

**The Coral Reef Survey and Monitoring Project
Kosrae, Federated States of Micronesia**

Participant Handbook

ON-ISLAND DIVING SUPPORT AND ACCOMMODATIONS

Kosrae Village Resort
Kosrae, Federated States of Micronesia
www.kosraevillage.com

U. S. PROJECT COORDINATION

oceanearth
402 Via Royal
Walnut Creek, CA 94597
www.oceanearth.org

IN COOPERATION WITH

The Department of Fisheries and Marine Resources
Kosrae State Government
Tofol, Kosrae State FSM

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GREETINGS

Welcome to the Kosrae Coral Reef Survey and Monitoring Project. First, let us express our appreciation for your decision to take part in this valuable endeavor. The participation of dedicated individuals such as yourself plays a pivotal role in the protection and preservation of this unique natural resource.

This handbook has been prepared as an overview of information for project volunteers. It is intended to both help you prepare for and enhance your participation in the project. The handbook will contribute to your understanding of project goals and will help you understand your responsibilities. Further, the information in this document will assist us to coordinate efforts, avoid difficulties and, of course, maximize results. Please take some time to familiarize yourself with its content and have it available for your use during your visit to Kosrae. Important topics discussed in the following pages include:

- An Introduction to Kosrae
 - History, Customs, Behavior
- Project Accommodations
 - Information on Kosrae Village Resort
 - Food and Infrastructure Considerations
 - Optional Activities
 - Medical Information
- Project Overview
 - General Reef Project History and Methodology
 - Typical Schedule and Expected Participation
- Dive Safety
 - General Considerations
 - Local Conditions
 - Some Suggested Supplies
- Post-Project Responsibilities of the Participants, Implied Releases
- Reef Check Survey Protocols
- Appendices
 - Project Contact List
 - Sample Inum Restaurant Menu
 - Consular Information Sheet
 - References and Suggested Reading
 - Information on the Mangrove Forest and Lelu Ruins
 - Participant Liability Releases

If you have questions that are not answered by this handbook, please feel free to contact a project representative. A list of contacts is included in the Appendices. In particular, for questions dealing with team issues and transportation, contact your team leader or project coordinator. For questions on accommodations and diving facilities while on Kosrae contact Kosrae Village Resort (KVR).

A Note on Releases and Agreements

Please note that each participant will be required to sign three standard general releases of liability and one general affirmation. These documents acknowledge your awareness of the risks of diving and release all participants and organizers from liability. The documents also affirm that you have read the information in this manual and have agreed to abide by and have met the requirements for participation. If you have any questions regarding either the releases or the requirements to participate, please contact your project coordinator immediately. Without these releases, you may not participate in the diving activities of the project. Please keep a copy of each release for yourself and return a copy to the project coordinator. You will find each form included in the Appendix to this document.

An Introduction to Kosrae

Kosrae (pronounced variously as Ku-shy or Ko-shry) is the easternmost and second largest of the islands of Micronesia which includes the more common recreational dive destinations of Truk, Palau, and Yap. Kosrae is volcanic in origin, centered by Mt. Finkol (2064 ft), and is covered with a lush rain forest. Being the geologically youngest of the major islands, it exhibits the characteristic fringing reef system as opposed to barrier or atoll. Kosrae has numerous rivers and waterfalls and the island's mangrove forests are some of the most impressive in the Pacific. There are three primary harbors: Lelu, Utwe, and Okat (next to the airport).

The temperature on Kosrae averages 80 F year round. Kosrae is at the extreme southern part of the typhoon track, so although major storms are uncommon, the rainfall average of 200 plus inches per year should give you an idea of how often it rains.

Kosrae's reef system is pristine and populated by a tremendous variety of exotic fish and invertebrates. At least 400 types of fish have been identified. Mantas, rays, eels, grouper, and barracuda inhabit the reef. Whitetip and Blacktip reef sharks can also be found at certain sites (see comments following). The island has a large population of Green turtles which visit periodically and schools of bottlenosed and spinner dolphin which cruise the outside of the reef. Kosrae is roughly triangular in shape, with good dive sites on all sides. As a result, diving is not typically prevented by wind or current. Visibility averages 100+ft. Past project teams have measured visibility approaching 200 ft. The fringing reef completely surrounds the island.

