacific is done in a standardised form so the results can be utilised on a regional basis.

BUDGET

All prices given in Australian Dollars

Phase 1, Education Campaign

Contract Consultancy

Local Project Officer (temporary) 3 months x \$500 per month 1,500.00

Posters

Design, production and distribution of 500 education posters in I-Kiribati 1,000.00

Radio broadcasts, 2 per week for 10 weeks x \$25 500.00

Sub-total 3,000.00

Phase 2. Turtle Tagging and Training Programme

Secondment Costs

Kanton

Pre and Post tagging Assessment Surveys 1 x 8 weeks x \$50 per week 400.00
(Carried out by Met. Officer MENRD)

Local Field Assistants (island residents) 3 x 2 weeks x \$50 per week 300.00

Makin

Local Field Assistants (island residents) 3 x 4 weeks x \$50 per week 600.00

Sub-total 1,300.00

Travel Costs

Kanton

Turtle Expert Honolulu - Kanton - Honolulu 1,500.00

Fisheries Officer Kiritimati - Kanton - Kiritimati 500.00

Wildlife Conservation Officer Kiritimati - Kanton - Kiritimati 500.00

Makin

Turtle Expert Australia - Tarawa - Makin - Tarawa - Australia 1,250.00

Fisheries Officer Tarawa - Makin - Tarawa 150.00

Environment Officer Tarawa - Makin - Tarawa 150.00

Sub-total 4,050.00

Per Diem**Kanton**

Turtle Expert 14 days x \$100	1,400.00
Fisheries Officer 14 days x \$45	630.00
Wildlife Conservation Officer 14 days x \$45	630.00

Makin

Turtle Expert 14 days x \$100	1,400.00
Fisheries Officer 14 days x \$45	630.00
Environment Officer 14 days x \$45	630.00

Sub-total 5,320.00

Field Supplies

2 Pressure lamps 2 x \$50	100.00
4 Heavy duty waterproof torches 4 x \$40	160.00
10 Cartons of batteries 10 x \$20	200.00
10 Field log books 10 x \$5	50.00
4 Field tents 4 x \$100	400.00
Genetic Sampling Supplies	200.00

Sub-total 1110.00

Transport (Vehicle hire)**Kanton**

14 days x \$50 per day	700.00
------------------------	--------

Makin

21 days x \$40 per day	840.00
------------------------	--------

Sub-total 1,540.00

Laboratory Analysis

Genetic tissue and blood DNA analysis	1,000.00
---------------------------------------	----------

	Sub-total 1,000.00
Recurrent Costs	
Costs for additional two year follow on	3000.00
	Sub-total 3,000.00
Phase 3 Kiribati Turtle Conservation and Management Plan	
Printing and production costs (English and I-Kiribati versions)	500.00
	Sub-total 500.00
	Total 20,620.00
Contingency at 10%	2,062.00
	Grand Total 22,682.00

Additional Budget Details

Education Campaign

Posters

The use of posters has through past experience been shown to be successful where they carried a simple message in the local language and presents a local theme that can be readily identified by the recipients of the programme. It is intended to use a local artist to design a poster that will incorporate traditional turtle mythology, the "1995 International Year of the Turtle in the Pacific" and a strong conservation ethic. The cost is based on estimates provided by the Health Education Unit who have prior experience in poster production in Kiribati.

Radio Broadcasts

The current cost for radio broadcasts through the Broadcast and Publications Authority (BPA) is \$25 for a 15 minute session. Radio is a popular medium in Kiribati and is transmitted to all Gilbert Group Islands. The radio broadcasts will outline the current state of turtle populations in the Pacific and provide information on turtle conservation programmes that are occurring in the Pacific and other regions. Radio broadcasts will incorporate material produced for the "1995 International Year of the Turtle in the Pacific".

Travel Costs

Travel costs have been supplied by Air Tungaru on Air Nauru international flights and Air Tungaru domestic flights.

Per Diem

Per Diem costs for local staff are based on standard Government of Kiribati service rates for Outer Island Activities.

In Kind Support from the Government of Kiribati

GOK will provide staff to assist in all phases of the project where required and will carry out the tagging programme on a continuing basis.

The Environment Unit in collaboration with the Fisheries Division will prepare a full and concise report of the programme to SPREP and will prepare the Kiribati Turtle Conservation and Management Plan based on information collected from the programme and from the literature review.

REFERENCES

- Balazs, G.H., 1975 *Marine Turtles in the Phoenix Islands*. Atoll Research Bulletin No. 184
- Balazs, G.H., 1981 Status of Sea Turtles in the Central Pacific Ocean. In: *Biology and Conservation of Sea Turtles*. Proceedings of the World Conference on Sea Turtle Conservation.
- Onorio, B., 1979 *Notes on Marine Turtles of Kiribati*. Submission to Joint SPC-NMFS Workshop on Marine Turtles in the Tropical Pacific Islands.



Ministry of Environment and Natural Resources
Development

P.O. Box 11, Suva, Town, KIRIBATI, CP 982002

Facsimile Cover Sheet

Ref:

To: George Balazs
Company: National Marine Fisheries Service
Phone: 001 808 943 1221
Fax: 001 808 943 1280

From: Craig Wilson
Sector: Ministry of Environment and Natural Resources
Development
Phone: (888) 21099
Fax: (888) 21120

Date: 26/9/94

Pages including this cover page:

Comments: Kiritani Turtle Programme

Dear George,

Thank you for your fax 6 September. The delay in contacting you has been due to me waiting on the results of a new Air Service Agreement being negotiated between Kiribati and Air Nauru.

As yet I have not received any confirmation on the results of the negotiations and as flights to Kiritani have been severely disrupted over the last few months I thought I should contact you now to let you know that rescheduling the project in 1995 may be a wise move.

If your commitments are going to be independent and considering the uncertainty with Air Nauru I would fully understand your decision to reschedule in 1995. I will contact you again as soon as I can regarding final results of the negotiations with Air Nauru.

Regards

Craig Wilson
Environment Unit



GOVERNMENT OF KIRIBATI
MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES
Development

Facsimile Cover Sheet

Ref: 0537

To: George Balazs
Company: National Marine Fisheries Service
Phone: 001808 943 1221
Fax: 001808 943 1290

From: Craig Wilson
Section: Ministry of Environment and Natural Resources
Development
Phone: (686) 21099
Fax: (686) 21120

Date: 19/10/94

Pages including this cover page:

1

Comments: Kiribati Turtle Project

Dear George,

Thank you for your fax 11 October.

In regard to your questions, I agree that re-scheduling the Kanton trip to 1995 is the best option as the project will then run in the Year of the Turtle which will be better for our promotional campaign and Air Nauru will have sorted out their flights by then.

I will not be here as I finish my contract and return to Australia early 1995 however, there will be a replacement for me from Australia that can carry on the project. The local contact for the project is Rigneta Tinga of the Fisheries Division.

I have spoken to Sue Miller SPREP and the project has been approved and can proceed when we decide on the most appropriate timing in 1995.

Regards

Craig Wilson
Environment Unit
for Secretary Environment and Natural Resource Development

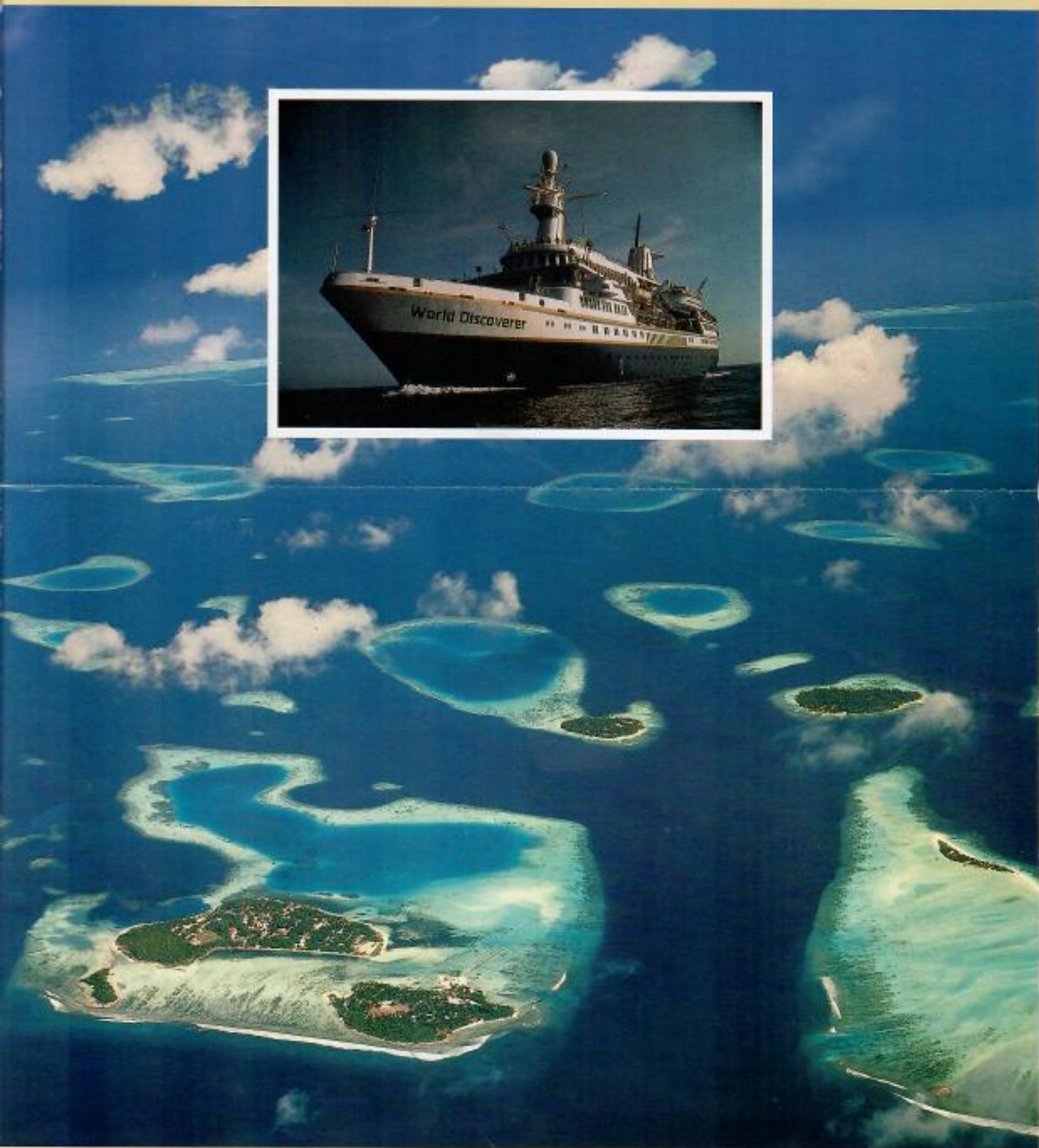


Society Expeditions
Since 1974

Voyage to the Lost Atolls of the South Pacific

Aboard the 138-Passenger *World Discoverer*

June 13 – July 3, 1995





Children of the Society Islands

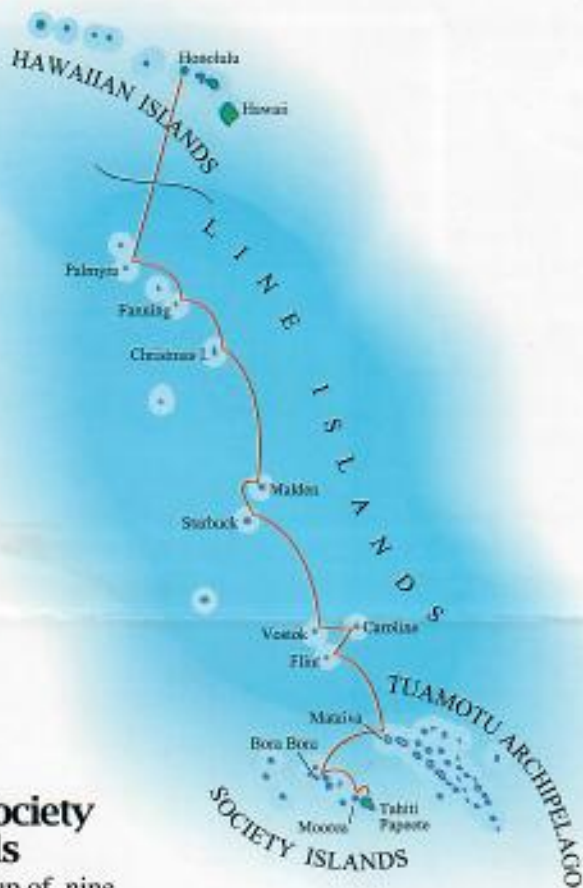
Stretching like stepping stones between Tahiti and Hawaii, the Line Islands — the “Lost Atolls of the South Pacific” — offer the perfect venue for adventure cruising at its best. The waters are warm and crystal clear, the islands untouched, the rhythms of life both exhilarating and relaxing and the wildlife — especially the avifauna — must be seen to be believed. But how to get to this paradise? We’ve discovered the perfect means: the pioneering expedition cruise ship *World Discoverer*.

Sophisticated, intimate and supremely comfortable, the famous *World Discoverer* will serve as a floating Hotel as we venture off the beaten track to discover a south Pacific few visitors will ever experience.

- Stand in awe of the thousands upon thousands of birds of Christmas Island — site of the largest gathering of seabirds in the world.
- Be among the first cruisers ever to land on Starbuck and Malden islands.
- Watch for the delicate white fairy terns and the comical red-footed boobies on Vostok Island.
- Snorkel and dive with our divemaster in crystal-clear, warm waters, scouting for unusual species such as the huge, green Napoleon wrasse, or the black manta rays of Christmas Island.
- Enjoy a **free**, two-night Island of Hawaii extension, including a four-wheel-drive birding safari to Hakalau Park accompanied by members of Hawaii Audubon, or a natural history tour.

We invite you on the cruising adventure of a lifetime — a voyage beyond the

Your *World Discoverer* voyage can be “one of Zodiacs zooming about almost daily, wet land birds, smiling gentle natives who eagerly await probably still talking about those wonderful, strange big boat... there was a grand spirit of fun and adventure.”



The Society Islands

This group of nine islands and five atolls boasts surf-brushed beaches, crystal-clear lagoons, huge coral reefs, mountains up to 7,300 feet high and slopes lush with tropical vegetation. These captivating islands have preserved vestiges of their original culture. The main island of Tahiti is a cosmopolitan melting pot of Polynesian and French lifestyles. With naturalists at our side, we'll discover these bewitching islands.



Moorea. We'll take a drive up to a mountain-top viewpoint and explore archaeological ruins. There's time for shopping at local art galleries for paintings and *pareus*. Or, if you wish, snorkel over coral gardens or dive on nearby reefs with our divemaster.

Bora Bora. We'll land to enjoy a circle-island tour and optional bicycle excursion. Snorkel over the fringes of a long barrier reef and take in the beauty of one of the South Pacific's loveliest lagoons.

The Line Islands

In the Line Islands, we'll experience the remote South Pacific of our dreams. These islands are so isolated that few

*of the best I have ever had ...
findings, desert islands, nesting
waited our arrival and are
the people who came in from the
venture among the passengers!"*

— S.H.

1994 South Pacific passenger

lead nature walks on each island. And throughout our exploration we'll enjoy fantastic opportunities for snorkeling along the reefs with our divemaster.

Caroline, Kiribati. Open-air temples and graves in which archaeologists have discovered adzes lead us to believe that this island once had aboriginal inhabitants. Today, Caroline is a center for the production of copra, the sun-dried meat of the coconut.

Vostok, Kiribati. Nature walks ashore reveal a wealth of nesting species, from fairy terns to red-footed boobies. Snorkelers delight in the dramatic drop-off along the west coast.

Christmas Island, Kiribati. Christmas Island, also known as Kiritimati, is the world's largest atoll in land area, and the largest island of Kiribati (pronounced "kiri-bass"). More than 100 lakes form the character of the island, the site of the largest gathering of seabirds in the world.

Fanning, Kiribati. This classic circular coral atoll, ringed with palms, offers the opportunity for a leisurely beachwalk with our naturalist. Or, if you wish, dive into the clear waters of English Harbor to identify a plethora of unusual species, enjoy bonefishing, or stroll the village of Baerau to meet the island's inhabitants and school-children — Fanning boasts the only secondary school in the Line Islands.

Island of Hawaii

On our free two-night Hawaii program, observe how South Pacific islands are born at Volcanoes National Park, and set out on a birding safari to Hakalau Park — a



The rare and beautiful fairy tern

Lost Atolls of the South Pacific

June 13, 1995

Day	Destination
1	Fly to Tahiti
2	Papeete, Tahiti
3	Papeete/Embark
4	Moorea, Society Islands
5	Bora Bora, Society Islands
6	Mataiva, Tuamotus
7	Flint, Line Islands
8	Caroline, Line Islands
9	Vostok, Line Islands
10	Starbuck, Line Islands
11	Malden, Line Islands
12	Cross the Equator
13	Christmas, Line Islands
14	Fanning, Line Islands
15	Palmyra, USA
16-18	South Pacific Cruising
19	Disembark for Island of Hawaii Tour
20	Island of Hawaii
21	Hawaii/Fly Home



Your Cruise Ship— the World Discoverer

For 20 years, the *World Discoverer* has taken travelers like yourself to the most remote corners of the globe—on more than 280 voyages. She is among the very few vessels sailing today specifically constructed for expedition cruising. Accommodating only 138 passengers, the *World Discoverer* presents a relaxed and casually elegant atmosphere. On board, a genuine camaraderie prevails among travelers. At each meal you will enjoy delicious cuisine, prepared to order and served at a single, leisurely, open seating. Each cabin has an outside view, lower beds, private bathroom and temperature control.

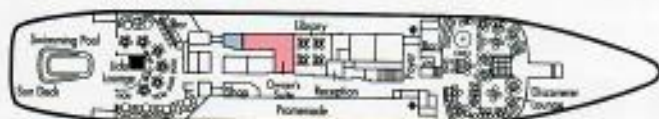
Amenities

- Seven decks
- 180° view Observation Lounge
- Marco Polo Dining Room
- Discoverer Lounge/Lido Lounge/Bar
- Lecture Hall/Cinema
- Gift Shop
- Fitness Center with Sauna
- Beauty Salon
- Medical Center
- Library
- Sun Deck with Swimming Pool
- Laundry
- Ten Zodiac Landing Craft
- Satellite Communications System including Telefax, Telex and Telephone

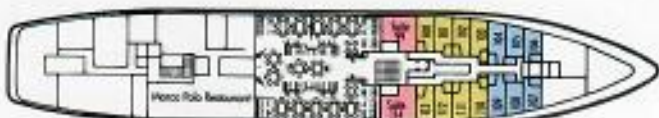
WORLD DISCOVERER DECK PLAN

Registry: Liberia

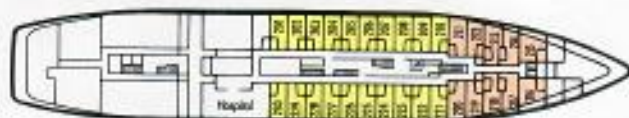
Boat Deck
A-Deck
B-Deck
C-Deck



Boat Deck



A-Deck



B-Deck



C-Deck

Reservations A deposit of \$400 per person is required to confirm reservations. Final payment is due 90 days prior to departure.

STATEROOM INFORMATION

Category 1

Outside single and double cabins with lower beds and private shower and toilet, located on the C-Deck (single cabins 311, 313, 314, 316; cabins 309, 312, 315 and 318 offer a third upper berth).

Category 2

Outside double cabins with lower beds and private shower and toilet, located on the C-Deck (cabins 303, 304, 305, 322, 323 and 324 offer a third upper berth).

Category 3

Outside double cabins with lower beds and private shower and toilet, located on the B-Deck (cabins 211, 212, 213, 215, 216, 218, 219 and 220 offer a third upper berth).