Kosrae's history includes whaling, piracy, and warfare, and the remnants of these activities can be found both on the island and underwater. The Lelu harbor contains the remains of two Japanese ships and a U.S. Navy search plane. Utwe harbor contains remains of the pirate ship Leonora sunk in 1874. Other shipwrecks may lie in coastal waters. Japanese military hardware left from WW2 can still be found on some of the island's beaches.

The Lelu Ruins, located on Lelu Island, rank as one of the most significant historic sites in the Pacific. Lelu was the capital of a complex feudal society and ruins of many of the dwelling and burial compounds remain and are in the process of being preserved. For those who wish to explore, there are numerous hiking trails, caves, waterfalls with bathing pools, and mangrove channels that can be reached by canoe. Excursions off the beaten track may be dangerous and should always be made with a guide.

Customs and Behavior

Religion plays an important role in the lives of Kosraeans. This gives rise to a number of social mores, which can affect the visitor. During your stay on Kosrae please be sensitive to the expectations and customs of Kosrae. One of our primary goals is to foster a mutually rewarding relationship that will facilitate the continuation of this project into the future. Please help us preserve and build that friendship.

Sunday is taken very seriously on Kosrae. It is illegal to fish or gather shellfish on Sunday. It is illegal to purchase or consume alcohol on Sunday or Christmas Day. In general Sunday is acknowledged as a day of rest; no project work or diving activities can be performed at this time. Snorkeling and swimming in front of the resort are acceptable but should not be engaged in elsewhere. Should you wish to attend the local church activities, please let us know.

It is considered immodest to reveal your upper leg on Kosrae (and in most of the Pacific). This applies to both men and women. (This is not a concern on the resort grounds except in the restaurant.) In general, men should wear shirts and women should dress modestly. We suggest that women participants bring sarongs or wraps, for those times when they are appropriate. Men should have longer legged shorts. Dress expectations apply when preparing for dives. Generally, we refrain from changing clothes at the dock or when we are still in obvious view of the shore.

Most of the land on Kosrae is privately owned. If you are 'wandering' and sight seeing, always ask permission to enter or traverse land.

Project Accommodations

Project participants will be staying at the Kosrae Village Resort (KVR). Please visit the KVR website for information describing the general accommodations. KVR is located on the eastern side of Kosrae on a five-acre site located in groves of coconut, banana, citrus and pandanus trees. The traditional thatched bungalows are open air and reflect the style of original native construction. Each bungalow has a private bath, hot water and two queen beds. Project costs assume, and participants should plan on, double occupancy – i.e. a shared bungalow. KVR will attempt to accommodate team member needs to the greatest extent possible. Laundry service is available. Additional information can be found at the KVR web site, <http://www.kosraevillage.com>

Although they were offered a vacation in Florida, the mosquitoes on the island decided to stay. Therefore, expect some in residence. Each bed is equipped with a mosquito net and each room comes supplied with mosquito coils and repellent. If this is of special concern and you have a preference as to the type of repellent you use, you may wish to bring your own.

Keep in mind that we are visiting a rain forest. If you have equipment that absolutely must remain dry, please take appropriate precautions. There is a chance that items could get wet (even inside), splashed on, etc. Use dry boxes and/or Ziploc bags to protect possessions. There are no shopping malls available, please plan ahead. A rain poncho is recommended as well.

KVR is a PADI (Professional Association of Diving Instructors) Resort facility, with a PADI 5 Star dive center on premise and, as such, follows PADI guidelines for diving, equipment, breathing air, etc. The owners are PADI, NIADD and SSI Instructors. Nitrox

is available at additional cost for divers certified for its use. There are two 25' catamaran boats with full shade canopies and two dive kayaks.

Food

Meals at the Kosrae Village Resort are not included in your project cost. The Inum Restaurant is open from 7 am to 9 pm seven days a week. Guests may charge meals and beverages to their rooms. A sample menu for the Inum Restaurant has been included as an Appendix for your information. The in-room refrigerator typically contains complimentary drinking water, coconuts, and fruit (the famous Kosrae lime). The room usually also comes equipped with a coffee maker and supply of tea and coffee. Alternative food is, of course, available throughout the island at your option. If you have special dietary needs, please inform KVR or your team leader as soon as possible so that you can be accommodated.