Category 4

Outside double cabins with lower beds and private shower and toilet located on the B-Deck (cabins 204, 206, 207, 210, 221, 224, 225 and 227 offer a third upper berth).

Category 5

Outside double cabins with lower beds and private shower and toilet, located on the A-Deck (single cabin 1 on Boat Deck; cabins 104, 105, 108 and 109 offer a third upper berth).

Category 6

Outside double cabins with lower beds and private shower and toilet, located on the A-Deck.

Suite

Outside double cabins with lower beds and private shower and toilet, located on Boat and A-Decks.



Standard Double Cabin, A-Deck.

Consumer Protection Plan To assure full financial protection, all cruise fares remitted for all voyages by passengers and/or their agents or representatives are deposited in a Trust Account with First Trust Washington.

Voyage Rates (Cruise and Land) Per Person

VOYAGE	Departure Date	# Days	CABIN CATEGORY						Suites	Owner's Suites	Single (Cat. 1)	Single (Cat. 5)	Sample Airfares (L.A.)
			1	2	3	4	5	6					
LOST ATOLLS OF THE SOUTH PACIFIC WITH FREE HAWAII EXTENSION	June 13, 1995	21	\$5,920	\$6,270	\$6,960	\$7,660	\$8,350	\$8,700	\$9,750	\$9,950	\$8,700	\$11,550	\$1,190

* All rates subject to change. Voyage rates, per person, include cruise, land arrangements as per itinerary, and all shore activities during the cruise. Sample airfares are indicative of air prices from Miami to the World Discoverer and are subject to change.

RESPONSIBILITY: The World Discoverer, its owners, operators and/or their agents (hereinafter the Operator) assume no liability for failure to provide the services and accommodations referred to in this brochure to the extent that such services and accommodations cannot be supplied due to delays or other causes beyond the control of the Operator. In the absence of negligence on the part of the Operator the cruise participant agrees that the Operator has no responsibility or liability of any nature whatsoever for damage to or loss of property, or injury to, or death of persons due to any act, omission or negligence of any carrier, hotel, restaurant, bus carrier, tender service, sightseeing company, or any other persons rendering any of the services or ground portions of the itinerary. The cruise participant further waives any claim against the Operator for any such damage, loss, injury or death. The Operator shall not be responsible for any delays, substitution of equipment, or any act or omission whatsoever by the suppliers of such services, their agents, servants and employees, and the cruise participant hereby waives any claims arising therefrom. The Operator reserves the right to decline, accept or retain any cruise participant at any time. **Changes in Itinerary:** The Operator expressly reserves the right to omit or substitute any scheduled port or shore excursion at any time for any reason whatsoever without prior notice. In the event of such an omission or substitution, no liability will be granted by the Operator. All itineraries subject to change without prior notice. **Cancellations and Refunds:** If written notice of cancellation is received no later than 90 days prior to sailing, a full refund of monies paid will be made. Cancellations occurring between 90 and 61 days prior to sailing are subject to a \$200 per passenger handling fee. Cancellations occurring within 60 days prior to sailing are non-refundable unless space is re-sold. In the event space is re-sold, a refund, equal to the resale value of the space, is made after deduction of a \$200 per passenger handling fee. Any refunds will be reduced by applicable airline cancellation penalties. No refunds will be made in the event of "no-shows" or cancellations made on the day of sailing.



WAIKIKI AQUARIUM
Education Department
2777 Kalakaua Avenue
Honolulu, HI 96815





Dear Fellow Travelers:

This spring, the **Waikiki Aquarium** is teaming up with Society Expeditions to offer a unique travel opportunity in the South Pacific. Cruising aboard the 138-passenger M/V World Discoverer, we'll experience the natural wonders and cultural intrigue of some of the most remote tropical islands on earth — the Line Islands which stretch nearly from Tahiti to Hawaii. This 21-day adventure cruise, entitled **LOST ATOLLS OF THE SOUTH PACIFIC**, begins in Papeete on June 14, 1995 and sails north through waters first explored by ancient Polynesian navigators. We'll arrive in Honolulu on July 1st.

With more than twenty years experience, Society Expeditions has established itself as a leader in expedition cruising to remote destinations around the world. On this voyage we'll be among the first ever to snorkel over pristine reefs with our marine biologist; go ashore in Zodiac landing craft to search for little-known archeological sites; and talk story while getting to know the residents of remote islands.

If you are a birder, you'll revel in seabird concentrations unmatched in all the world! Look for the three northern Pacific albatross species and many hard-to-find shearwaters. On Christmas Island, keep an eye out for nesting Phoenix petrels, White terns, White-bellied storm petrels and the endemic Bokikokiko.

As an extra bonus, Society Expeditions offers a free two-night post-cruise tour on the Island of Hawaii. Highlights include a tour to Volcanoes National Park, and a birding safari to Hakalau National Park to search for some of Hawaii's rare and endangered birds (such as akiapola'au, Hawai'i Creeper, Hawai'i akepa, the Hawaiian hawk, and other endemic species).

Please join members of the **Waikiki Aquarium** this June aboard **WORLD DISCOVERER** to explore the "Lost Atolls of the South Pacific." For additional information and reservations, contact Dr. Carol Hopper in the Aquarium's education department (Monday through Friday, 8:00 A.M. through 5:00 P.M.) at **(808) 923-9741**. We'll look forward to your call.

Aloha,

Dr. Bruce Carlson
Director

P.S. Society Expeditions is making a special offer to those of you who may have more time. You'll save 25% off the price of this trip when you sail aboard the preceding cruise, too — the **PEARLS OF THE SOUTH PACIFIC**, departing May 30th from Fiji and sailing east to Tahiti. This 15-night cruise is a wonderful opportunity to experience the diversity of oceanic cultures of the Fijian, Tongan, Samoan, Cook and Society islands. If you are interested in joining this cruise as well, please let us know.

University of Hawai'i-Mānoa • Waikiki Aquarium • 2777 Kalakaua Avenue • Honolulu, HI 96815
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GOVERNMENT OF KIRIBATI
Ministry of Environment and Natural Resources
Development

20 South Beach Drive, P.O. Box 111, Honiara

Envelope Cover Sheet

Ref: 0000

To: George Balazs
Company: National Marine Fisheries Service
Phone: 001808 943 1221
Fax: 001808 943 1290

From: Craig Wilson
Name: Ministry of Environment and Natural Resources
Development
Phone: (888) 21099
Fax: (888) 21120

Date: 20/12/94

Pages including this cover page:

2

Comments: Turtle Grazing On Seaweed Farms

Dear George,

The Outer Islands of the Gilbert Group are currently expanding their seaweed farm operations under a European Union funded expansion programme. The programme will aim to increase the number of people engaged in seaweed farming on the Outer Islands to promote development and provide alternative sources of income.

We are getting reports from the first of the seaweed farms established on the Outer Islands that they are experiencing problems with grazing turtles. As would have been expected the turtles are finding the farms a convenient source of food and are feeding on the seaweed and breaking down the net lines that the seaweed is grown on. As you can imagine the farmers are becoming a little upset and I am concerned that they will simply kill the turtles as they come into feed.



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: CRAIG WILSON DATE: 22 DEC 94
FROM: GEORGE BALAZS TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

Craig - Many thanks for your fax. No, I've not heard of anything like you describe. Something doesn't sound quite right, but of course I have an open mind. I have a colleague, Dr. Dennis Russell, who is an expert on seaweeds. In fact, he published a paper on Fanning Island. Please, give me exact information on species of algae, degree of fencing if any, and exact location where "encroachment" by green turtles is occurring (what size turtles?). Which Island?

Happy
Holidays,
Gege



MERRY CHRISTMAS, CRAIG!



1994

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TELEX K177039 RESOURCES

DATE: 23/12/94	PAGES: 5
TO: US National Marine Fisheries Centre Honolulu, Hawaii	FAX NO: (001808) 943 1230
ATTENTION: Dr. George Balazs	Subject: Turtles Feeding on Seaweed
SENT BY: Mrs Koin Etuati for General Manager	

Dear Dr. George Balazs,

Thank you for your reply regarding the problem on turtles feeding on seaweed in Kiribati which you send to Mr. Craig Wilson from the Environment Unit. However, Craig passed on your questions for us to answer.

Answers:

1. The species of seaweed that the turtles are eating is *Euchema avarezi* also known as *E. striatum*. The botanical name is *Kappophycus avarezi*. However, in seaweed trade this plant is always referred to as *Euchema cottonii* thus given its name cottonii.

2. The farming technique now being adopted by seaweed farmers is the Indonesian Style of farming. There is no permanent fencing around the farms that will keep away any turtles. However, people do put turtle nets around their farms during high tides and the turtles caught are usually killed for food. The real problem is that when people first started farming, there is not enough seedlings for the turtles to eat that the turtles eat up all the seedlings and therefore it is difficult for some village to start their farm.

3. Turtles are found in all of the islands that are farming seaweed. The islands are Tarawa (capital island), Abaiang, Maiana and Tabeuea. On the island of Maiana, village called Tebikerai (see map no 3) turtles feeding on seaweed seedlings is now frequent and the people can not get bigger plants as the seedlings are eaten before they get bigger. On Map No. 1 the area marked is where large turtles about 1 meter are usually seen. This is where our nursery plant is located.

4. The size of the turtles feeding on seaweed varies from about 0.3m to about a metre.

NORTH TARAWA



Map No 2



Map No 3



Based on Admiralty Charts No 700 and Lands and Survey 1:25,000 Naumotu

TABITEUEA

146° 41' E



ISLAND TERRACE
 SHORELINE BY 10
 LAGOON WARD 200
 SHORELINE OUTSIDE
 POSSIBLE 200
 EXPOSURE some shelter
 EXPOSURE VERY GOOD
 WATER FLOW Good
 GENERAL VERDICT
 GOOD RECORD
 potential high
 is not included
 but also possible

The intertidal zone
 of these shores are
 particularly the most
 productive one of all
 the coral atolls

175° 00' E

1° 30' S



T.T.C. 1973

ATOLL SEAWEED CO LTD
C/ - P.O. BOX 508
BETIO TARAWA
KIRIBATI.

FAX/PHONE (+686) 26442

TELEX K177039 RESOURCES

DATE: 23/12/94	PAGES: 5
TO: US National Marine Fisheries Centre Honolulu, Hawaii	FAX NO: (001808) 943 1290
ATTENTION: Dr. George Balazs	Subject: Turtles Feeding on Seaweed
SENT BY: Mrs Koin Etuati for General Manager	

Dear Dr. George Balazs,

Thank you for your reply regarding the problem on turtles feeding on seaweed in Kiribati which you send to Mr. Craig Wilson from the Environment Unit. However, Craig passed on your questions for us to answer.

Answers:

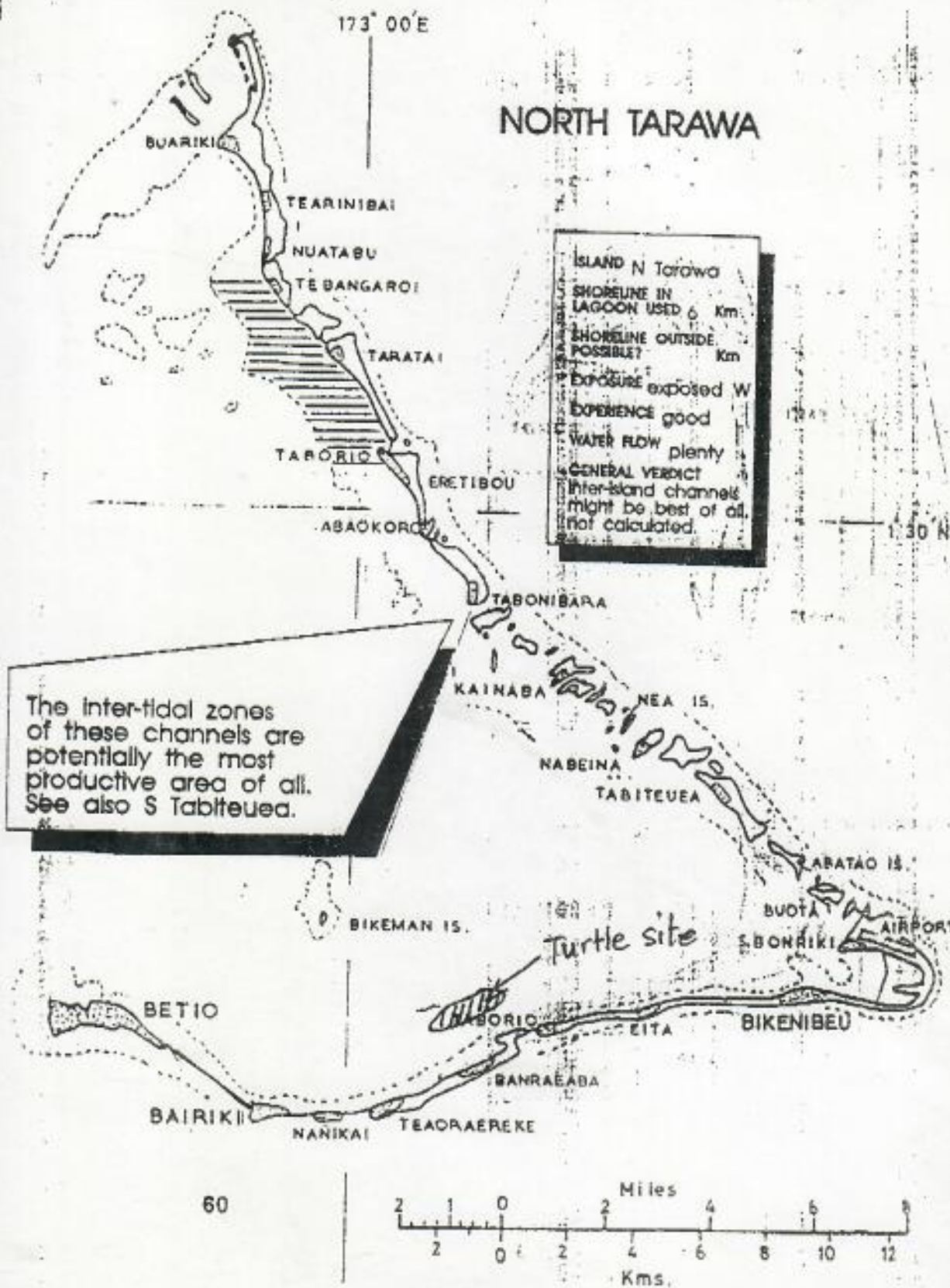
1. The species of seaweed that the turtles are eating is *Euchema avarezii* also known as *E.striatum*. The botanical name is *Kappaphycus alvarezii*. However, in seaweed trade this plant is always referred to as *Euchema cottonii* thus given its name cottonii.

2. The farming technique now being adopted by seaweed farmers is the Indonesian Style of farming. There is no permanent fencing around the farms that will keep away any turtles. However people do put turtle nets around their farms during high tides and the turtles caught are usually killed for food. The real problem is that when people first started farming, there is not enough seedlings for the turtles to eat that the turtles eat up all the seedlings and therefore it is difficult for some village to start their farm.

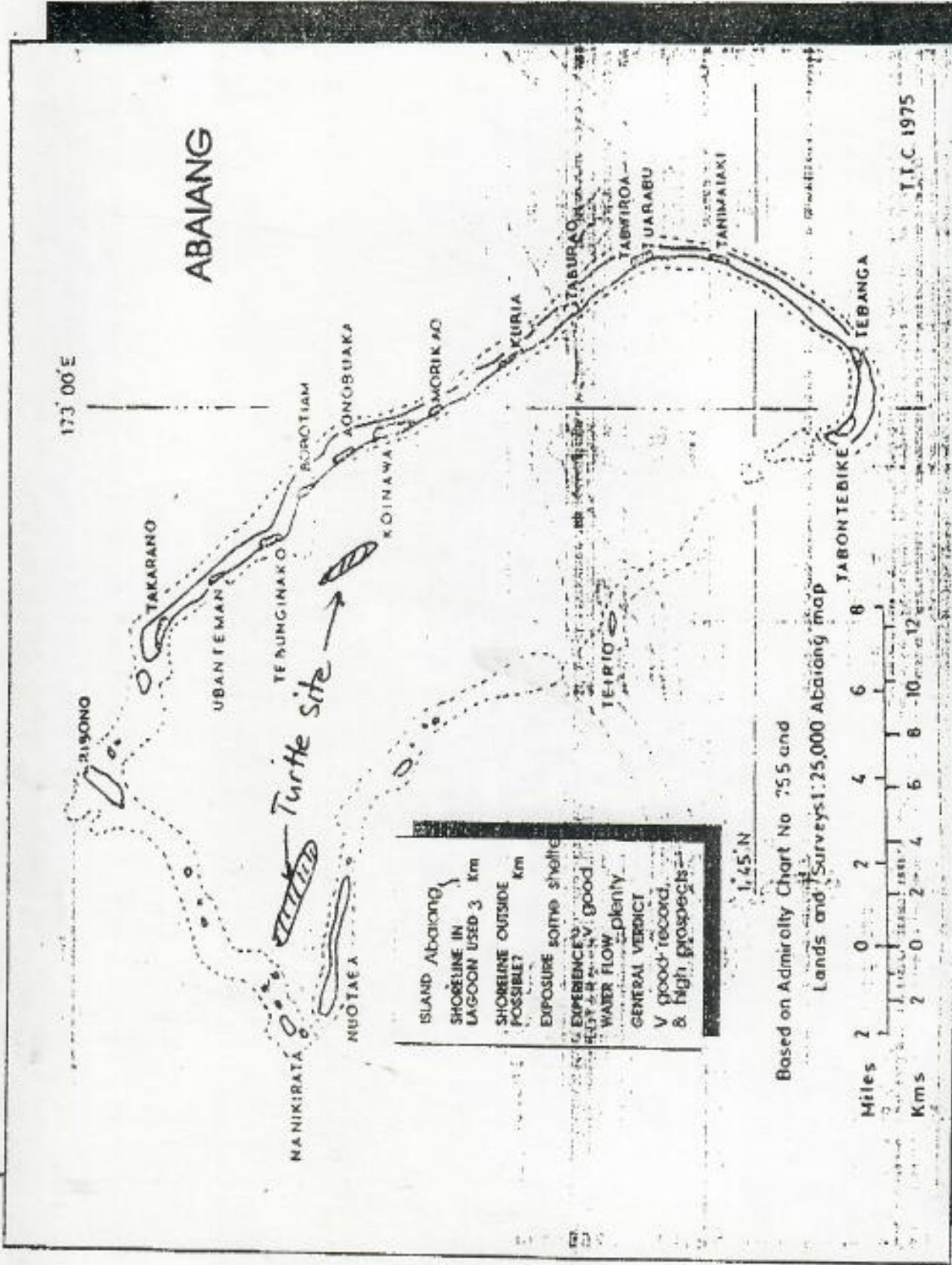
3. Turtles are found in all of the islands that are farming seaweed. The islands are Tarawa (capital island), Abaiang, Maiana and Tabiteuea. On the island of Maiana, village called Tebikerai (see map no.3) turtles feeding on seaweed seedlings is now frequent and the people can not get bigger plants as the seedlings are eaten before they get bigger. On Map No. 1 the area marked is where large turtles about 1 meter are usually seen. This is where our nursery plant is located.

4. The size of the turtles feeding on seaweed varies from about 0.3m to about a metre.

NORTH TARAWA



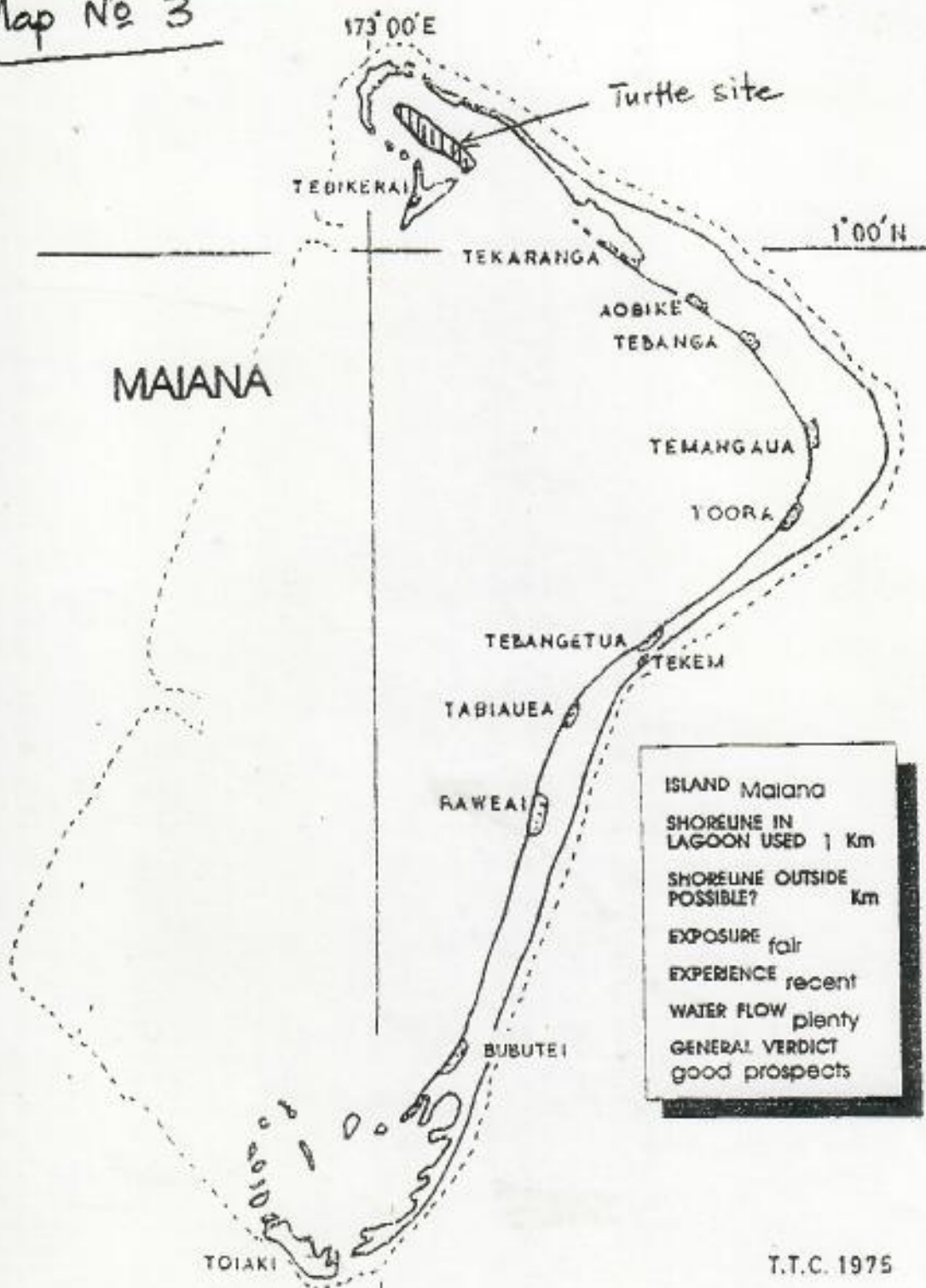
Map No 2



Based on Admiralty Chart No 755 and Lands and Surveys 1:25,000 Abaiang map

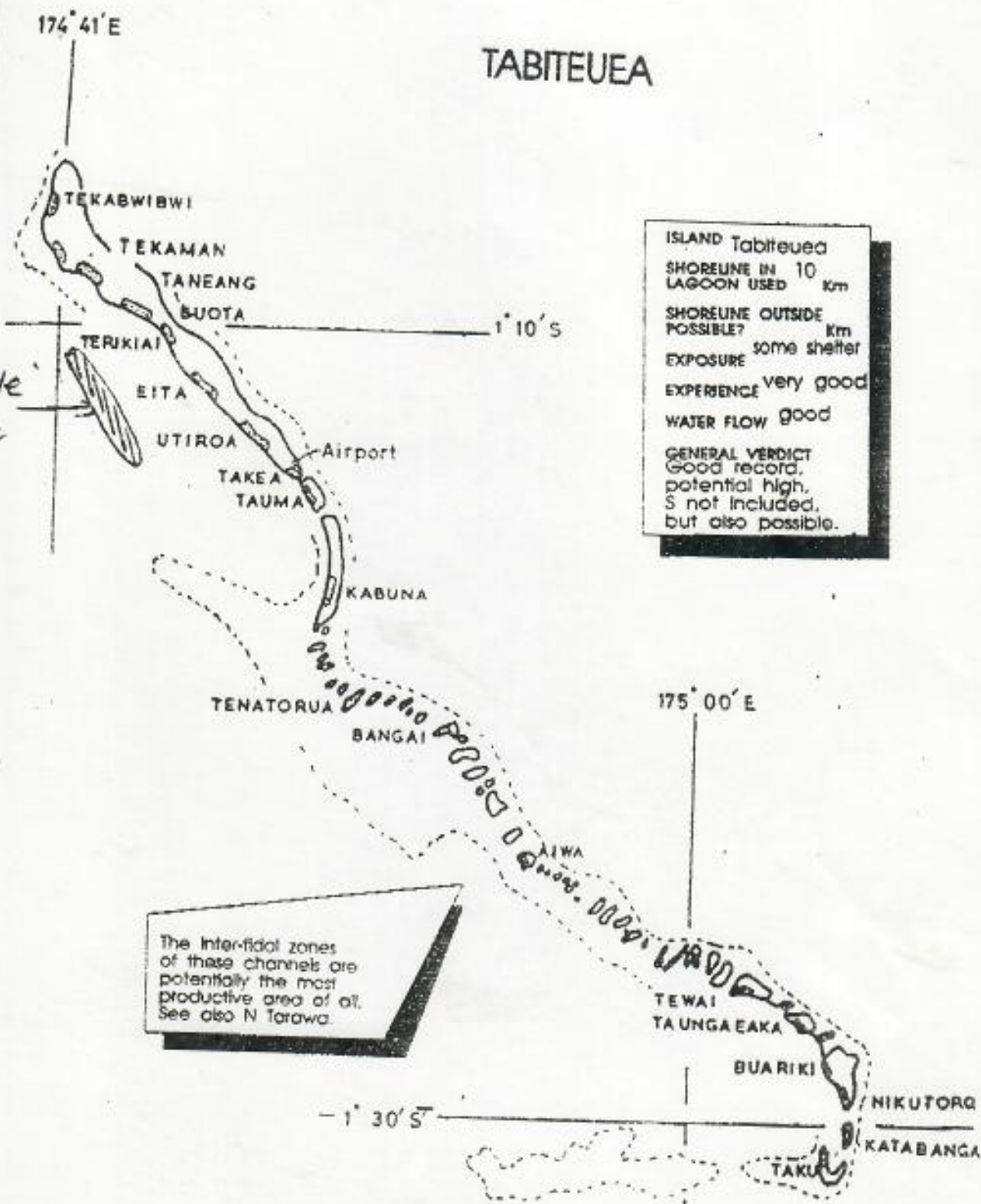


Map No 3



Based on Admiralty Chart No. 700 and Lands and Survey 1:25,000 Maiana map

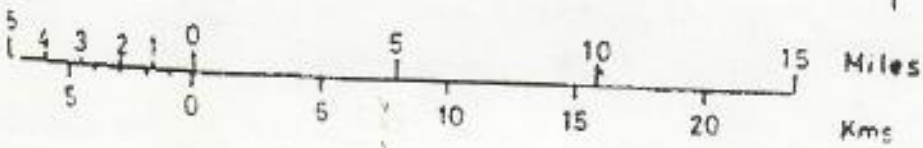
TABITEUEA



ISLAND Tabiteuea
 SHORELINE IN 10 LAGOON USED Km
 SHORELINE OUTSIDE POSSIBLE? Km
 EXPOSURE some shelter
 EXPERIENCE very good
 WATER FLOW good
 GENERAL VERDICT Good record, potential high, S not included, but also possible.

The intertidal zones of these channels are potentially the most productive area of all. See also N Tarawa.

Turtle Site



T.T.C. 1975



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

FAXED
113195

TELEFAX FOR: MRS. KOIN ETUATI

DATE: 3 JANUARY 1995

1108
DME FROM: GEORGE BALAZS

TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE: DEAR MRS. KOIN ETUATI:

THANK YOU VERY MUCH FOR YOUR RECENT FAX SUPPLYING GRFATER DETAIL ABOUT THE ISSUE OF SEA TURTLES FORAGING UPON ALGAE IN KIRIBATI SEAWEED FARMS. I AM MOST APPRECIATIVE TO BE IN CONTACT WITH YOU ABOUT THIS IMPORTANT MATTER. I TRUST THAT I WILL BE ABLE TO PROVIDE SOME ASSISTANCE IN HELPING TO SOLVE THE PROBLEM. IF I UNDERSTAND YOUR FAX CORRECTLY, THE PROBLEM IS MAINLY CENTERED ON SEED PLANTS, --THE VERY SMALL EARLY GROWTHS THAT ARE SET OUT. LATER, WHEN THE PLANTS ARE MUCH LARGER, GRAZING BY TURTLES (AND HERBIVORES FISHES?) IS NOT SEEN AS A SIGNIFICANT NEGATIVE IMPACT.

FRANKLY, I AM RATHER SUPRISED ABOUT THE PROBLEM YOU HAVE REPORTED. IN ALL CASES I HAVE SEEN HERE IN HAWAII INVOLVING THE NATURAL SETTING, SEA TURTLES (CHELONIA MYDAS) DO NOT ELIMINATE THE SOURCE OF SUPPLY OF THEIR ALGAE BY DESTROYING (I.E. PULLING OFF) THE HOLD-FAST PART OF THE ALGAE THAT ANCHORS THE PLANT TO HARD SUBSTRATE. BUT CONDITIONS MAY BE VERY DIFFERENT FOR SEA TURTLES AND ALGAE IN OCEAN WATERS OF YOUR COUNTRY. MAY I ASK IF THERE ARE EYE-WITNESSES THAT HAVE ACTUALLY SEEN THE TURTLES FEEDING DIRECTLY ON THE NEW PLANTS. ARE THERE POSSIBLY ANY PHOTOGRAPHS? WHAT NATURAL SEAWEED RESOURCES FOR SEA TURTLES EXIST IN AREAS NEAR THE FARMS? ARE SEAWEEDES ABUNDANT IN KIRIBATI? HERE IN HAWAII WE HAVE THE FARMED SPECIES FROM THE PHILIPPINES THAT HAS SPREAD INTO THE WILD, ESPECIALLY IN KANEOHE BAY HERE ON OAHU ISLAND. HOWEVER, SEA TURTLES SELDOM EAT IT. THEY PREFER MANY OTHER SPECIES NATURALLY OCCURRING.

I WILL SHARE THE INFORMATION YOU SENT ME WITH MY FRIEND AND COLLEAGUE, DR. DENNIS RUSSELL AN EXPERT ON FARMED SEA WEEDS (CURRENTLY A PROFESSOR IN ALASKA).



Lost Atolls of the South Pacific

19 Days • June 13, 1993 • September 11, 1993 (reverse itinerary, with one layday at Papeete)

Day	Destination
1	Los Angeles
2	Papeete, Tahiti
3	Papeete Embark
4	Motu, Tahiti
5	Bora Bora, Society Islands
6	Mitake, Tuamotus
7	Fine, Line Islands
8	Cooking, Line Islands
9	Voronu, Line Islands
10	Starbuck, Line Islands
11	Malden, Line Islands
12	Crossing the Equator
13	Christmas, Line Islands
14	Fanning, Line Islands
15	Fanning, USA
16-18	South Pacific Cruising
19	Honolulu, Hawaii, U.S.A.



Society Expeditions
 Doug Pendleton
 (206) 728-9400

Society Islands, Tuamotus, Marquesas, Pitcairn and Easter Island

21 Days • September 25, 1993

Day	Destination
1	Los Angeles
2	Papeete, Tahiti
3	Papeete Embark
4	Fakarua, Tuamotus
5	Rovito, Tuamotus
6	South Pacific Cruising
7	Hiva Oa/Taharua, Marquesas
8	Ua Pou/Ua Huka, Marquesas
9	Fata Niva, Marquesas
10	Pika Pika, Tuamotus
11	Rika Rika, Tuamotus
12	Mangarua, Cooks
13	South Pacific Cruising
14	Pitcairn Island
15	Hoodland, Pitcairn
16	Ducie, Pitcairn
17-18	South Pacific Cruising
19	Easter Island/Chuscha
20	Bora Bora
21	Motu



JAN - 5 - 95 THU 10:43 WAIKIKI AQUARIUM P.01
FAX COVER SHEET
We are sending from a Sharp FO 550

UNIVERSITY OF HAWAII

Waikiki Aquarium

Date 1/5/94 Time _____

TO: George Balazs

NMFS Honolulu Lab

FAX 743-1290

From: B. Hopper

WAIKIKI AQUARIUM

FAX: (808) 923-1771, anytime

Phone: 923-9741 (9am-5pm HST); 923-5335 off-hours

TOTAL NUMBER OF PAGES (including cover sheet): 2

293-
3820

COMMENT:

Here's the itinerary of the "Lost Atolls" cruise from Papeete to Honolulu via Line Islands. You can call Phil Bruner of BYU Natural History Museum. He was naturalist aboard this past fall's trip - and, could give you an idea of what he saw. I'm waiting for more detailed information - can supply this if you're interested.

Alaka,
Carol H.

Need FAX sheets

GOVERNMENT OF KIRIBATI

Ministry of Environment and Natural Resources
Development

PO Box 64 Bairiki, Tarawa, REPUBLIC OF KIRIBATI

Facsimile Cover Sheet

To: **George Balazs**
Company: National Oceanic and Atmospheric
Administration National Marine Fisheries
Service
Phone: 001808 943 1240
Fax: 001808 943 1290

From: **Craig Wilson**
Company: Ministry of Environment and Natural
Resources Development
Phone: 686 21099
Fax: 686 21120

Date: 14/3/94

Pages including this
cover page: 2

Comments: Regional Marine Turtle Conservation Programme

Ref: 16/16-es2551

Dear George,

Thank you for your fax 25/10/93 and the articles regarding your work on
Kanton Island. Since I last contacted you, regarding advice on an appropriate
turtle programme for Kiribati, an air service to Kanton was established in
January on a weekly basis by Air Niugini providing a connecting flight between
Tarawa, Kanton, Kauramohi and Himoohia. With this development, I am
particularly interested to include Kanton in the turtle work programme along
with Makin Island in the Northern Gilberts.

Air ?
↑

I am in the process of developing a turtle work plan for submission to SPREP and would like to know if you would be interested in leading the Kanton and Ulu Survey. As you carried out the preliminary assessment on Kanton I am keen to offer you the opportunity to follow up your original work with a tagging and assessment programme to be implemented in the October/November nesting season 1994. As Kanton is to be the site for a tourist development I would like to implement the turtle project before the tourist development to ensure that there will be minimum impact on the nesting areas.

If you are interested in being part of the programme I would require from you a range of details covering project methodology, a schedule for action and a preliminary budget, in order to complete the submission to SPREP.

If you are able to participate in the project please contact me to discuss appropriate details. If you are unable to participate but could recommend an alternative please do so at your earliest opportunity.

In regard to your question on ships to the Southern Line Islands there will be an ornithological study to all of the Southern Line Islands in September 1994. Please contact me if you require additional details of the voyage.

I look forward to hearing from you.

Regards

Craig Wilson
Environment Unit
for Secretary Environment and Natural Resources Development

16/5/95

Dr George Balazs
National Marine Fisheries Service
2570 Pde St
Honolulu Hawaii
96822-42396

178 Thacker St
Ocean Grove
Victoria 3226
Australia

Dear George,

I've just received your letter dated 5 April regarding the Turtle Project for Kiribati. I'm not quite sure why it was forwarded on to me as I finished my contract in Kiribati in December 94 and I'm now back in Australia looking for a job here.

In regard to your letter Kanton is out of the picture until Air Nauru resumes its flights to Kirikimati (Christmas) Island. In order for that to happen Kiribati will need to upgrade the airstrip in Kirikimati and that could take some time. The next option for resting sites would be Kirikimati Island itself or the two adjacent islands of Terania (Washington) and Tabuerau (Fanning). The person to contact for further information on the 3 islands is Kating Teebaki who is the head of the Wildlife Conservation Unit.

2


T.V. here promoting the campaign and the problems that are occurring in Pacific.

I've been working briefly in the Pacific on a SPREP project called Capacity 21 a Sustainable development project funded by UNDP and I may be in Kiribati around July. If so I shall raise the turtle project with Terenei and do what I can to move it along.

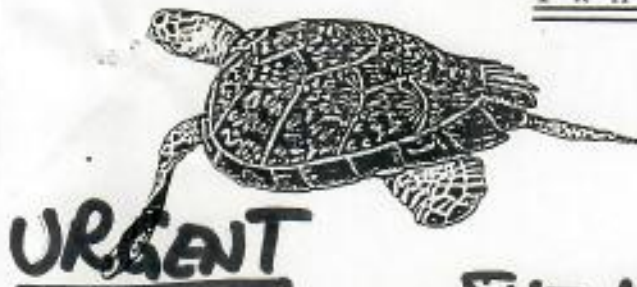
Please contact me George if there is any information that I can help you with.

Regards

Craig



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

URGENT

TELEFAX FOR: SUE MILLER
SPREP
FROM: G. BALAZS

DATE: 23 MAY 95
808-943-1240
TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page) TWO

MESSAGE:

DEAR SUE:

YESTERDAY I SENT YOU AN IMPORTANT MESSAGE BY INTERNET ELECTRONIC MAIL. I ALSO SENT YOU SOME ITEMS AND A NOTE BY "REGULAR" POSTAL AIR MAIL. TODAY I'M FAXING YOU AS THE RESULT OF A LETTER I JUST RECEIVED THIS MINUTE FROM CRAIG WILSON, WHO IS NOW BACK IN AUSTRALIA. HE INDICATED THAT HE SENT YOU A COPY OF THE LETTER- BUT PERHAPS IT HASN'T REACHED YOU YET. IN THE LETTER HE DESCRIBES THE APPARENT IMPOSSIBILITY OF TRANSPORTATION TO KANTON ISLAND, WHERE I HAD PLANNED TO DO MY COMPONENT OF THE KIRIBATI TURTLE PROJECT (INCLUDING SATELLITE TELEMTRY). I WISH HE WOULD HAVE CONTACTED ME ABOUT THIS PRIOR TO LEAVING KIRIBATI, BUT UNFORTUNATELY HE DIDN'T. BUT I RECEIVED EARLIER WARNINGS ABOUT TRANSPORTATION DIFFICULTIES. IN HIS LETTER CRAIG SUGGESTS SATELLITE TELEMTRY POSSIBLY AT KIRITIMATI(CHRISTMAS IS), OR WASHINGTON OR FANNING. BUT IN THE PREVIOUS SENTENCE HE REMARKS THAT THERE ARE NO AIR NAURU FLIGHTS TO KIRITIMATI UNTIL THE AIR STRIP IS UPGRADED. AND HE SAYS THAT "COULD TAKE SOME TIME". SO IF THERE'S NO WAY TO GET TO KIRITIMATI, I DON'T SEE HOW THAT HELPS IN PLANNING ANY ALTERNATE TELEMTRY PROJECT THERE! ON TOP OF THAT, IT'S MY UNDERSTANDING THAT THERE'S VERY LITTLE, ALMOST NO, TURTLE NESTING ON KIRITIMATI, OR FANNING, OR WASHINGTON. BUT POSSIBLY(DOUBTFULLY) THAT HAS CHANGED. I'LL MAKE AN INQUIRY, BUT EVEN IF THERE IS SOME NESTING NOW IT STILL APPEARS TO BE IMPRACTICAL/IMPOSSIBLE TO GET THERE. IN YESTERDAY'S EMAIL MESSAGE TO YOU I ASKED FOR IDEAS ON ALTERNATE DEPLOYMENT OF A SATELLITE TAG FOR YOST. THAT QUESTION HAS BECOME ESPECIALLY CRUCIAL, IN VIEW OF CRAIG'S LETTER. I THINK IT IS VERY IMPORTANT THAT THE REPORT OF OUR 1994 RMTCP STEERING COMMITTEE MEETING BE PUBLISHED AND DISTRIBUTED. WHAT IS ITS STATUS NOW?