Please note that alcohol is not served on Sundays and Kosrae State requires anyone who purchases or consumes alcoholic beverages to have a drinking permit. Temporary (30 day) drinking permits are available at the restaurant at nominal cost

Tipping is not expected but is welcome. At Kosrae Village Resort, tips are shared equally by all members of the resort and restaurant staff.

Fruit trees are found throughout the island. However, since most land is privately owned, it would be wise to ask before helping yourself. Use common sense in consuming foods outside of the normal restaurants. The drinking water at KVR and other restaurants on Kosrae is excellent, but you may want to drink bottled water while on the island to minimize potential 'discomforts' during your stay.

Infrastructure

Electricity

Same plug configuration and voltage as U. S.

Communications

Kosrae uses U.S. postage rates. but FSM stamps are required.

Standard phone service is available. Rates are expensive.

Use country code 1 for calls to the U. S.

Kosrae Village Resort from U.S.:

011-691-370-3483 (voice)

011-691-370-5839 (fax)

Email

Email and Internet access is available at Kosrae Village Resort.

Email: KosraeVillage@mail.fm Web Site: <http://www.kosraevillage.com>

Currency

The FSM uses U. S. currency. Credit cards can be used at the resort.

Cash is acceptable everywhere, you should bring sufficient cash to cover tour tips, purchases of souvenirs, etc. Traveler's checks are also recommended as a protective means.

Optional Activities

Outside tours are available with prices ranging from \$5 to \$75. Since the tour operators usually have other jobs explorations must be arranged in advance. Many of these activities are weather-dependent. Possible adventures include kayak paddling in the mangrove channels, climbing Mt. Oma and/or exploring the Japanese caves, a jungle hike to the Menke ruins, a visit to the Lelu ruins, and guided car or shopping tours.

General Medical Information

There is a staffed hospital on Kosrae, but its resources are limited. If you have need of any special medications, you should bring them with you. Some over the counter supplies you may wish to consider include sunscreen (essential), insect repellent (recommended) especially for hikes, anti-fungal medications if you are susceptible. It's never a bad idea to make sure your immunizations are current e.g. tetanus. There is no malaria reported. Please refer to the list of suggested items to bring with you for additional ideas.

A Brief Project History

During the early 1990's Bruce Brandt and Katrina Adams began examining the possibility of founding a diving resort, which closely integrated respect for indigenous natural resources, history and culture of the Pacific Islands. Their research led them to the island Kosrae, the easternmost and least visited of the major islands of the Federated States of Micronesia. When first diving the waters surrounding Kosrae, Bruce and Katrina were amazed to discover that an easily accessible pristine reef system still existed.

When committing to the creation Kosrae Village Resort, Katrina and Bruce recognized that one of their major goals would be the continued preservation of this critical island resource. To that end, they began developing various monitoring and management plans. A variety of approaches have been pursued, from diver and community education to control and recycling of the resort wastes.

Critical to establishing any long-term reef management plan is the development of baseline data documenting its starting condition. The Kosrae State Department of Marine Resources did an excellent job of monitoring and documenting selected sections of the reef in the early 1990's and, as a result, was able to identify and halt a sudden outbreak of crown of thorns starfish, which occurred in 1994 and 1995. However, personnel limitations and budgetary cuts have constrained their ability to carry on larger scale projects.

In 1995, informal discussions began concerning the possibility of establishing a mooring buoy system surrounding Kosrae. Such systems have become an accepted method of reducing the impact of reef area anchorage by fisherman and recreational boats and have been successfully implemented in a number of heavily visited diving sites around the world. These discussions initiated the first phase of the Reef Protection and Coral Monitoring Project in 1996. In that year a group of volunteer divers, lead by Dr. Stephen E. Smith, from California helped select mooring buoy sites and performed fish counts and coral surveys using a test survey methodology. Visibility was measured and photographic and video records were compiled.

During 1997, Phase 2 of the project was completed with the installation of 56 mooring buoys; 53 on the reef and 3 marking historic wrecks in the harbors. The installation of these buoys was a community project designed to aid the fishermen, diving community and others using the ocean, as well as protecting the reef from anchor damage.

Presently, the project is in its third phase - baseline data collection and long term monitoring. It is at this point that a larger group of interested volunteers becomes critical to successfully building on the groundwork already in place.