SPREP AND YOST RECEIVED SOME VERY FAVORABLE PUBLICITY IN LAST NIGHT'S HONOLULU NEWSPAPER. CONGRATULATIONS! A COPY OF THE ARTICLE IS BEING FAXED WITH THIS LETTER.

I LOOK FORWARD TO HEARING FROM YOU AS SOON AS POSSIBLE REGARDING THESE EXTREMELY IMPORTANT ISSUES. PLEASE RESPOND AT YOUR EARLIEST OPPORTUNITY, OR ASK ONE OF YOUR ASSISTANTS TO ANSWER ME BASED ON YOUR DISCUSSIONS WITH THEM. ALOHA,

Gay

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



Suzie Geermans
SPREP, C/- QDEH
PO Box 155
Brisbane Albert Street QLD 4002
AUSTRALIA

24 August 1993

Rimeta Beniamina
Ministry of Environment & Natural
Resources Development
Fisheries Division
PO Box 276
Bikenibeu Tarawa
KIRIBATI

Dear Rimeta

I refer to the letter sent to the South Pacific Commission by Mr Mweia regarding the turtle tags R5651, R5652, R5653 and R5654.

These four tags were all applied to a green female turtle while she nested at Bikar Atoll in the Marshall Islands on 7 August 1992.

I understand that this turtle was captured by use of a hand spear on 23 April 1993 in Aranuka lagoon. However, this turtle was identified as a hawksbill, but the SPREP records indicate it was a green turtle. We hope that by using the pictures on the identification key, the fishermen may be able to tell us what species of turtle it was.

We hope that this information can be forwarded to the two fishermen who captured the turtle. We would appreciate learning more about turtles in the area, and have supplied questions on the following page. Please have the men return this sheet to the address provided.

The South Pacific Regional Environment Programme (SPREP) are involved with the conservation and management of sea turtles within the South Pacific region. Therefore any information you can give us regarding tagged turtles is very important to our understanding of these animals.

Enclosed for the fishermen are some posters and sheets describing the different types of turtles. Two t-shirts will be sent by SPREP as a reward for reporting the tags.

Yours sincerely,

Suzie Geermans

Suzie Geermans
Turtle Conservation Consultant
South Pacific Regional Environment Programme (SPREP)

cc. Danny Wase, MIMRA, Marshall Islands
Bill Puleloa, Hawaii
Adrienne Farago, SPREP, Western Samoa
George Balazs, NMFS, Hawaii



01 Sep 93

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
PUU KAPEELUA AVENUE
HONOLULU, HAWAII 96729

Dear Suzie,

I've checked our data and can confirm that the turtle caught at Aranuka, Kiribati was definitely a green sea turtle, *Chelonia mydas*.

There can be no mistake as all four numbers match up with our files. This particular female was encountered while nesting on Bikar Islet, Bikar Atoll. Because of a passing typhoon, she was the only animal coming ashore on the night of August 7, 1992.

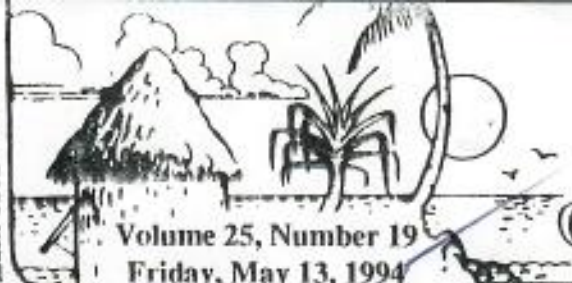
An international recovery of this nature is always exciting, but I must confess that it is also disconcerting to learn that a breeding female must be sacrificed. Having the turtle show up in Kiribati is not particularly surprising. These animals are known to be great wanderers. It does, however, illustrate how critical the tagging of turtles are if they are to be managed properly. Having been to Bikar on several occasions, it would not surprise me to learn that this remote atoll is the primary turtle rookery in the northern Pacific. Regional management is imperative if this natural resource is to be preserved for future generations to enjoy. I certainly hope that SPREP will continue to lead the way in this most important task.

In regards to the report, it will be ready for printing very soon. My operation has greatly curtailed my activities but I am now well on the mend. Furthermore, the report is being co-authored by a staff member of MIMRA, and the correspondence can be a nightmare at times. I am confident that the final version will be ready for distribution in a month or so.

I hear with great sadness your tentative departure from SPREP! George Balazs has always mentioned your name with high regards and your leaving will be a substantial loss to turtle conservation efforts. Please leave me a forwarding address so that a copy of our report may be sent to you, albeit belated.

cc: MIMRA, NMFS

ISSN: 0892 2096



Volume 25, Number 19
Friday, May 13, 1994

JOUR

Story #1



American Trust managers ask Who else is bringing bucks?

Journal staff

Majuro May 10 —
"We're developing a program to bring in \$500 million in development capital to the Marshall Islands," said Harvey Drown, chairman of the management board of the Iroijlaplap Murjel Hermios Eleemosynary Trust.

"Is there anyone else who can do this in a country with no record of foreign invest-

Continued page 4



Harvey Drown

Story #2



AG tells Trust cease to exist

Journal staff

Majuro May 10 — The Marshall Islands Attorney General's office has told the Iroijlaplap Murjel Hermios Eleemosynary Trust to cease its operations.

Meanwhile, Iroijlaplap (parliament chief) Hermios' local attorney said as far as he's concerned the Trust does not exist anymore and he said the Trust managers are "harrasing" his client.

Continued page 27

Did FAA kill Pohnpei airline?

Pohnpei May 9 — American politics and aircraft industry lobby are accused of dealing a serious economic blow to a Federated States of Micronesia aviation busi-

ness trying to get off the ground.

Pohnpei Beat

Tom Panholzer
For the MLJ

George Padvorac, the corporation vice president

Continued page 4

We're fro



JET SET PARTY GOERS—More than 100 N into town aboard an Air Nauru charter flight I Reimers. See story on page 5.

Taste the Spirit

Story #1 (cont.)

Bucks

From page 1

ment successes?

"Who's willing to take the risk? We are. We're raising it and we're going to administer it but the benefits go to the Marshallese people who are the beneficiaries of the Trust."

His comments were made in Majuro this week as the Trust is under increasing pressure to disband from the government, the courts, and Iroji Hermios himself, who late last month filed a notice with the High Court dissolving the Trust.

Drown and Trust officials

Robert Moore and Narmit Rydell said that the government has no authority to interfere in or to dismiss the Trust. "It's a contract by the Irojiaplap for the people of the Marshall Islands," Drown said. "The Trust doesn't go against anything in the constitution."

The Trust is going to provide jobs for Marshallese and bring in investments, Drown said. The proposed \$500 million bond issue is the culmination of

many years of work, he said, adding that "we resent being unlawfully interfered with by the government. We're going to go ahead with our program."

The \$500 million bond is just a first step, Drown said. "It could lead to a \$3-4 billion investment over the next 10 years," he said.

Trust officials have already invested several million dollars to lay the foundation for the bond issue, Drown said. "You don't arrange a \$500 million bond for free," he said. "It takes

effort.

"We're not asking the Marshalls for money. This is at no cost to people here; we're getting investors to invest money into the Marshalls."

The American Trust officials believe that Iroji Hermios' move to dissolve the Trust was motivated by misinformed people who do not understand the purpose of the Trust. The Trust officials say they do not want to be adversaries with the government, but they intend to fight for the Trust

and its beneficiaries.

"We are anxious to find out who's pushing the action to stop this program for the benefit of the people," Drown said.

Drown continually emphasized that the people of the Marshall Islands need to understand that they are the beneficiaries of the Trust.

"We're not playing games," he said. "This is a business proposition. We must make money to earn money for the beneficiaries."



Robert Moore
Trust Manager

BUD LIGHT DELIVERS

FAA —
From page 1

pany's C-130 cargo aircraft that had been sitting at Pohnpei International Airport for the past five weeks

Cease

From page 1

"They are proposing to sell passports and a bond," said Attorney General Boyd Sprehn. "This office knows of no authority that they have to sell passports. Any attempt to represent that they do have the authority is fraud."

Regarding the proposed \$500 million bond sale, Sprehn said that there is a securities law in the Marshall Islands that requires a person or company to meet certain regulations before a bond can be sold.

"If they wish to market it here, they must get approval from the Registrar of Corporations (in the AG's office)," Sprehn said.

Official and high level government concern over the activities of the Trust managers have escalated lately, the attorney general said.

"Our opinion is that the Trust should not be engaged in any business," Sprehn said. "The trustees have issued a statement dissolving the Trust."

The AG said that the government has an interest in

how a charitable trust operates in the name of the Marshall Islands. In response to claims from the U.S.-based Trust managers that the government has no authority to regulate the Trust or to stop it from operating, Sprehn said the AG has a role because it is his job to enforce the terms of the trust because the beneficiaries — the "people of the Marshall Islands" — may be unable to do so.

On April 29, Sprehn sent a letter instructing the

Trust to cease all operations based on the recent High Court ruling and Iroijlaplap Murjel Hermios' notice to the High Court that he has dissolved the Trust.

The attorney general said that since last year, his office has requested information about the financial activities of the Trust but that the American managers have refused to provide any information. "If they can demonstrate an operational, legal business proposition that will benefit the citizens of the 10 northern atolls we'll enter-

tain it," Sprehn said. "They've been asked to do so."

Hermios' lawyer, John Silk, said that the American Trust managers "have totally disregarded my client's notice to dissolve the Trust." Silk, who met with Trust managers Harvey Drown and Kermit Rydell this week, added "I've told them that the Trust doesn't exist anymore. They won't listen."

Moreover, he said, the High Court ruled the Trust invalid. "As far as I'm

concerned, no Trust exists," he said, adding the Trust "stripped the Iroijlaplap of his power. He could not act without the approval of the Trust. Who controls the Trust? Foreign nationals. Iroijlaplap Murjel is trying to get his authority back."

The paramount chief did not realize what he signed when he signed the Trust agreement, Silk said. "There is no conceivable way that a Marshallese would allow foreign nationals to dictate what he can do on his own land," Silk said.

U.S. EPA ebojakin iten etale PCB ko i-Majel

Journal Staff



MINISTRY OF NATURAL RESOURCES DEVELOPMENT
FISHERIES DIVISION



PO Box 276
Bikerehe Tarawa
Republic of Kiribati



CABLES: FISHERIES TARA
Tele: KI 77046
Telephone: Bikerehe 28261
28269

FDG: 7/57
Our Reference FDO

Date: 7/25/91
DATE

George H. Balazs
Marine Turtle Research
National Marine Fisheries Service
Southwest Fisheries Center
Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii.

Fax No: (808) 943 - 1290

Dear Mr G. Balazs,

I refer to your letter dated 4/19/91 regarding turtle poisoning in Kiribati.

Just recently a mother with 2 kids from South Tarawa, aged 31, 1 year old and 8 months old died after consuming cooked turtle blood with pancreatic tissues.

Their relatives at Ambo said the loggerhead turtle was caught on Tuesday evening the 19 July, 1991 at the eastern side of the new Tungaru Central Hospital with 4 other green turtles. On Wednesday afternoon the family killed the turtle, cooked its blood with its pancreatic tissues and have for it for lunch. A few hours later the victims felt uncomfortable, want to vomit but couldn't and later felt weak and were admitted to hospital. It was reported on Thursday evening that the 8 month old baby who was being breastfed by the poisoned mother passed away and the following day the mother and the 1 year old kid too passed away. Her brother and 2 sisters who also shared the same meal but believed to have consumed less are now in hospital recovering.

I hope that the information I have provided will be useful to you.

Should you require further information on the above, please dont hesitate to contact us. Our Fax No: (686) 28295.

Yours sincerely,

T. Tekinaiti
for Chief Fisheries Officer.

FAX (686) 28295



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:

T. TEKINAITI

DATE:

29 JULY 91

FROM:

G. BALAZS

TELEPHONE EXT:

808-943-1240

NUMBER OF SHEETS TRANSMITTED (including this page)

1

MESSAGE:

DEAR MR. TEKINAITI:

IN MY LAST LETTER, I FORGOT
TO ASK YOU WHAT KIND OF TURTLE
WAS INVOLVED IN THE POISONING THAT
HAPPENED IN KIRIBATI LATE LAST
YEAR? ALSO, PLEASE CAN YOU TELL
ME THE LOCAL KIRIBATI NAMES FOR
SEA TURTLES:

GREEN TURTLE, Chelonia mydas
Hawksbill, Eretmochelys imbricata
Loggerhead, Caretta caretta
Leatherback, Dermochelys coriacea

Do you plan to attend the SPREP Regional
SEA turtle meeting in Noumea AUGUST 11-13, 1991?
This would be an excellent opportunity to
discuss turtle poisoning. I will be
there.

Aloha, G. 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

SPREP-
RMTGP

TELEFAX FOR: PETER THOMAS

DATE: 29 July 1991

FROM: GEORGE BALAZS TELEPHONE EXT: 808-943-1240

Gay

NUMBER OF SHEETS TRANSMITTED (including this page) 1

MESSAGE: **DEAR PETER:** QUANTAS RECENTLY CONTACTED ME REGARDING TICKETING BETWEEN SIDNEY AND NOUMEA. EVERYTHING APPEARS TO BE IN ORDER. AS A REMINDER, HOWEVER, I SHOULD POINT OUT THAT MY RETURN WILL REQUIRE AN OVERNIGHT IN SIDNEY (THE 14TH) IN ORDER TO CATCH THE N.WEST FLIGHT TO HONOLULU 10AM THE 15TH. PLEASE HAVE THE PER DIEM REFLECT THAT FACT, IF APPROPRIATE.

IN OTHER NEWS: 1.) THE ^{U.S.} PACIFIC TURTLE RECOVERY TEAM MEETING I JUST ATTENDED IN PAGO WAS INSTRUCTIVE. THERE WILL BE WAYS THAT THE FINAL "PLAN" (MID-1993) CAN SUPPORT RMTGP IN SOME RESPECTS. 2.) SUZIE'S VISIT TO HAWAII IS NOW TENTATIVELY SET FOR AUG. 26-30. 3.) I UNDERSTAND THAT SHORTLY YOU WILL BE RECEIVING A PROPOSAL FROM THE MARSHALL ISLANDS GOVERNMENT. MY COLLEAGUE, A STATE BIOLOGIST FROM MOLOKAI AND FORMER FISHERIES OFFICER FROM THE MARSHALLS, HAS BEEN GIVING THEM GUIDANCE. THEY ARE PROPOSING HIGHLY SIGNIFICANT WORK THAT NEEDS TO BE DONE. 4.) YET ANOTHER CASE OF SEVERE TURTLE POISONING IN KIRIBATI (17 JULY 91). DEATHS OCCURRED. I WILL GIVE FULL DETAILS ON ALL THE ABOVE IN NOUMEA.



BEST



MINISTRY OF NATURAL RESOURCES DEVELOPMENT
FISHERIES DIVISION



P.O. Box 276
Skenibeu Tarawa
Republic of Kiribati

CABLES: FISHERIES TARAWA
Telex: KI 77046
Telephone: Bikenibeu 28061
28269

Your Reference: **FDG: 7/57**

Date: **7/30/91**

George H. Balazs
Marine Turtle Research
National Marine Fisheries Service
Honolulu Laboratory
Hawaii.

Fax No: (808) 943 - 1290

Dear Mr G. Balazs,

Thank you for your fax with photos received yesterday and today.

Today we went back to that family at Ambo for the shell or the skull and were advised that they threw away the shell straight after killing it. We also enquired to their neighbours for the shell but couldn't find it.

During our first visit to that family we brought with us the pamphlet that you sent with your previous correspondence and were advised that it was not the common turtles (green turtle or hawksbill turtle) that they normally encounter but a different one and they pointed to the logger head turtle. They described it as the one with the very long neck, its middle scutes forms a characteristic uniform hump on the back and with the sides scutes flattens out.

An investigation was carried out in 1979 by Fisheries Division with questionnaire and identification sheet provided by USP with the dual purpose of collecting information from the fishermen the type of turtle species found and utilization in Kiribati. It was reported from that survey that four turtle species were found in Kiribati namely:

	<u>Kiribati Names</u>
(i) Green turtle	Te On
(ii) Hawksbill turtle	Te Tabakea or Te Borauea
(iii) logger head	Te On n ae
and (iv) Pacific Ridley	Te On mron

Tomorrow will try and obtain information from the family that were affected by the turtle poisoning late last year and report back.

Yours sincerely,

T. Tekinaiti (Ms)
for Chief Fisheries Officer.



MINISTRY OF NATURAL RESOURCES DEVELOPMENT
FISHERIES DIVISION



PO Box 276
Bikenibeu Tarawa
Republic of Kiribati

CABLES: FISHERIES TARA
Telex: KI 77046
Telephone: Bikenibeu 28061
28269

FDG: 7/57
Our Reference FDG

Date: 7/25/91
DATE:

George H. Balazs
Marine Turtle Research
National Marine Fisheries Service
Southwest Fisheries Center
Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii.

Fax No: (808) 943 - 1290

Dear Mr G. Balazs,

I refer to your letter dated 4/19/91 regarding turtle poisoning in Kiribati.

Just recently a mother with 2 kids from South Tarawa, aged 31, 1 year old and 8 months old died after consuming cooked turtle blood with pancreatic tissues.

Their relatives at Ambo said the loggerhead turtle was caught on Tuesday evening the 19 July, 1991 at the eastern side of the new Tungaru Central Hospital with 4 other green turtles. On Wednesday afternoon the family killed the turtle, cooked its blood with its pancreatic tissues and have for it for lunch. A few hours later the victims felt uncomfortable, want to vomit but couldn't and later felt weak and were admitted to hospital. It was reported on Thursday evening that the 8 month old baby who was being breastfed by the poisoned mother passed away and the following day the mother and the 1 year old kid too passed away. Her brother and 2 sisters who also shared the same meal but believed to have consumed less are now in hospital recovering.

I hope that the information I have provided will be useful to you.

Should you require further information on the above, please don't hesitate to contact us. Our Fax No: (686) 28295.

Yours sincerely,

Tekinaiti
T. Tekinaiti
for Chief Fisheries Officer.



MINISTRY OF NATURAL RESOURCES DEVELOPMENT
FISHERIES DIVISION



P.O. Box 278
Tarawa
Republic of Kiribati

CARLIS FISHERIES TARAWA
Tel: KI 77046
Telephone: Bikenese 28061
28269

For Reference: FDG: 7/57

Date: 7/30/91

George H. Balazs
Marine Turtle Research
National Marine Fisheries Service
Honolulu Laboratory
Hawaii.

Fax No: (808) 943 - 1290

Dear Mr G. Balazs,

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- and (iv) Pacific Ridley

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 - Te Tabakea or Te Borauea
 - Te On n ae
 - Te On mron

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Yours sincerely,

T. Telinaiti (Ms)
for Chief Fisheries Officer.

(686) 28295

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:

T. TEKINAITI

DATE:

31 JULY 91

FROM:

G. BALAZS

TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page) 1

MESSAGE:

DEAR MS. TEKINAITI:

MANY THANKS ONCE AGAIN FOR YOUR GOOD FAX LETTER OF 30 JULY. YOUR INFORMATION IS VERY INTERESTING INDEED. ONE VERY EASY WAY TO IDENTIFY THE LOGGHEAD FROM ALL OTHER SEA TURTLES IS BY ITS COLOR. IT IS ALWAYS A REDDISH-BROWN COLOR. THE REDDISH TONE IS ALWAYS PRESENT. THIS INCLUDES THE SHELL, AS WELL AS THE DORSAL SURFACES OF THE FLIPPERS, NECK, AND TOP OF THE HEAD. IT WOULD BE VALUABLE TO KNOW THE APPROXIMATE SIZE OF THE TURTLE (LENGTH OF SHELL ONLY).

I WILL SEND YOU MORE COLOR PHOTOS OF THE DIFFERENT TURTLES.

IF YOU CAN RECOVER ANY BONES AT ALL FROM THE TURTLE, PLEASE SAVE THEM. OR SCALES FROM THE SHELL. PERHAPS I WILL MEET YOU AT THE NOUMEA MEETING, OR IF YOU EVER VISIT HAWAII.

BEST REGARDS.

Sincerely,

Gey Balazs





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TELEFAX FOR: T. TEKNAITI DATE: 2 AUGUST 91

FROM: G. BALAZS TELEPHONE EXT: _____

NUMBER OF SHEETS TRANSMITTED (including this page) 4

MESSAGE:

GREETINGS:

HERE IS SOME INFORMATION I FOUND
ABOUT TURTLE POISONING IN KIRIBATI.

I AM WONDERING IF IT IS
POSSIBLE THAT PEOPLE HAVE
TAKEN AND EATEN THE HAWKSBILL,
BUT ARE RELUCTANT TO ADMIT
IT BECAUSE OF "TE TABAKEA'IA"
BEING SACRED TO SOME?

KIRIBATI WOULD BE AN EXCELLENT
LOCATION TO STUDY TURTLE POISONING.

Sincerely,

G. Balazs



Please see what's
involved in checking out
this tape, and others

only student
or faculty
can check
out

Geo. 11/9/92

[Signature]

Sandy

Do you have
privilege to
check out?

Geo.
X240

February 10, 1992

George,

I was going through the UH Sinclair Library "Pacific Islands Film & Video Catalog" and saw a title that would be of great interest to you (& me).

On page 28...

Volo momoru : the turtle net

"One of a series which records the traditional cultural life and passing ceremonies of the people who live in the Solomon Islands. Nets are used to catch turtles for food in the Solomon Islands. The art of making these nets is almost forgotten. Shows how the net is woven and the custom retained."

#2097

VIDEOTAPE ~~695~~ VHS (27 minutes)

If you ever get around to digging it up, I'd appreciate it if you'd make a copy for me to see too. (Or at least bring your copy with you on your next trip for me to view overnight.)

Beie
[Signature]

also lost his seat in parliament. The ladies are no longer in parliament.

Skin diver dies after chasing turtle

By Batiri Bataua
 Tarawa March 6 — Ear-lier in the year a skin fisherman from Abaiang died when he tried to go after a turtle. When he dived after the turtle, he failed to surface, and his friends have to hook him out from the deep water.

Arorea island at the southern tip of the Kiribati group was caught in the same trap.

Reports from the island said Kaoiaki Tautua and his friends were heading back ashore after spear fishing when he spotted a turtle that he went after.

The under water chasing ended in a tragedy when young Kosiaki had his shirt and could not survive.

Fighting malnutrition in Kiribati

By Batiri Bataua
 Tarawa March 6 — The Foundation of the People of the South Pacific in Kiribati is helping the Ministry of Health in fighting Vitamin A deficiency in the country.

The foundation is supplying Vitamin A pills to all school children assisting in conducting educational programs to mothers and

parents and supplying greens and vegetables to local markets.

Children in Kiribati between one to ten years lacks Vitamin A, and a recent survey conducted by the Ministry and EFS shows that most children on South Tarawa have night blindness sickness.

The Foundation is running a small garden project on South Tarawa in which interested gardeners get their seeds and fertilizers and advice from the Foundation.

At yielding times, the Foundation come around and pick the greens for sale in the markets. The money is given back to the gardeners.

ADB assisting Kiribati



DART THROWING JOURNAL CORRESPONDENT — *Batiri Bataua, the Journal's Tarawa correspondent, is the chairman of the Baitiki Dart Club and was busy practicing for his team's recent trip to Nauru.*

Nauru dart men give Kiribati team a few pointers

By Batiri Bataua
 Tarawa March 6 — The Nauru Amateur Dart Association, NADA, which invited the Kiribati side for the 1992 Inter Country Dart Competition emerged the winner in this year's clash. NADA drowned Kiribati with a score of 2 to nil.

Eighteen players from Tarawa visited Nauru at the end of January, to coincide the game with that country's independence anniversary celebration.

The Kiribati team had four warm up games against the Staff Club of the Nauru Phosphate Corporation, and

Being good sportsmen and sportswomen, the Kiribati accepted their defeat with honors and told their host that the Tarawa game in July is going to be a tough one for the Nauruans.

NADA said when invited it will send a team to Tarawa when Kiribati celebrate its independence anniversary in July.

In other matches, however, the Kiribati team was back to shape, beating the Gold Club by two nil and that three wins over the Staff Club and loser to the Breaker Breakers from

RPC

PAGE 3

President: Big gov't. impedes progress

RMI-Japan outer islands fisheries pact

PAGE 11

ISSN: 0892 2098



Volume 23, Number 11
Friday, March 13, 1992

THE MARSHALL ISLANDS JOURNAL

50¢ ON MAJURO
75¢ ERETE AND
OUTER ISLANDS

President Amata Kabua:

Lõñ in ri jerbal ekarumij wõnmanlok

Majuro March 9 — President Amata Kabua ilo enaan eo an ikijen aikuuj eo nan kadiklok jonan ri jerbal ro an kien, ear jiron lok jeban ro jen belakin Pacific rasan in Monday eoke Cabinet eo ej likun kile ke ej aikuuj in iiet lok jonan ri jerbal ro ilo public sector elane ej aikuuj koman juon economy eo

in an ear walok balakin Marshall in ilo V7AB, ear lal liklok ke jorren in ej walok ilo tore in, ear ijino jen ien ko remotlok in Marshall in ear bed tumin lal ko jen likin.

Jekjek ko jen lal ko iilikin rar boktok ibbier lok elon men ko remman, ak manit ko — utejijim kije in lemnak

jonan kar armij ne ie kio ej 45,000, ear ba.

President eo ear kwalok ke emaron in jekjek in jela- lokijen eo ej edonan wewen in, ak jonan cholesterol eo ilo oil in waini eo ear koman bwe en kellar lok wonen waini ilo market ko ilo lal in. Ear oktak jidik jen men eo ear konono kake nan an

ejelok aer monono kin waini. Ijelokin, U.S. ear kejerbal ijokein nan jikin an kokemelmeli kein tari- nac ko an, ear ba, im civil administration eo an ri Amerika im base eo ilo Kwajalein rar koman jerbal nan armij in alin kein.

Kotan in, ear ba, jema- ron watokc "jeraman ko rar



T R A N S M I T T A L S H E E T



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REPUBLIC OF THE MARSHALL ISLANDS
TELEFAX FOR: MR. DANNY WASE

DATE: 6 JULY 1992

FROM: GEORGE BALAZS

TELEPHONE EXT: 808-943-1240

NUMBER OF SHEETS TRANSMITTED (including this page) ONE

MESSAGE:

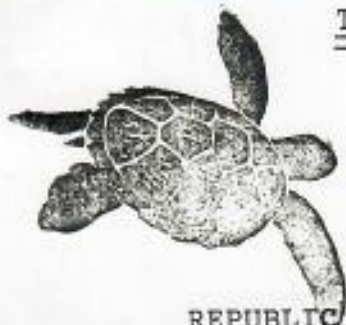
DEAR DANNY:

I AM FAXING YOU TO ASK ABOUT THE STATUS OF THE PROPOSED TURTLE TAGGING PROJECT TO BIKAR THAT WAS SCHEDULED TO START NEXT MONTH. I UNDERSTAND THAT SPREP HAS COMMITTED SUBSTANTIAL FUNDING TO THE PROPOSED PROJECT, BUT THAT THE MARSHALL'S WILL HAVE TO CONTRIBUTE ABOUT \$7,000 (50%) OF THE VESSEL CHARTER COST. I HAVE HEARD THAT THE SPREP IS VERY LOW ON AVAILABLE FUNDS FOR THE REMAINDER OF THIS FISCAL YEAR, CONSEQUENTLY, IT IS OF CONSIDERABLE CREDIT TO THE PROPOSED MARSHALL'S TURTLE WORK (AND THE IMPORTANCE OF DOING THAT RESEARCH) THAT ALL BUT \$7K IS BEING OFFERED TO YOU. HAVE YOU BEEN ABLE TO OBTAIN THE NEEDED MATCHING MONEY? DO YOU ANTICIPATE THAT THE PROJECT WILL TAKE PLACE ON SCHEDULE, THAT IS, STARTING NO LATER THAN ABOUT MID-AUGUST? THIS TIMING IS EXTREMELY IMPORTANT BECAUSE, IF THE WORK IS DONE ANY LATER IN THE NESTING SEASON THE PEAK-PERIOD WILL LIKELY BE MISSED, FAR FEWER TURTLES WILL BE TAGGED, AND CENSUSING WILL NOT PROVIDE A RELIABLE ESTIMATE OF HOW MANY ANIMALS ARE PRESENT DURING THE 1992 SEASON.

PLEASE, CAN YOU FAX ME AS SOON AS POSSIBLE TO LET ME KNOW THE CURRENT STATUS OF YOUR PLANS FOR THE PROJECT? AS YOU PROBABLY KNOW, I HAVE BEEN WORKING BEHIND THE SCENE FOR OVER 2 YEARS TO ENCOURAGE THAT THIS VITALLY IMPORTANT TAGGING BE CONDUCTED AT BIKAR. I WILL DO ANYTHING IN MY POWER TO HELP YOU IMPLEMENT THIS PROJECT.

BEST REGARDS,





U.S. DEPARTMENT OF COMMERCE
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BEST REGARDS,



6/27/92

THA

Air traveler not guilty of smuggling

By Thomas Kaser

Advertiser Staff Writer

A federal jury took only about two hours yesterday to find Japan resident Yoshinori Fujiki not guilty of trying to smuggle \$425,000 in cash into this country by way of Honolulu Airport.

Yoshinori, who says he is a shipbuilder, operator of fishing boats, and a trader of sea shells, was arrested at the airport last Oct. 4 after arriving on a stopover from Japan.

He was bound for Majuro in the Marshall Islands.

Though U.S. Customs Service agents said he reported he was carrying no sizable amount of money, he was found with \$425,000, most of it in a suitcase.

He was accused of making a false oral statement to a Customs Service officer, making a false written statement to such an officer and violating a U.S. currency-reporting requirement.

At his trial, his defense attorney, Walter Horie, said Fujiki complied with the customs instructions and was carrying the money because he couldn't complete wire transactions for buying a boat in Alabama to be used in the Marshall Island.

The \$425,000 is the subject of a separate civil forfeiture proceeding by the U.S. government.

Hawaii joins RMI to keep tabs on turtle population

Majuro July 27 — A joint RMI/State of Hawaii turtle tagging and research expedition to the northern uninhabited Marshalls' atoll of Bikar is scheduled for August, according to Marshall Islands Maritime Resource Authority director Danny Wase. Hawaii State will be represented on the expedition by Bill Puleloa, a former fisheries officer here in the Marshall Islands.

According to information on the research project, it is intended that a team will spend at least a couple of weeks out on Bikar measuring and tagging turtles that come ashore to lay eggs. It is assumed that future recovery of these tagged turtles will provide information as to migration patterns, growth rates, and survival rates.

Turtle populations in other areas of the Pacific are suffering from a terrible tumor disease that can ultimately prove fatal.

Part of the investigation will be to determine if turtles here in the Marshalls follow a pattern which has been documented in Hawaii. There, according to Puleloa, studies indicate that most turtles hatch in the northwest Hawaiian islands and then swim off as far as 800 miles to the main islands of Maui and Molokai to forage and grow.

Upon reaching sexual maturity, the turtles return north and repeat the cycle. In the Marshall Islands, most turtles (won) hatch at traditional sites such as Bikar, Jemo and Erikup, islands located in the north. Accepted thinking is that

lands' turtle population. According to Puleloa, turtle populations in other areas of the Pacific are known to be suffering from a terrible tumor disease. These tumors form on the soft part of their bodies such as the eyes, flippers, throats, etc. and can ultimately prove fatal.

"On Molokai, recent research surveys have revealed as much as 30% of the turtles affected by this disease," he said.

Turtles as far away as Texas and Florida have been known to bear similar tumors, and the Bikar study (which should begin this week, the boat taking the team to Bikar left Majuro Tuesday morning and expects to return here August 17) will try to establish if the sickness has reached

these turtles then swim off to other atolls to eat and grow, returning to the northern islands to deposit eggs. A key concern of the team studying the turtle patterns is the potential over exploitation of the resource due to the fact that many more motorized vessels are operating in the Marshalls now and the possibility of harming the resource is increased.

Some trips, for example, are made to Bikar expressly for the purpose of obtaining turtles.

A second, potentially no less important aspect of the Bikar turtle venture is to determine the current health status of the Marshall Is-



BILL PULELOA, former Marshalls fisheries officer, represents Hawaii in the joint RMI-Hawaii turtle tagging and research mission.

here.

According to Puleloa, he feels that a long term study of turtles is necessary. In his work on Molokai, he has personally tagged over one thousand turtles.

"We hope that this initial project will provide the thrust in the right direction

for the preservation of won for all future generations of Marshallese to enjoy," he said.

Accompanying his father on the trip north is Mickey Puleloa. Mickey was a former elementary school student at Majuro Coop School.

Hawaii im RMI rej ibben dron im kakolleik won ko

Majuro July 27 — Juon

ewor lernnak ko bwe team

rar kwalok im kemeleleik

lok, elkin rej bar jebelak

Won ko ilo jet ian melan

in im enaj koman ilo Bikar

ko bwi ibben dron im kakolleik won ko

in im enaj koman ilo Bikar

lok, elkin rej bar jebelak

Won ko ilo jet ian melan

in im enaj koman ilo Bikar

in im enaj koman ilo Bikar

factory coming?

Majuro Aug. 18 — The Marshalls' ambassador to China wants to deliver on President Kabua's directive to develop foreign investment and business initiatives for the Marshalls.

After seven months in Beijing, Laurence Edwards said there are numerous opportunities and he exhorted Marshall Islands businesses to get out and see the potential for business deals with China. "Otherwise," he said, "the opportunities will pass us by."

Edwards said the overseas missions would do their best to stimulate foreign business interest in the Marshalls. "But we cannot do it without the participation of the business community and government agencies," he said. "If there is no response from the Marshalls there is nothing much the mis-

sions can do."

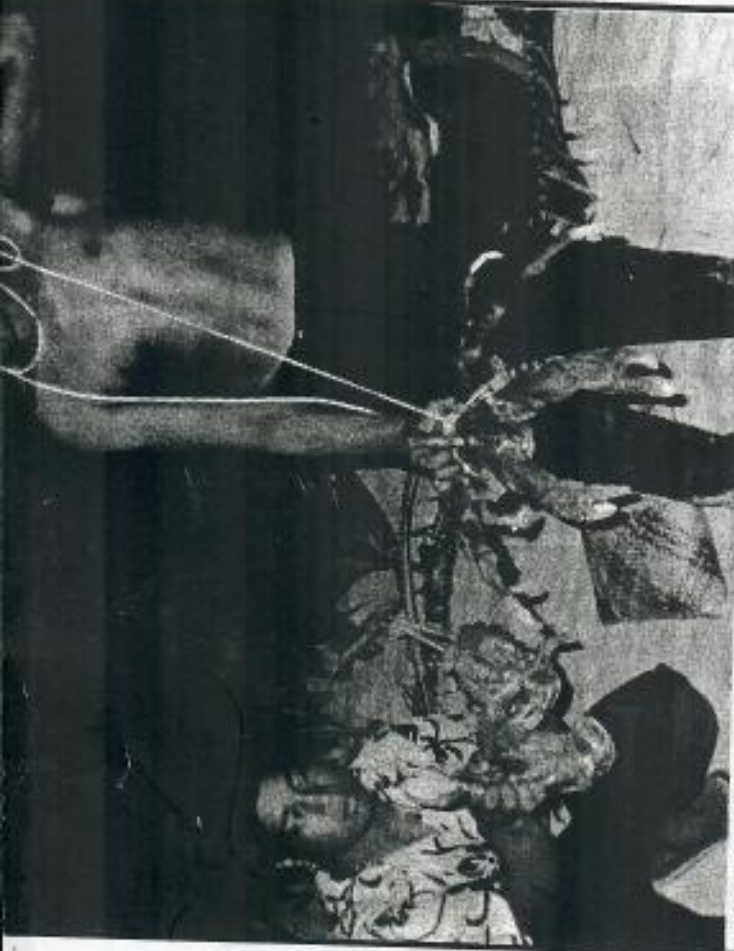
The Marshalls will see increased economic activity involving the People's Republic of China beginning next month.

At the end of September, a Chinese group will visit Majuro to conduct a feasibility study for establishing a major garment factory here, he said. The Chinese and the



Ambassador Laurence Edwards

Continued page 22



WINGSPAN OF AN AIRPLANE — The coconut crabs on Erikub Atoll are huge and numerous. David Hanchor from Ormij, Wotje holds onto a tasty specimen he caught in the Erikub jungle, while Abija Akira from Ine, Arno shows off another.

Continued page 22

GOOD NEWS/BAD NEWS

Majuro Aug. 18 — The good news and some bad first-ever turtle evaluation news. Real bad news.

"We were able to average about five tags a day," said Puleloa as he indicated that a total of 56 turtles were handled in the three week survey. Both Bikar Atoll and the island of Jemo were visited by the surveyors.

The good news, says Puleloa, is that the turtles

inspected during the survey are apparently free from the tumors that have been found to afflict turtles in other areas such as Hawaii and the southeast coastal areas of the United States.

The bad news is that the turtles up at Bikar are under very serious attack by a huge rat population, a population that Puleloa maintains was

not evident on the atoll in the 1970's when he made a previous trip to the isolated atoll.

"The rat problem is incredible," he said. Not only do the rats eat the eggs of the turtles when they were being deposited on the beach, they also gang up in a frenzy to kill of hatchlings as they struggle down the

sand to enter the water. According to Puleloa, Bikar is a world-class major rookery for turtles and for several types of sea birds. "Even the birds have problems with the rats," said Puleloa. The rats, apparently, boldly attack the nesting bird's eggs, despite the fact that the birds are pretty fierce in their own

right and counter attack the rats with sharp, penetrating beaks.

"The way the rats keep coming you know it's only a matter of time until the birds will have to give up," he said.

Puleloa described the survey trip to the northern atoll as a journey to hell.

Continued page 20

OUTER ISLAND PROFILE
Wotje, Erikub, Maloelap
story, photos pages 11-14



GOOD

From page 1

"No matter how hot and how humid you think it is here in Majuro, you got to multiply that by three or four to understand how bad it is up at Bikar," he said.

The arid northern Marshall Island has never been permanently settled, but with the dramatic increase of motorized vessels in the area generally, conservationists fear that greater accessibility may endanger the established rookery.

Puleloa feels strongly that something ought to be done soon to stem the obvious adverse effects of the rats on both the bird and turtle populations at Bikar, but what exactly should be done isn't clear.