Overview of Project Methodology

This year the Coral Monitoring Project will continue to use the mooring buoys as monitoring site markers. This approach assures that surveys can be replicated over time. The monitoring protocols will reflect the guidelines established by the Global Coral Reef Monitoring Network (GCRMN). The primary reference for these protocols is the "Survey Manual for Tropical Marine Resources", 2nd Edition, edited by S. English, C. Wilkinson and V. Baker. The actual procedural protocols will conform to those developed by Reef Check - a global volunteer reef-monitoring program.

The primary goal is to continue the collection of baseline data, with special emphasis on areas that may suffer diver, industrial or other human impact. A secondary goal is to establish areas that can be used to track long-term change in reef conditions.

This year's team will focus on the use of line intersect transects and the preparation of photographic (still and video) records. The teams may also identify permanent quadrants for more detailed analysis and may also establish sites to monitor butterfly fish behavior as described in "A Manual for Monitoring Coral Reefs with Indicator Species: Butterfly fishes as Indicators of Change on Indo-Pacific Reefs" by Michael P. Crosby, Ph.D. and Ernst S. Reese, Ph.D. Selected ambient environmental parameters (temperature, salinity, turbidity, light penetration, cloud cover and wind) will be recorded for each monitoring location. In addition, certain supplementary water quality chemical testing may also be performed.

The data collected will be entered in a database at the end of each day's work. Photographic film will be returned to the States for processing. Raw video may be pre-viewed on-site.

Typical Project Schedule

Upon arrival on Kosrae, divers will be given the option of a weight check and orientation dive with Sleeping Lady Divers (KVR). The first evening or following morning will be used to provide a project orientation, training overview, and discussion of diving assignments.

Following the initial project briefing, divers will gather for the first practice-working dive. This dive will include training in the survey techniques to be used.

Daily working dives will include area surveys around at least two buoys (estimated 30 - 45 minutes each). When survey work has been completed, divers may use the balance of their permitted dive time to explore and observe the surrounding area. Interesting or unusual observations made during this time should be recorded for discussion following the end of the dive.

The team's project goal is to complete up to 8 sites per week. In cases of bad weather or unsafe diving conditions it may be necessary to postpone survey dives. During such

times, alternative activities will be scheduled, possibly including trips into the island interior to familiarize team members with the local rain forest environment. Make-up dives may be scheduled in an attempt to achieve the team goal, subject to standard dive-safety protocols. Evenings will be used for dinner, a debriefing of the days work, and possible review the un-edited video.

Please note that due to societal customs there will be no diving performed on Sundays. Day of departure will include an optional tour of the Lelu archeological site and a visit to local craftsmen.

Expected Participation

You are about to take part in a research project. It is expected that all divers will participate in the collection of data. All contributions are important. However, participate and contribute only within the limits of your abilities and your sense of safety. Of equal importance is to have a good time and a rewarding experience. Each individual has internal goals. All best efforts will be made to integrate these goals to achieve a successful result.

DIVING AND DIVE SAFETY

General

Above all else, our primary consideration is for the safety and well being of all the divers and participants in this project. No participant will be asked nor expected to perform any task, nor participate in any project undertaking for which they do not feel they are properly prepared. Any individual may decline to participate in any aspect of the project without need of stated reason. Your participation is of your own volition and as such is a statement of your personal preparedness and readiness.

You are expected to provide your own personal equipment for diving, with the exception of tanks and weightbelts. Your equipment should be in a serviceable and safe condition and appropriate for the type of diving anticipated to be encountered. This would include diving in warm water (80 + degrees) within the accepted recreational depth limits of less than 130 feet. You are encouraged to have your equipment inspected and/or serviced by a certified technician prior to departure; there are limited resources on the island for equipment repair. You are also encouraged to bring a personal 'save-a-dive' kit containing backup equipment, which may be needed during your stay. This kit would include, but not be limited to, items such as spare mask straps, fin straps, snorkel keepers, etc. Divers using computers may wish to bring a spare battery. Please refer to any standard dive text for additional ideas concerning save-a-dive kits.