In the absence of fresh water, the rats normally take to the coconut trees and gnaw their way into the nourishing milk and meat. So a tree banding exercise would seem to be necessary. Cats are normally very effective in controlling rats, but in the long term the cats themselves would not be

able to survive as well as the rats and would require artificial support systems, such as special feeding trips to the islands.

And Puleloa also said it might be possible to use a predatory owl available at Enewetak to keep the rodents in check. "We'll have to make sure the owls aren't a problem to the local birds there, and possibly bring in only one gender so they will naturally die off," he said.

Another problem which isn't exactly a problem has to do with the entrance passage to Bikar lagoon, according to Puleloa.

As he described it, the pass is a turbulent river of frothing water when the lagoon is emptying, and it look almost as though the lagoon level of water is higher than the ocean.

"Right in the middle of the pass is a huge coral head that forces you to turn either right or left at approximately 60 degrees. Then you are in a very dangerous situation with only about 15 feet of water below you," he said. The difficulty in navigating



IN SESSION — The Nijela opened its August session on Monday with a blessing, songs and speeches from the President and Speaker Kessai Note. The senators rose (above) to sing the national anthem.

No matter how hot and how humid you think it is here in Majuro, you got to multiply that by three or four to understand how bad it is up at Bikar.

the lagoon forced the MIMRA boat to stay out in the ocean for the duration of the visit.

"We have some of the effects of typhoon Kent which started at Wotje, really big waves so that the turtles couldn't land," he said.

Puleloa is against dynamiting the big coral head in the pass, claiming it acts as a natural preventative to

boats entering the lagoon and potential exploitation of the resources.

He also said that the MIMRA boat almost underwent a mutiny when the Marshallese crew were informed that taking turtle to eat was not permissible on this trip.

"We are not against someone eating turtle per se," said Puleloa. "It's just that this wasn't the purpose of

the trip."

He said that he was aware that individuals at Kwajalein Missile Range are willing to pay from \$300 to \$400 for an individual turtle, and if this kind of situation gets out of hand you may find people with boats going up to Bikar with the intention of out and out poaching. "I don't think the turtles should be exploited commercially. They won't be here for future generations, and as long as the people in the islands eat them as they have traditionally there should be no problem," he said.

Both MIMRA and

SPREP contributed money to make the latest turtle survey possible. Readers are asked to spread the word around that in the event a tagged turtle is found, the tag and specifics as to date, place of capture, and approximate size of the turtle should be sent to the office of MIMRA. "Even though the address on the tag indicates it should be sent to the SPC in New Caledonia, we urge anyone locating a tag here in the Marshalls to forward the tag to MIMRA and we will forward the information on," said Puleloa.

AIR Marshall Islands, Inc.

August 23, 1992

George,

As you can see we've survived the trip to Bikar! The brutal! The vessel turned out to be only 55' in length. Upon arrival, the captain decided against trying to enter the lagoon. In consequence all supplies had to be transported over the reef. In addition, we were also required to transport water and food. More on this part of the trip when I see you next.

Our first stop was at Erikup...21 people on this formerly salting turtle meat for resale at \$3.50/lb! They had been 12 (7 males + 5 females) were grabbed from the water and 1 group is a elementary school teacher (and a former student the summer ...along with the rest of the people. I explained help us tagged turtles that night...no luck (I think too much

logistics were incredible and the living conditions absolutely and the 6 day trip to Bikar was not exactly a pleasure cruise. r the lagoon via the single very narrow pass...and as a reef to the island at high tide at considerable risk. In food from the vessel to shore on a daily basis over the reef.

uninhabited atoll scratching out a living making copra and on Erikup for 2 months and captured a total of 13 turtles. female was caught while nesting on land. The leader of the of mine) and will be returning to his island at the end of to them what we were doing and they even volunteered to activity on the island and the turtles were spooked).

Bikar proved to be more productive...in spite of is a good word to describe living conditions! By challenge just to keep breathing. It took all you strained among team members. Nights were a lot more rats...thousands and thousands of them! By the third and even on us as tried to sleep between rounds. These turtle eggs as they were being laid (on video), racing to reach the water, and harassing ground nesting sea dent in the turtle recruitment on this atoll and the with the local government at the highest level and have initiated if Bikar is to remain a viable sanctuary for details and looking for funding...the thought is to send tagging exercise. I CANNOT OVER EMPHASIZE THE PROBLEM! longer is the rats are not brought under control soon. possible. At best we can probably only hope to knock the basis, i.e. not a one shot deal. I recall seeing rats on

I have not had a chance to see the NW Haw'n Islands but I cannot Nesting activities everywhere. If there is a spit of sand or islets. Oceanside, lagoon side, rock, coral, gravel, sand... copulating daily in the lagoon and over the reef's edge in the no question that this atoll is a major nesting site for turtles expended if needed be to maintain its status. To allow this

On the way back we made a stop at Jemo...a single uninhabited site in the Marshalls. Located close by to two inhabited atoll nesting turtles and eggs. Food and water on board being close night on shore and managed to tag 6 nesting females and 2 more equator, Jemo has more rainfall, more luxuriant foliage, and this island are reputed to be the best tasting of all turtles animals we encountered seemed to confirm this contention.

In sum: 11 nights on Bikar.....48 turtles
1 night on Jemo.....8 turtles
1 night on Erikup.....0 turtles

noon Kent which hampered our efforts for a couple of nights. Brutal AM the temperature and humidity were so debilitating that it was a ad to maintain your sanity and more than once were relations cooler and would have been more enjoyable had it not been for the day we were completely overwhelmed. In our food, water, gear, rodents are a MAJOR, MAJOR problem! They were seen eating against each other to reach and consume turtle hatchlings trying birds and their chicks. No question that they are making a major situation MUST be addressed. I have been playing up this angle managed to convinced them that appropriate action must be birds and turtles in the future. We're still working on the an eradicating team there next summer with or without our This major turtle rookery is doomed and will not survive much Total eradication would be ideal but I don't think this is population back, and I fear this must be done on a regular this atoll in 1978 but not at this density.

Imagine them being more of a turtle rookery than Bikar. coral anywhere there are turtle diggings...on all three it doesn't seem to make a difference. Turtles were seen ocean...night and day. Turtles everywhere! There can be in the northern Pacific and every effort must be habitat to be lost, would be unpardonable on our part.

island without a lagoon and the third well known nesting ls (Likiep & Ailuk), Jemo is regularly visited to gather to being depleted, we could only afford to spend one grabbed from the water's edge. Being closer to the in general more hospitable than Bikar. The turtles from in the Marshalls...and the more robust condition of the



56 total

In addition, I located two turtles held as pets and released them. Knowledgeable turtle hunters have been active during the June-July months (as you suspected) and I'm not sure about that though. In spite of our timing, our worst night's catch was 9.

I have been asked to address and explain our turtle tagging project to the residents of Erikup which is an atoll that is the regular visitor of close by Erikup which is an atoll. Plans have been made to divert the local commuter plane to Erikup immediately after Sunday services. Additional plans have been made to tag turtles can be tagged. This should take another week and I'm not sure about that though. I have to.

I'm hoping to return to Honolulu early September and hope to see you on my trip. I'll call you when I get there.

on Majuro and have managed to convince the owner to allow me to tag and inform that the best time for nesting in the Marshalls occurs during the month of June. We should factor this in for future expeditions...weather worst catch was 1 (during the two nights of Typhoon Kent) and our best

tagging project to the residents of Wotje Atoll. People of this atoll are quickly being depleted of both coconut crabs and turtles. I will fly me to Wotje tomorrow to meet with the community and have a meeting made to sail from Wotje to Erikup in order to see if any turtles can be tagged. Hoping to square this with Henry...I'll sign for leave if

meet you in your office (lunch somewhere?) to discuss the

Yokwe (same as "aloha"),

Bill

P.S. See project write-up in enclosed local rag! Take it with a grain of salt...details of interview always seem to get mixed up when written up.

→ page 16
2/2

P.P.S.

No Tumors!!

October 5, 1992

George,

- Enclosed are:
- (1) copy of raw data from Bikar trip;
 - (2) copy of Danny's letter to SPREP (which was inadvertently not sent to you).

Concerning the "recapture"...this is the same incident I related to you in your office on my way back to Molokai. The turtle was one of two which were kept as pets by a local resident of Majuro, measured, tagged, and released in the lagoon before returning to Honolulu, i.e. after the main Bikar leg. Danny and Mike discussed the situation with me just before I boarded the plane. I told them as far as I was concerned it was a legitimate return and that they should approach SPREP for the "reward". I hope we don't wind up quibbling over this...after all the tags were returned in good faith by the fisherman. He can't help it if the turtle was caught within the close proximity of its release point. At least he was conscientious enough to return the tags. Actually, having a guy walking around town with a turtle recovery shirt would be to our advantage! Great publicity. Besides, how much can a T shirt cost? A couple of bucks?

Report of Bikar trip coming along slowly...Iniki really threw things off. I've just got back from Kauai...and will be heading back there in a week or so. Not to worry....I'm just as anxious to finish the report as you are!

Call in a couple of days if you have any questions. I'll be out in the mountains for the next 3-4 days. Better yet, call at nights.

P.S.

Aloha,

Bue
~

DEAD TURTLE
Kaulaloa Sunday
2/26/92
No tags. Tumors??
Extremities bitten off.
Pictures.
82.0 cm C/L

DATE	LEN	WID	RF	LF	RH
8/11	107	89	5451	5452	5453
2	103	93.5	5455	5454	5456 #
3	100.5	99.5	5457	5458	5459
4	99	89	5460	5461	5462
(2 min)			5463	5464	5465
8/2	97	88	5464	5463	5465
(SAGE BENT 5470 BENT)	102	95	5466	5467	5469
7	97	87	5471	5472	5473
8	100	89	5474	5475	5476
8/3	9	88	5477	5478	5479 *
DISCARD 8/3/80	10	85	5480	5481	5482
11	102	94	5484	5485	5487
DISCARD 8/3/80	12	100.5	91	5487	5490
13	101	92	5491	5492	5493
14	95	82	5494	5495	5496
DISCARD SURF	15	95	91	5499	5498
16	95	88	5526	5527	5528

DATE	L	W	RF	LF	RH
8/4	17	101	98	5520	5529
1	18	99	90	5532	5534 *
19	105	92	5536	5537	5535
8/5	20	99	92	5540	5541
21	105.5	101.5	5543	5542	5544
22	93.5	85.5	47	46	5545
23	95	91	5548	5549	50 *
9 water 9/5 night!					
= 4 tagged					
= 2 return (#11, #15)					
= 3 false nest					
9					
Big South Storm!! = night + lightning Thursday day 11					
8/6	24	91	54	5502	5501 *
8/7	25	98.5	92.5	5652	5653

Typhon Kent
 14-5654

COPY

* PUT IN LR

DATE	L	W	RF	LF	LR	RR
9/19 ²⁶	102	92	5504	5505	5506	5507
(Sat) 27	107	101	5508	5509	5510	
28	101	92	5511	5512	5514	5515
29	89	80.5	5515	5516	5518	5519
<p>↑ right rear bottom leg pleat has shaled over.</p>						
<p>8/9 (Sunday)</p>						
<p>Length Width RF LF LH RH</p>						
29/103	90	5520	5521	-	5519	
31/91.5	89.5	5522	5523	5524		
32/94	82.5	5525	5526	5527		
33/108	98	5555	5554	5556		
<p>9/10 (Monday)</p>						
34-	120	111	5558	5557	5559	
35-	94	90.5	5561	5562	5563	
36-	98	86	5564	5565	5566	
37-	95	86.5	5567	5568	5569	
38-	94	87	5571	5570	5572	
39-	97	83	5573	5575	5574	pp

TUES #40	DATE	L	W	RF	LF	LH
	8/11	83	81	5655	5656	5657
#41	100.5	88.5		5658	5659	5660
#42	96	91		5661	5662	5663
43	103.5	97		5664	5665	5666
44	99.5	92		5667	5668	5669
<p>(7 large deep seam M LFF 6/10 3-4)</p>						
45	105.5	94		5670	5671	5672
46	100	93		5673	5674	5675
47	100.5	90		5676	5677	5678
48	102	90		5680	5681	5682

COPY

DATE	Z	W	RF	LF	hind
18-13	104	96	5684	5685	5686 L
JEMO	96	92	5687	5688	5689 L
Jump out	99	88	5691	5690	5692 L
back	98	92	5693	5694	5695 R
(97 discarded)	98.5	80	5696	5698	5699 L
	96	87.5	5700	5670	5571 L
	103	90.5	5578	5579	5580 R
	104	95.5	5581	5582	5583 R

#56!!

5553 + 5686 tag +
RIMA 8/17/77

① RAVEN, wotye - 7 years old
Hawksbill / Predator

upland
at NIMWIJ =

95cm x 5.5cm

DATE	Z	W	RF	LF	5584
8-18	51.5	47	5584	5585	
	45.5	43.5	5586	5587	
A7 KRAMERS → MINSURE + released					
~~~~~					
WOTJE → NINWOL LAKEJOHN					
8/31/97	48.0	47.0	5588	5589	

COPY

46.5 43.0 5590 5591  
5592

HAWSBILL

66.0 55.0 5593 5594

→ BARINA AKC

released at BORA

9



2000!9p+2

REPUBLIC OF THE MARSHALL ISLANDS  
MARSHALL ISLANDS MARINE RESOURCES AUTHORITY  
MINISTRY OF RESOURCES AND DEVELOPMENT  
MAJURO, MARSHALL ISLANDS 96960

92/20443

01 December 1992

Suzie Geermans  
South Pacific Regional Environment Programme  
C/- Department of Environment & Heritage  
P. O. Box 155  
North Quay QLD 4002  
Australia



5

Dear Suzie,

Enclosed please find two tags and a letter of reference regarding a turtle caught at Jemo Island, near Likiep Atoll. We are willing to assist should you need further information on this matter.

Regards,

Danny Wase  
Director, MIMRA

R5579 } enclosed.  
R5580 }

Nov. 23, 1992

To: Danny Wase, MIMRA Director

From: Andy Dalton, Aquaculture Consultant

Re: Turtle Tags.

Please find enclosed two tags that I received from Richard de Brum (of Likiep, Likiep) who caught the turtle at Jemo Island on Sept. 5th, 1992. The turtle was brought back to Likiep and eaten.

Secondly, the tag numbers that I have in inventory are: R5599 - R5625. And, I have used R5595 - R5598 on two turtles as described on the data sheets I submitted while in Majuro (Nov 15th, 1992).

R5579 (enclosed)  
R5580 (enclosed)



Jim Murphy 541-3066  
8:11 - 553-3778

By Steve Newman

# EARTHWEEK: A DIARY OF THE PLANET

## Rat Invasion



One of the North Pacific's most important turtle rookeries is threatened by a rat population explosion. The rodents were probably carried to the remote atoll by Asian fishing vessels, operating illegally in the area. Danny Wase, Director of the Marshall Islands Marine Resources Authority, warned that unless something is done to eradicate the pests, it could result in the "complete demise of turtles and birds on uninhabited Bikar." The introduction of cats or owls has been suggested as a way to kill off the rats, according to *The Marshall Islands Journal*.

## Fireball

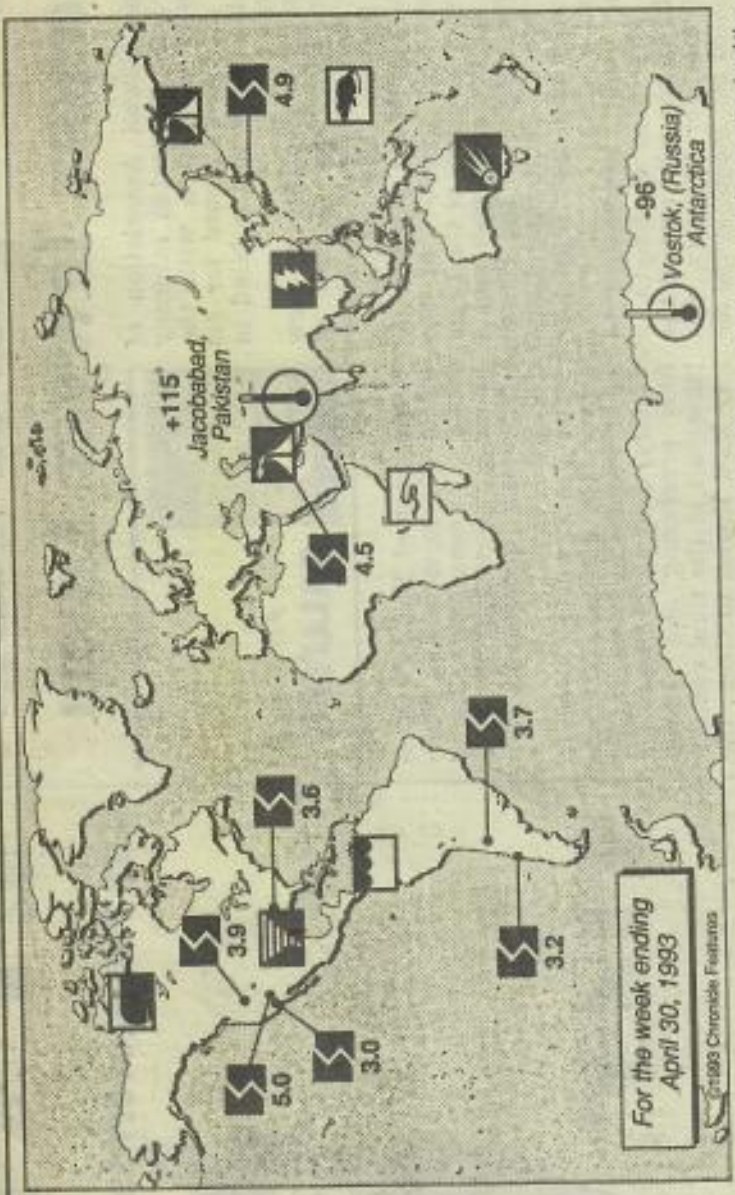


A massive search by amateur and professional astronomers was launched in Australia after a meteor struck the ground in northwestern New South Wales. Hundreds of people across three states witnessed the fireball, which was believed to be the size of a golf ball. Based on triangulation from the locations of several observers, the search focused on an 18-square-mile area.

## Earthquakes



Arizona's most powerful earthquake since 1976 was felt over a wide area from southern Utah to Phoenix, including the Grand Canyon. Earth movements were also felt in northeast Japan, central Chile, along the Chile-Argentina border, southern Iran, western Idaho, Southern California, and the Mississippi Valley.



For the week ending April 30, 1993  
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## Tornado



A massive Great Plains twister tore a half-mile-wide path of destruction from a crowded stretch of interstate highway through the Tulsa, Oklahoma, suburb of Catoosa. Seven people were killed by the high winds or falling debris, and most of the town's business district and schools were either destroyed or heavily damaged. The National Weather Service was able to provide a few minutes' warning of the approaching tornado based on radar surveillance.

## Eruptions



A volcano in Russia's far eastern Kamchatka peninsula erupted for the first time in nearly 30 years with a plume of ash accompanied by deafening explosions, according to the Itar-Tass news agency.

Mount Taftian erupted in southeastern Iran, sending molten lava streaming 200 feet down the 13,800-foot volcano. The Iranian news agency reported that the eruption posed no immediate threat to residents in the area.

homes were damaged and 8,000 other destroyed during the four-hour tempest.

reptile, but a watchman attacked the snake with a sharp stone so that it regurgitated the victim unharmed. The reptile was then beaten to death.

### Floods



Rescue crews in northwest Colombia said that at least 59 people were killed and 40 others missing after flash floods struck the area. Heavy rains caused the Taparto River to swell, sending a huge wave of mud, rock, and water through Taparto, 140 miles northwest of Bogota.

### Spring Storm



Frightening electrical storms in southwest China's Sichuan province spawned large hail that killed 12 people and destroyed thousands of homes. The storm occurred in the early morning hours of April 25 in Chongqing, a major industrial city on the banks of the Yangtze. Authorities reported that 70,000 rural

### Snake Rescue



A two-year-old child from Darling, near Mombasa, was saved from the mouth of a 10-foot-long python after being swallowed to the waist, the *Kenya Times* reported. The child's mother and other villagers had fled from the

### Arctic Alimony



Impoverished Arctic residents will be able to make alimony payments with whale blubber, musk ox, or even a chunk of iceberg under new legislation proposed in Canada. The Northwest Territories government said the support scheme, expected to become law this fall, will recognize that unemployment among the vast territory's Inuit population averages more than 60 percent. It will also acknowledge that wild meat and other country food are used extensively for bartering in the Arctic and would give native hunters a means of making support payments.

**Additional Sources:** U.S. Climate Analysis Center, U.S. Earthquake Information Center, and the World Meteorological Organization.

**COPY**



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF AQUATIC RESOURCES  
PUU KAPELUA AVENUE  
HOOLEHUA, HAWAII 96729

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CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION PROGRAM  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

March 16, 1993

Steve Newman  
Earth Environment Service  
8200 Saint Helena Road  
Santa Rosa, California 95404

Dear Mr. Newman,

It was great hearing from you! I am glad to hear that you found our recent finding of rat invasion on Bikar newsworthy!

In regards to your question as to how the rats arrived on remote Bikar, there is no way to know for sure. I can only tell you that during my prior visit in 1978 I do not recall seeing any rats on Bikar at all. In all likelihood, they are the recent introductions of passing fishing vessels or possibly sailing boats who illegally ventured into the atoll. Japanese, Chinese, and Korean boats are known to fish the surrounding waters and have a long history of illegally entering isolated atolls. It is highly probable that one of them is the culprit. On our research survey this past summer, we saw stuck on the reef the remnants of a motor launch commonly found on long line fishing vessels. Someone unsuccessfully tried to enter the lagoon but was stymied by the swift current and shallow waters in the pass. No doubt after spending many lonely weeks at sea, an atoll like Bikar must seem like a prize hard to pass up! Besides nesting turtles, sea birds and their eggs are in great abundance on the island. Spiny lobsters and edible sea shells are also readily obtainable on the reef surrounding Bikar. In the past, many other remote atolls in the Marshalls have experienced the raiding of passing fishing vessels. While working there during the 80's, we managed to apprehend a Taiwanese vessel illegally harvesting giant tridacna clams in Ailuk Atoll. The Taiwanese entered the lagoon during the nights and were cutting the adductor muscles from the clams. The rest of the meat, a traditional source of protein to Marshallese, were left to rot in the water. When they were caught, we discovered four copra sacks full of adductor muscles in their freezer hold. These represented hundreds if not thousands of clams illegally and wastefully slaughtered! The Marshall's government have recently obtained a surveillance boat but uninhabited Bikar is so far off

the beaten track that it is seldom included in any of their patrols. Because it is illegal to enter Bikar, any accidental stranding by foreign fishing vessels would not be reported to the Marshalls government.

In regards to the information concerning the current status of the rat population on Bikar, I can safely assure you that it could not have changed dramatically from what it was six months ago. The rat population is so dense and overwhelming that nothing could substantially alter its status short of the complete demise of turtles and birds. If it ever came to that point, it would be much too late to disclose and share the information in *Earth Week*. To the best of my knowledge, no one has been granted official governmental permission to visit Bikar since I was there last. Furthermore, I have not heard anything from my numerous contacts in the Marshalls of recent sailing trips to Bikar by native boats. If there were any, I would have been notified because everyone knows we were interested in coordinating an eradication program with any future trips to Bikar.

Concerning someone to quote in your column, it would be most appropriate if you refer to the following person:

Danny Wase, Director  
Marshall Islands Marine Resources Authority  
Majuro, Marshall Islands

Trusting that I have provided adequate answers to your concerns, and that it is not too late to preserve this major turtle rookery in the northern Pacific, I will remain:

Yours sincerely

15/

Bill Puleloa

AND cooperation of His Majesty Iroijlaplap Murjel Hermios, traditional and hereditary Paramount Chief of Bikar Atoll, and its owner, a nonprofit Trust established in the Marshall Islands for the benefit of all Marshallese, the first official nature preserve in the Republic of the Marshall Islands has been created:

**BIKAR ATOLL MARINE SANCTUARY (BAMS)**



**ADOPT-A-MOTU** is in existence to give concerned people from around the world an opportunity to learn about BAMS, to discover how it fits into the whole scheme of global environmental consequences, to give the inhabitants of the atoll better odds of survival and to create a meaningful purpose around which they can rally for a common cause; an opportunity where every person counts and each donation will play a role in the survival of the endangered species at Bikar Atoll, some of which have yet to be discovered. This is where YOU come in!

*Pacific ATOLL MARINE*  
**PRESERVATION SOCIETY, INC.**  
Kermit Rydell  
Founding Director

It is believed that definitive action needs to be taken to ensure survival of species at Bikar Atoll and their biodiversity from the increased hunting pressures, occasional visitation by native and commercial fishermen, use as potential refuge from inclement weather and from any possible effects as a result of recent development interests in the area.

The purpose of the Society is presently to preserve and protect the pristine and unique ecosystem of *Bikar Atoll Marine Sanctuary*.

Scientific, educational and conservational studies and research will be permitted when rigorous criteria concerning the nature, scope and timing of the proposed activity can be met and adhered to with certainty.

A field station staffed by qualified trained personnel will be established at a nearby atoll from which BAMS will be easily monitored. Coordination of essential activities, serving as a base of field operations and interfacing with the local residents to promote conservation, preservation, recycling and other environmental concerns will be within the scope of the station.

A public awareness campaign will be conducted via film, publications speaking engagements and the solicitation pamphlets. Wilderness wildlife tours may be conducted to areas similar to Bikar Atoll in the Marshalls to give donors an opportunity first-hand to appreciate the uniqueness of BAMS and its global significance.

**PANPS** was founded in accordance with the laws of the State of Hawaii and is registered with the Department of Commerce and Consumer Affairs as required by law. Registration does not imply endorsement.



The natural cycle of life and death continues much as it always has in some remote parts of the Pacific Ocean. Birds, turtles and fishes grow in numbers, unaccustomed to man's intervention. Survival of the elements often poses their greatest challenge. As more efficient means of gathering marine resources for food and commercial uses come into everyday practice, the bounds of the hunter rapidly expand, aided by rapid transportation and bulk storage facilities.

One remote haven for wildlife has escaped all but an occasional unsanctioned visit by hunter or scientist seeking the reward of its precious treasures of life and knowledge. Precariously exposed as a mere speck on a vast ocean surface and isolated in a far-off corner of a domain that spans over a half-million square miles, one tiny fragile ecosystem known as *BIKAR ATOLL* inauspiciously exists almost out of harm's way. However, as food resources in international waters diminish, the possibility of the hunter's encroachment threatens the existence not only of the biodiversity of the species at Bikar Atoll, but the very existence of the entire atoll habitat itself.

**MOTU** (mō-tō) n. an island, esp. a small one.

## Adopt-a-Motu

**ADOPT-A-MOTU:** an idea that came about as our concern for the continued survival of this tiny, unique and pristine atoll grew in the realization of what could happen either through Man's deliberate actions or his inadvertent or ignorant behavior. Specifically, our purpose is to eliminate as much as possible the likelihood of unnatural negative impact on the atoll and, in general, preserve and protect the marine life and avifauna at and around Bikar Atoll. Of special interest are the sea turtles and marine mammals.

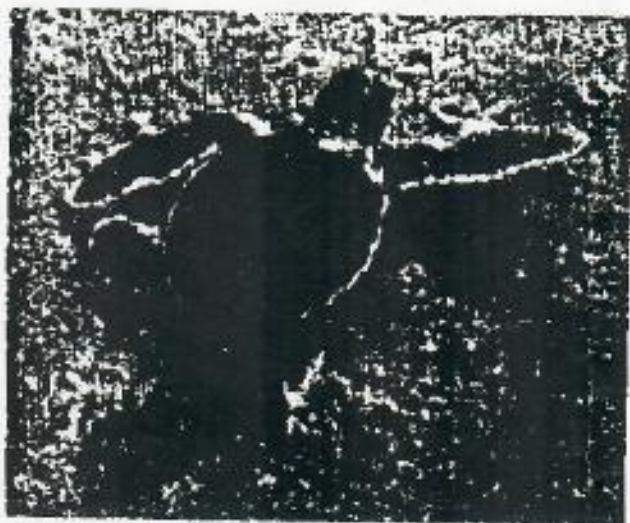
## ATOLL ECOSYSTEM:

Bikar Atoll has the rare distinction of being a virtually undisturbed, pristine habitat of international significance for green sea turtles and of local significance for other turtle species, avifauna, giant clams, corals, fishes, marine mammals and various native flora. This Atoll is distinctly unique from other atolls in Oceania and is unlike any other spot on Earth.

Located in the Republic of the Marshall Islands, it has survived periods of devastation in the Pacific by both Man and Nature. Barely 1/10th the size of Lanai in the Hawaiian Islands 2200 miles to the east, this tiny atoll with only 1/3rd the land area of Waikiki has become a green sea turtle and bird nesting habitat of international significance.

### "seeds of Oceania"

Recent surveys have revealed that the "motus" of the atoll are used heavily by several species of sea turtles. In the face of a declining world turtle population, the importance of Bikar Atoll as a nesting ground becomes increasingly significant.



The outer perimeter reef surrounds a clear shallow lagoon with an area of over 9,000 acres that is teeming with tropical fishes, corals, giant clams and numerous other forms of marine life. On shore, large flocks of resident and migratory birds take refuge and raise their young. A very narrow pass leads into the lagoon and together with the reef formations, the sea level within the lagoon may be as much as 1.5 feet higher than the ocean surrounding the atoll. This fact creates a delicate balance that if upset, would result in catastrophic loss of marine life.