All diver profiles will be expected to conform to currently accepted standards for no-decompression diving. If you will be using a computer during your dives, it will be your responsibility to follow the appropriate procedures for its use. A diver relying on standard Tables (such as the Recreational Dive Planner or modified Navy Tables) should use the procedures appropriate to those tables and for which the diver has been trained. In all cases, buddy team profiles will be governed by the most conservative profile in the team.

Decompression diving is not sanctioned during this project. There are limited medical resources available for any diver who places himself at risk of decompression related illness. There is a staffed hospital on the island and there will be oxygen available on the dive boats. However, evacuation could be necessary for any complicated treatment, including recompression therapy. This emphasizes the need for all divers to perform conservative profiles, to carefully track and record dive profile information and to utilize proper safety stops and surface intervals. **You are responsible for monitoring your own dive profiles.** All of these considerations are basic to normal accepted practices in recreational diving.

Because of the substantial expense involved in the unlikely situation requiring an air evacuation, **all participants are required to obtain diver insurance.** Divers Alert Network, PADI, SOS and others provide such insurance at reasonable cost. Otherwise, you must have sufficient personal resources available to cover such an eventuality. In many cases, **personal medical insurance will not cover such costs.**

Telephone Numbers for Obtaining Diver Insurance

Divers Alert Network (DAN Insurance)	(800) 446-2671
Vincencia & Buckley (PADI Insurance)	(800) 223-9998
PADI Information	(800) 729-7234

Local Considerations

The diving on Kosrae is typical of indo-pacific diving. Kosrae is surrounded by a fringing reef with the characteristic reef inhabitants. Divers should be familiar with the fish and coral, which deserve respect. Reef sharks may be sighted but are typically uninterested in divers. Reportedly, there have been no negative encounters with reef sharks on Kosrae for three generations, even for spear fisherman with catch. This may be due to the tremendous abundance of natural resources. Physical contact with scorpionfish (lion, zebra, stone), rays, eels, and certain types of coral should, of course, be avoided. Coneshells such as textile cones should not be collected. None of these are aggressive, and generally cause problems only when harassed or a diver is not paying attention and blunders into one. Practice good environmental awareness. Remember the old rule, if you don't know what it is, don't touch it.

Visibility averages well over 100 ft. depending on local site conditions. Harbor visibility can be significantly less, especially during and after rains. The same reduced visibility should be expected at river outfalls. Strong currents may develop at certain times but the triangular configuration of the island results in one side generally being calm at almost all times. Currents at the mouth of Lelu Harbor can be swift. Tidal changes generally influence currents at cuts in the reef. Divers should simply be aware of the possibility of currents at dive sites and dive appropriately.

Suggestions for Items to Bring

Just because it's not on the list doesn't mean someone else is bringing it!!

Dive Related

All personal dive gear except tanks and weightbelts.

Save-a-dive kit.

Thermal protection to suit your physiology.

Dive skin and warm water gloves, to provide protection from sun, scrapes, scratches, etc.

Dive tables, slates, pencils.

Dive lights and spare batteries, cylumes (light sticks), whistle, dive sausage, compass.

Support materials for u/w photo and video gear.

C-card, Diver Insurance Card

Other

Light breathable clothes suitable for the tropics.
Hat, Teva type sandals, reef walkers and shoes for hiking.
A light, rain resistant poncho can be useful.
Insect repellent, personal medications, cortisone and/or anti-itch creams.
Sunscreen is essential, Kosrae is 5 deg. N, the sun is brutal, even when it doesn't feel hot.
Antihistamines such as benadryl can have multiple uses.
Motion sickness remedies if susceptible, Pepto or Imodium, etc. Some people report good results with ginger tablets or capsules. Use what works for you.
Small personal first aid kit. Spare glasses, sunglasses, it's very bright!
Personal film (non-project) and all batteries required to support electronics.
Dive logs, personal logs and associated stuff.
Small gifts for the island friends that you may discover.

Post-Project Responsibilities

A documentation package will be prepared for the work accomplished by the team while on Kosrae. This will include the data or descriptive results of any reef observations, fish counts, photographic, video, and sound records produced, dive logs and journals, etc. This material will be compiled, duplicated as appropriate, and furnished to the Department of Fisheries and Marine Resources as archival baseline or reference data concerning the state of the reef sites examined at the time of this project, as well as documentation of the actual work accomplished.