**Extinction is forever, preservation is**

## A PRISTINE TROPICAL ATOLL:

Take a moment to consider that of all the zillions of people on Earth, YOU were fortunate enough to be chosen to be among the first to have a definite and indelible impact on one of the most beautiful, fragile and unparalleled habitats in Oceania. Neither turtles nor birds will ever know your name, but YOU will be gratified knowing your energy and resource will allow our children's children to see the valuable species there as alive and well, not just as pictures in a book of extinct animals.

Let YOU be the one who makes a difference. Tell your friends and others about your concern for the environment and native species, not only in your front yard, but in a tiny "insignificant" speck of a place called Bikar Atoll. Your tax-deductible gift will be your commitment and will make you a "Foster Parent" of a small but immensely valuable and endangered tropical marine sanctuary. Why wait until irreversible damage has been done, then have a clear vision of what your role should have been through hindsight? Confirmed by a personalized **ADOPTION CERTIFICATE** you may proudly display, YOUR NAME will be added to the permanent *Registry of Founding Donors*.



one day at a time

Your support of Pacific Atoll Marine Preservation Society, Inc. through ADOPT-A-MOTU, will indirectly impact the efforts to provide health and educational facilities for the Marshallese children in the outer atolls, including the restoration of traditional and cultural heritage, development of employment and recreational opportunities and economic improvements with consideration for positive environmental and conservational outcomes.

[ ] YES, I want to become a "Foster Parent" because I support the preservation and protection of the turtles and other life forms at Bikar Atoll Marine Sanctuary and I want to "ADOPT-A-MOTU" with my tax-deductible gift of:

- |                                     |                                    |
|-------------------------------------|------------------------------------|
| <input type="checkbox"/> Individual | <input type="checkbox"/> Corporate |
| [ ] \$10,000                        | [ ] \$100,000 Guardian Angel       |
| [ ] \$ 5,000                        | [ ] \$ 75,000 Life Grantor         |
| [ ] \$ 1,000                        | [ ] \$ 50,000 Benefactor           |
| [ ] \$ 500                          | [ ] \$ 25,000 Protector            |
| [ ] \$ 100                          | [ ] \$ 1,000 Sponsor               |
| [ ] \$ 35                           | [ ] Advocate                       |
|                                     | [ ] \$ _____ Other                 |

[ ] My enclosed check # _____ payable to:

Pacific Atoll Marine Preservation Society Inc.  
P.O. Box 89409, Honolulu, Hawaii 96880-9409

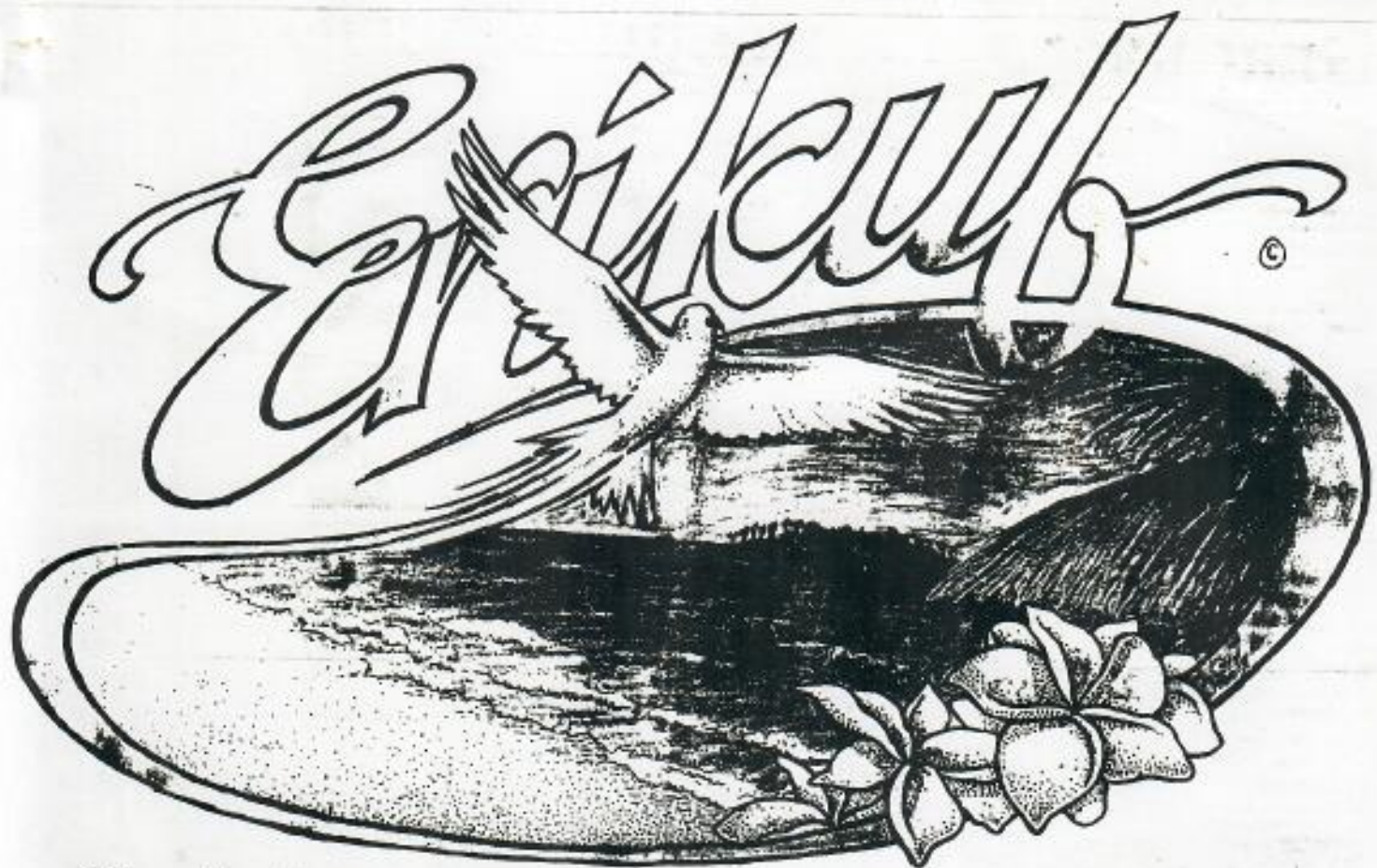
Please add this name to the permanent *Register of Founding Donors* and send a personalized **ADOPT-A-MOTU ADOPTION CERTIFICATE** to:

Name _____  
Address _____

- The above is a gift/dedication by:  
 Anonymous Gift:

Name: _____  
Address _____





We consider the opportunity to invest in and live in the Marshall Islands only part of our commitment here. We realize that along with making a living, not only for ourselves and our employees, our long term financial health depends on protecting the environment and using the natural resources of the island in a sustainable manner. We are looking for employees who we feel can share these goals and who want to be an important part of the developing hospitality industry of the nation. For further information, please contact

**ISLANDER INVESTMENTS**  
phone 625-5298

to arrange for an appointment

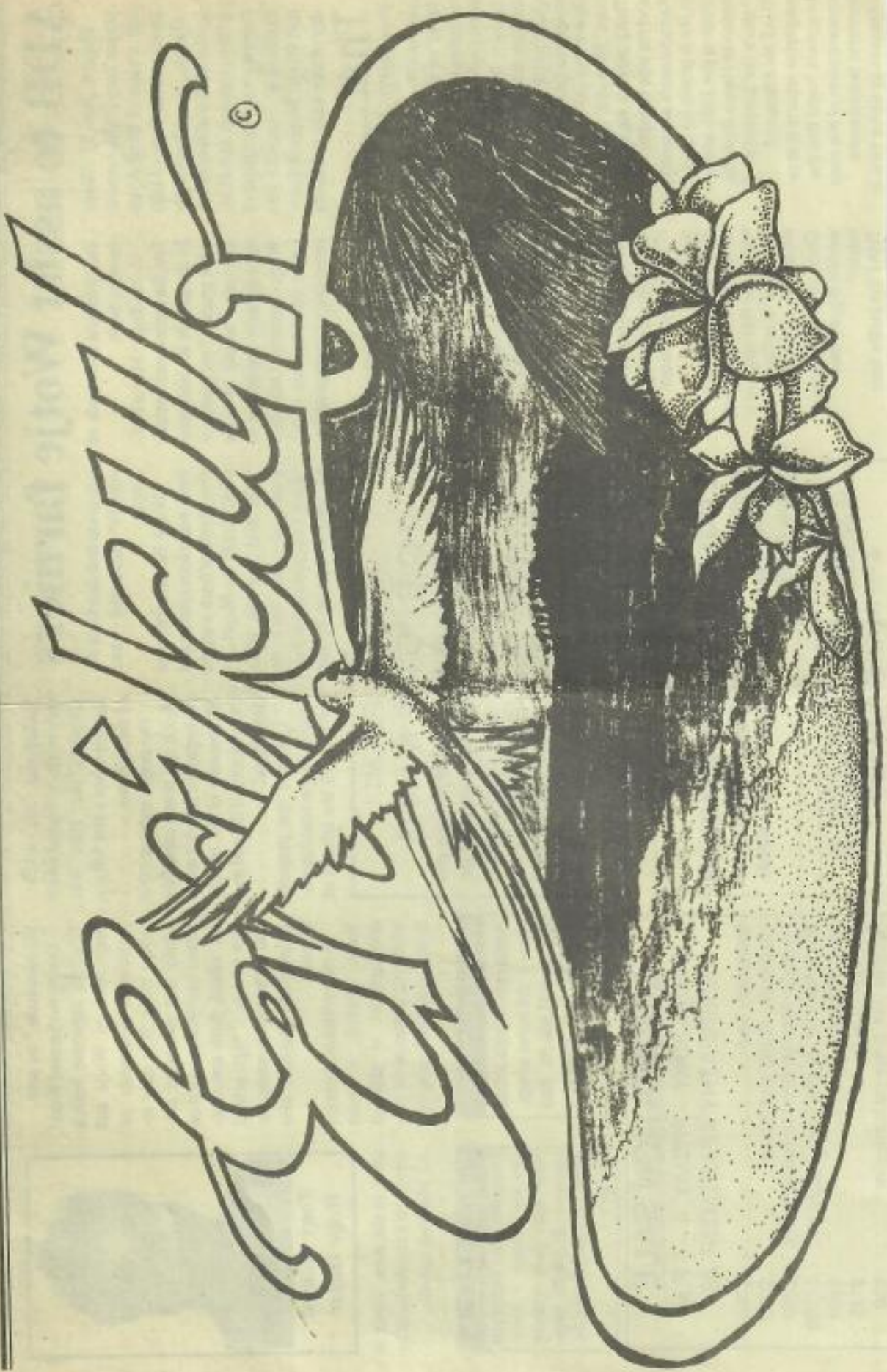
Kemij lemnake men in nan koman money im jokwe ilo Marshall Islands einwöt ej möttan men eo im emöj am jöke. Kemij hile ke koba tok iblen koman juön jekjek in mour eo emman jokkin, ejjab nan kem wöt im ri jerbak ro am, ketobar eo am eaitok im wemourur ej bedbed wöt ion kejbarok balak eo im kejerbak menin jeraman ko ilo ailin in ilo juön wewen eo ejmiwe im jejet. Kemij buköt ri jerbak ro im kemij enjake ke remaron in koba tok ibham ilo jibadbad im ketobar kein im ro im elap tokjaier nan edök lok eo an lal im.

Nan melele ko rellap lok, joni im kuir lok  
**ISLANDER INVESTMENTS**  
phone 625-5298

ak koman karok nan juön appointment.

**An Exclusive Island Resort**

**ERIKUB ATOLL • REPUBLIC OF THE MARSHALL ISLANDS**



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An Exclusive Island Resort

ERIKUB ATOLL • REPUBLIC OF THE MARSHALL ISLANDS

## Tourism? *From page 1*

The Millers said they had been looking for a remote Pacific island on which to develop an eco-tourist resort. "John visited Erikub and decided it was an ideal location," she said. "A resort was definitely feasible."

"Our intent is to develop an eco-tourist resort that is sensitive to the marine environment," John said. "We don't want to destroy anything. The tourists want to see what's here."

The concept, according to a document prepared by Islander Investments, Ltd., is for a resort of about 25 buildings that "will outwardly resemble what tourists have come to associate with typical island housing." Pathways connecting the units "will provide the guests a secluded ambiance within a seemingly undisturbed island environment."

"We're aiming for a 'high-end' resort, like some of the resorts in the Ysawa Islands in Fiji," Shelley said. "Tourists no longer enjoy going to 2,000 room hotels; they want special treatment."

Developing a tourist market for the Marshalls won't be easy, "but we believe it can be done," Shelley said.

They plan to build an airstrip to specifications of Air Marshall Islands and to operate a small seven-seater airplane for emergencies and other needs.

The Millers estimate that between 75 and 100 Marshallese will be needed to operate the resort. "We don't want to bring in outsiders to staff the resort," John said. "There are plenty of Marshallese who can work."

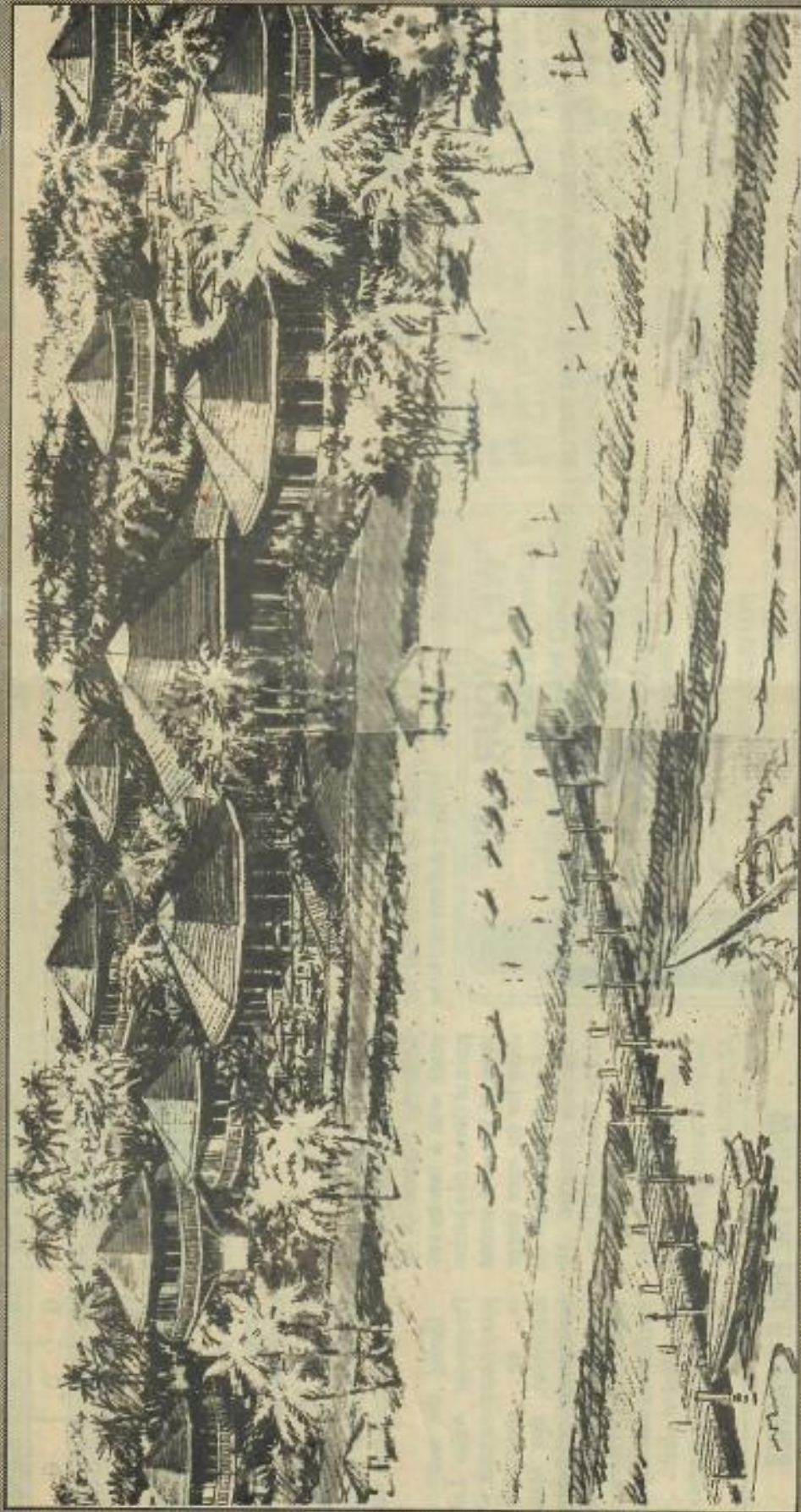
In connection with the resort, they are also proposing to establish a farm on neighboring Wotje Atoll with chickens and pigs to feed the needs of the hotel. "Instead of importing food, we'd like to be as self-supporting as possible," John said.

The Millers said they were fully aware of the risks before attempting the investment. They say the initial cost to build the resort is about \$3 million. The lease will pay the landowners more than \$5 million over 50 years.

"We're not borrowing a penny from the Marshall Islands," Shelley said. "We're funding this ourselves."

"It's a long term investment," John added. "We doubt we'll make money in the first ten years."

# Is tourism happening?



## BIG, REASONABLE & CAREFUL!

Majuro May 18 — Optimistic but frustrated might be the best way to describe intrepid foreign investors John and Shelley Miller.

One of the first privately funded tourism projects to get past the talking stage,

their Islander Investments, Ltd. resort plan for Erikub Atoll has come to a screeching, though perhaps temporary, halt—the casualty of a landowner dispute in the High Court.

"If we weren't positive, we wouldn't

keep pursuing it," said Shelley after Monday's court hearing in Majuro. "Our goal is to reach a settlement so we can move ahead."

Because of the lawsuit filed in February, the project is now six months behind

schedule. Anticipating moving forward after a 50-year, \$5 million lease for the atoll was signed in December, Islander Investments began shipping in containers of construction materials. Many are already on island and others are waiting the green light to sail from Los Angeles, the couple said.

*Continued page 21*

Suzie Geermans  
SPREP, C/- QDEH  
PO Box 155  
Brisbane Albert Street QLD 4002  
AUSTRALIA

2 September 1993

Selwyn Sae  
Saint John the Baptist  
Minevi Village  
Santa Cruz Island  
SOLOMON ISLANDS

Dear Mr Sae

Thank you for sending the information about the turtle tagged X378 which you have captured twice.

As you know, this tag was applied to a green female turtle while she was nesting on 20 May 1992 on Erikub Atoll in the Marshall Islands. It is a shame that after the turtle was captured and released on 9 December 1992, it was killed on 10 January 1993.

However, the information you have sent tells us some interesting facts about the movement of this particular turtle. X378 travelled about 2200km from her nesting beach at Erikub Atoll in the Marshall Islands to her specific feeding area at Nupani Island in the Solomon Islands. This is a very exciting tag recovery for SPREP, as it is one of the few turtles recorded that has crossed the equator while migrating between nesting and feeding areas.

Since you have sent all the information including the tag numbers to SPREP, we do not need the actual tags. Therefore you may sell them to the man from the Fisheries Department if you do not want to keep them for yourself.

I am sorry that the t-shirt is too big for you, but unfortunately I do not have any shirts of a smaller size. So I have enclosed some posters with the important message "Save our disappearing turtles!".

Kindest regards

*Suzie Geermans*

Suzie Geermans  
Turtle Conservation Consultant  
South Pacific Regional Environment Programme (SPREP)

cc. Danny Wase, MIMRA, Marshall Islands  
Moses Biliki, MNR, Solomon Islands  
Adrienne Farago, SPREP, Western Samoa  
George Balazs, NMFS, Hawaii

Suzie Geermans  
South Pacific Regional  
Environmental Programme  
P.O. Box 155

Brisbane Albert Street  
Old. 4002 Australia.

Saint John the Baptist.  
Minevi village  
Santa Cruz  
Tenotú Province

23rd August 199

Dear

Suzie. Thank you very much indeed for writing to me regarding the turtle with tags X378 and X379 that I caught and released on December 9th 1992. My big thank you also goes to George Balags for informing you about that turtle. And at this point in time I must congratulate yourself and your hard working staff in this very big task in tagging and studying the movement of turtles in the South Pacific. And finally thank you very much indeed for that lovely t-shirt with that meaningful advertisement on it, however the t-shirt was very large that I could not wear it. Greatful if you could kindly send me a medium size because I really like people to read the advertisement on the shirt really meaningful.

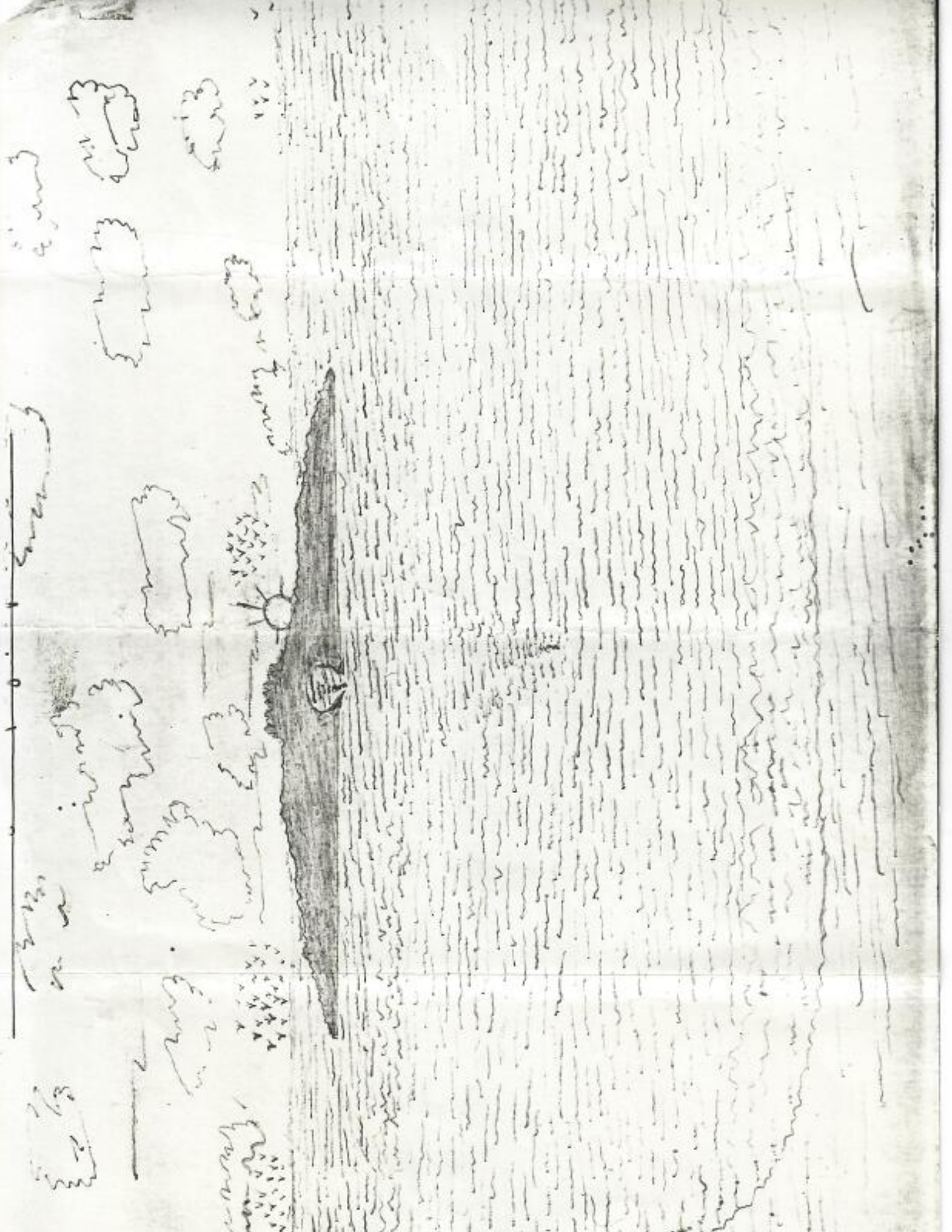
I now come to what I'd like to tell you, and that is the same turtle was caught again by me on January 10th 1993 on the same island Napa while diving for fish at night. The turtle was found sleeping under a huge stone on shallow water. The time I could not save its life anymore, because the moment I saw it I shot it straight away through the head, the turtle died immediately. When I got hold of it I saw that it is the same turtle with tags X378 and X379, the turtle was

Very healthy it was eaten also there were  
small eggs inside its belly finally the tag numbers  
are with me now grateful if you could inform me  
of what to do with it. because somebody working  
in the fisheries department here in the Solomon Island  
came to me after he knew that I have the tag  
numbers saying he would pay me with the  
amount of five hundred dollars \$500 Solomon Islands  
dollar if I give him the tag numbers. However I did  
not give him the tag numbers despite the big  
amount. grateful if you could inform me as soon  
as possible of what to do with tag numbers. Attached  
with this letter is a rough map of Nupani a  
Paradise house for turtles and kinds fish  
Tropic shell, beached ones and beach-de-mer. Once  
again thank you for taking up your time in  
taking it up to writing to me. I look forward  
to ~~hear~~ hearing from you again.

Sincerely yours

Salwyn Sae Sae





June 25, 1994

George,

Here's the latest re Marshall Islands northern atolls Eleemosynary Trust, which our friend Kermit Rydell is involved with. It is without local government support as I suspected, and therefore starting to unravel...badly, I might add.

Murjel Hermios, who is the big chief of the northern atolls including Jemo, Bikar, and Erikup, was apparently conned into some sort of management agreement with Robert Moore (Rydell's boss). Even though Hermios is the big kahuna, the *alabs* (island chiefs) and the *rijerbols* (workers) of these atolls still have a large say in any matters that affect these lands. The *alabs* and *rijerbols* were not never consulted, and therefore any agreement Hermios may have struck with Moore would never have legitimacy...just as I suspected.

As you already know, Rydell formed another entity under the umbrella of the Trust called the "Pacific Atoll Marine Preservation Society, Inc." which purports to engage in turtle research in the Marshalls. It was under the guise of this organization that I (and you too I think) was contacted to lend "expert" support. No doubt, PAMPS will be going by the wayside along with the Eleemosynary Trust.

After you're done with the articles, you might want to pass them on to John Naughton. He too was contacted by Rydell.

Best regards to the family,

A handwritten signature in blue ink that reads "Bill". The signature is written in a cursive style with a horizontal line underneath the name.

P.S. My sources tell me that Danny no longer is with MIMRA. Have you heard anything?

FEDERALLY LISTED SPECIES IN THE PACIFIC AREA

UPDATED 1/91

R= Listed species that is believed to exist at that location  
 U= Listed, and may exist at that location but generally is not found there  
 P= Proposed for listing  
 EX=Experimental Population (Species considered threatened on Iota)

G U A M	C.N.M.I.					P S M					B E L A U	M A R S H A L L I S.	A M. S A M O A
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U	R	R	U	R	R						R		
R	R			R	U								
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R	U	R	U	R									
U		R		R	R	R	R	R	U				
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R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R

PLANTS

Serianthes nelsoni Merr.

MAMMALS

Bat, Mariana fruit  
 Bat, little Mariana fruit  
 Dugong

BIRDS

Broadbill, Guam  
 Crow, Mariana  
 Monarch, Tinian**  
 Kingfisher, Guam Micronesian  
 Mallard, Mariana  
 Megapode, Micronesian  
 Moorhen, Mariana common  
 Rail, Guam  
 Starling, Ponape mountain  
 Swiftlet, Mariana gray (=Vanikoro)  
 Warbler, nightingale reed  
 White-eye, bridled  
 White-eye, Ponape greater

REPTILES

Crocodile, saltwater  
 Turtle, green sea**  
 Turtle, hawksbill sea  
 Turtle, leatherback sea  
 Turtle, loggerhead sea**  
 Turtle, Olive Ridley sea**

NOTES: All spellings and nomenclature are as published in 50 CFR 17.11 and 17.12 of April 15, 1990.

* Guam population only is listed.

** Species are listed as threatened, not endangered, in Western

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Serianthes nelsonii Merr.

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	I A N	I J A N	A P R I L	M A Y	J U N E	J U L Y	A U G U S T	S E P T E M B E R	O C T O B E R	N O V E M B E R	D E C E M B E R	T O T A L
Serianthes nelsonii Merr.	R		R									
Bat, Mariana fruit	R*											
Bat, little Mariana fruit	R								R			
Dugong												
Broadbill, Guam	R											
Crow, Mariana	R		R									
Monarch, Tinian**		R										
Kingfisher, Guam Micronesian	R											
Mallard, Mariana	U	U			U							
Megapode, Micronesian	U	R	R	U	R	R					R	
Moorhen, Mariana common	R	R			R	U						
Rail, Guam	U		EX									
Starling, Ponape mountain									R			
Swiftlet, Mariana gray (=Vanikoro)	R	U	R	U	R							
Warbler, nightingale reed	U		R		R	R	R	R	R	U		
White-eye, bridled	R											
White-eye, Ponape greater									R			
Crocodile, saltwater												R
Turtle, green sea**	R	R	R	R	R	R	R	R	R	R	R	R
Turtle, hawksbill sea	R	R	R	R	R	R	R	R	R	R	R	R
Turtle, leatherback sea	R	R	R	R	R	R	R	R	R	R	R	R
Turtle, loggerhead sea**	R	R	R	R	R	R	R	R	R	R	R	R
Turtle, Olive Ridley sea**	R	R	R	R	R	R	R	R	R	R	R	R

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