You will be asked to provide copies of personal dive logs, originals of project logs, stills and video records or other materials supporting the scientific objectives of the project. In addition, this material may be used to publicize and support future extensions of this project and prepare scientific and/or popular reports of the work or accomplishments of the team. Any and all materials produced during the project remain the property of the creator who holds the copyright under U. S. Copyright laws. The project sponsor(s) and coordinator is granted a royalty free right to use such materials in promotional activities to support future work of this nature. In such cases, appropriate attribution of the source material will always be made. The project will not distribute any such materials to third parties without the written consent of the copyright holder.

Reef Check Survey Protocols



Introduction

Reef Check is the largest international coral reef monitoring program involving recreational divers and marine scientists. In 1997, Reef Check teams completed the first global survey of coral reefs. Over 750 volunteer sport divers were trained and led by 100 volunteer scientists in surveys of more than 300 reefs in 31 countries. The results of Reef Check 97 provided the first solid evidence that coral reefs have been damaged on a global scale. Reef Check 98 covered 40 countries and documented an unprecedented global bleaching and mortality event. Each subsequent year, Reef Check has grown, and the value of the global database has increased. The results have been published in technical reports and scientific journals and have been used to help formulate government policies. In addition to producing valuable scientific results, Reef Check 97 raised the awareness of scientists, governments, politicians and the general public about the value of coral reefs, threats to their health and solutions to coral reef problems. This message was spread worldwide by extensive TV coverage including CNN and BBC, and by major newspapers and magazines in a dozen languages. Due to popular demand, from now on Reef Check will be repeated every year. The more people and countries that participate, the better will be our view of global reef health, the more media attention we will arouse, and the faster solutions can be implemented.

Reef Check has been selected to be the "community-based" survey program for the United Nations' Global Coral Reef Monitoring Network (GCRMN), and is therefore a full partner in the International Coral Reef Initiative (ICRI) and GCRMN. Reef Check helps local community members learn how to monitor their coral reefs, providing the information needed so that reefs and people can be managed in a sustainable manner. Participation in Reef Check is one of the best methods of changing people's behavior and slowing the damage so that reefs can recover. Reef Check is one solution to the coral reef crisis.

Coral reefs are the second most diverse ecosystem in the world and have been the model for some of the most important work in ecology. They are economically valuable as a source of food and compounds that can be used as drugs; they also protect the coast from wave erosion during storms. Coral islands and their white sand beaches attract millions of tourists while many of the world's 20 million scuba enthusiasts travel in search of colorful corals and large reef fish. Coral reefs are the largest biological structures on earth and may be viewed from space. Despite their importance, little has been done to understand how coral reef organisms respond to human activities.

Rationale

Scientists have been monitoring coral reefs since the time of Darwin. The 1993 Colloquium on Global Aspects of Coral Reefs (organized by Prof. Robert Ginsburg of the University of Miami) was a turning point for many reef scientists who met to discuss the health of the world's reefs. At the end of the meeting, it was clear that there was not enough information available to form a picture of the status of the world's reefs.

A group of coral reef scientists felt that part of the problem lay with some of the standard monitoring methods scientists have used. These detailed methods were designed to investigate community ecology and include measurements of many parameters that may not be affected when coral reef health is damaged. The scientists felt that more specific methods should be designed to investigate human impacts on coral reefs, because those are the impacts that are preventable.

It was recognized that another serious problem with the traditional scientific approach was that there are only a small number of reef scientists, most of whom are very busy teaching, and so can only carry out surveys periodically. Thus the database for checking on the health of coral reefs was very spotty and not easily comparable. The solution would be to organize a global survey effort that would take place annually over a defined period using one standard method- a synoptic survey of the health of the world's reefs, with volunteer help from non-scientists. To help focus attention on coral reefs, a group of coral reef scientists led by Prof. Ginsburg declared 1997 to be the International Year of the Reef. The Reef Check concept grew out of this initiative and was developed throughout early 1996. The name "Reef Check" was chosen by Gregor Hodgson and Shaun Waddell over beer on 22 July, 1996 and the methods were drafted by Hodgson and subsequently advertised on the internet and peer reviewed by many reef scientists.

Purpose

Reef Check is a global volunteer effort by teams of volunteer divers led by experienced marine scientists. There are two goals: 1) to raise public awareness about the value of coral reefs, threats to their health and solutions to these problems, and 2) to obtain sufficient high quality data on coral reef status to allow them to be managed on a local, national and regional scale. The latter goal is dependent upon obtaining long-term data on reef health so as to establish trends.

Organization

Reef Check is a volunteer program that has been enthusiastically supported by hundreds of scientists and divers around the world. Global Headquarters is located at the Institute of the Environment, University of California at Los Angeles, USA. In each participating country, there is one National Coordinator, and often provincial or state coordinators..

Reef Check
P.O. Box 1057 (mail)
17575 Pacific Coast Highway, Ste B (deliveries)
Pacific Palisades, CA 90272-1057 USA
Tel: (USA)+310-230-2371
310-230-2360 Fax: (USA)
310-230-2376

Website: www.ReefCheck.org

Core Method

The Reef Check surveys can be carried out anytime, however, for inclusion in our annual report, data should be submitted by the 1 of November of any given sampling year. All Reef Check teams should submit data using the Reef Check Data Submission Form to Reef Check Headquarters. In addition, *each group can do whatever additional sampling they like*. The Reef Check Headquarters will include valid Core results from all properly registered Reef Check groups in our analyses and annual global reef health report, but we do not plan to report extra results unless they are extremely important.

Site selection

Site selection is a critical factor in the success of Reef Check. One goal of Reef Check is to test the null hypothesis that there are reefs that are not affected significantly by human impacts. In addition, we would like information on the geographic distribution of human impacts of various types on all reefs. For this reason, Reef Check teams that can only survey one site should survey the "best" site they have access to in terms of least likely to have been affected by human impacts, fishing, pollution etc. with high living hard coral cover and dense fish and mobile invertebrate populations.

For groups willing and able to survey multiple sites, then we would suggest choosing 2 or more additional sites representative of moderate and heavy human impacts. In this manner, we will build up a picture of the distribution of human impacts on a cross section of reefs.

To standardize Reef Check, we will not accept surveys of steep wall reefs (drop-offs), reefs predominantly located in caves or under-hangs. Sites should be moderately to fully exposed reefs with a reef crest and outer slope. The transects can then be placed seaward of the reef crest on the outer slope, parallel to shore. It is very important to describe the

site and its position in relation to obvious human influences on the Site Description sheet. This allows us to compare apples with apples.

Basic design

The goal is to survey two depth contours, 3 m and 10 m below chart datum (lowest low water) (Fig.1). However, on many reefs, the highest coral cover will not be found at these exact depths. Therefore, choose the depth contour with the highest coral cover within the following ranges: Shallow (2 - 6 m depth), Mid-reef (>6 - 12 m depth). Note that particularly for the shallow transect, the tide should be taken into account. Along each contour, four 20 m long line transects will be deployed and surveyed. The transects should follow the designated depth contour one after the other, however, transect start and end points should be separated by a 5 m space. The distance between the start of the first transect and end of the last transect will be $20 + 5 + 20 + 5 + 20 + 5 + 20 = 95$ m (Figure 2). The depth contours were chosen for practical reasons of time and safety. Reefs in many areas are not suitable for a survey at both depths. In this case, just survey one depth contour. At some reefs, it may be necessary to lay transects perpendicular to the reef face, i.e. following spurs or ridges. We recommend use of a single 100 m fiberglass measuring tape available from hardware and survey equipment supply stores. Because of the 5 m gaps, we believe this allows independence of samples, avoiding pseudoreplication. Some teams may prefer to survey individual 20 m transect lines randomly located within the specified depth contours. This is the best method from a strictly statistical point of view, and is certainly required in locations where reefs are broken into patches with large areas of sand/rock in between. A second tape measure may be useful for measuring distance from shore and for use when the first breaks.

There are four types of data that will be recorded. The three transect surveys will be made along the same transect line.

- 1) **The site description.** Anecdotal, observational, historical, locational and other data should be recorded on the Site Description sheet. These data are extremely important when we interpret global correlations in the dataset.
- 2) **Fish belt transect.** Four 5 m wide (centered on the transect line) by 20 m long transects will be sampled for fish species typically targeted by spear-fishermen, aquarium collectors and others. The fish transect should be carried out first.
- 3) **Invertebrate belt transect.** Same four 5 m wide (centered on the transect line) by 20 m long transects as above will be sampled for invertebrate species typically targeted as food species or collected as curios.
- 4) **Substrate line transect.** Same four 20 m long line transects, but this time, point sampled at 0.5 m intervals to determine the substrate types on the reef. See below for substrate definitions.

A NOTE ON SAFETY!

Safety of divers is the number 1 priority. No Reef Check surveys should be undertaken when weather or sea conditions are unsafe or if a diver does not feel well. In particular, teams should plan work to avoid decompression dives during Reef Check. If any diver feels uncomfortable at the last minute, they should remain on board.

During the dive

One buddy pair should lay out a 100 m transect line (or four 20m transects separated by 5m breaks) along the specified contour (2-6 or >6-12 m). Estimated time to deploy the transect is 30 minutes. After deployment, the entire length of the transect should be examined to ensure it is not snagged or floating too high off the bottom. Small temporary marker floats should be attached to the start and end points so that it is easy to find. For those wishing to resurvey the exact transect, permanent stakes can be installed so that the site can be located next survey. A GPS reading should be obtained from the float at one end, and the compass bearing to the end marker buoy recorded (only those teams with precision navigation systems such as differential GPS need record the coordinates of both ends). Line-ups with landmarks should also be recorded in case the GPS has given false readings. Teams without a GPS should obtain the most detailed chart of the area available and record the coordinates of the location of the transect. In this case, please include the map projection and the type of map. We cannot use your data unless you record the location accurately.

Fish Belt Transect

The fish belt transect should be the first work done after the transect is deployed. Begin the fish transect at about 9 to 10:00 AM. After deploying the transect, work can be started after a 15 minutes period during which no divers disturb the area. Estimated time to completion is 1 hour. The maximum height above the transect to record fish is restricted to 5 m in the water column. Data should be recorded on a slate using the Belt Transect sheet format.

Each diver assigned to count fish will swim slowly along the transect and then will stop to count target fish every 5 m, and then wait 3 minutes for target fish to come out of hiding, before proceeding to the next stop point. This is a combination timed and area restriction survey, 4 sections x 20 m long x 5 m wide = 400 m². There are four 5m gaps where no data are collected. At each depth contour, there are sixteen "stop-and-count" points, and the goal is to complete the entire 400 m² belt transect in 1 hour.

Indicator fish:

The indicator fish have been selected because they are typically shot out of reefs by spearfishing, removed as targets of cyanide fishing, and caught using hand-lines. Size minimums have been placed on some species to reduce the burden and inaccuracy of trying to record many small fish. Given these limits and the magnifying effect of the water, divers should practice estimating sizes before attempting the fish surveys. A measured 2.5 m colored wire or rod can be used to help estimate the 5 m belt transect width, and 20 or 30 cm sticks (hand-held or floating tethered to a small weight) can be used to estimate fish length (Figure 2b).

We recommend that one diver record fish on one side of the line followed by the other side. By moving from side to side, the diver records 2.5m belts one at a time. If both divers are proficient at fish identification, we suggest that Diver 1 can record the first and third 20 m segments, while Diver 2 can do the second and fourth 20 m segments. Care is needed to carefully label slates to avoid confusion. Tally the fish on the slate using a vertical tick mark for each fish observed and after each four fish, draw a horizontal line through the four, thus creating easily counted groups of five next to the correct name and under the appropriate column. It is crucial to remember to keep the counts for each of the four segments of the transect separate and to avoid double counting by communicating with other fish counters. For all grouper, a size estimate should be given of each fish.

All of the organisms to be counted within these fish belt transects are listed below:

Indo-Pacific

Grouper/coral trout over 30 cm (any species)	Serranidae
Barramundi cod	<i>Cromileptes altivelis</i>
Grunts/Sweetlips/Margates	Haemulidae (e.g. <i>Plectorhincus spp.</i>)
Snapper	Lutjanidae
Butterfly fish (any species)	Chaetodontidae
Humphead (Napolean) wrasse	<i>Cheilinus undulatus</i>
Parrotfish over 20 cm.	Scarridae
Bumphead parrotfish	<i>Bolbometopon muricatum</i>
Moray eel (any species)	Muraenidae

(Note: off-transect records of the two distinctive species of wrasse and the parrotfish will be accepted as these species roam near reefs at this size rather than being strictly resident species).

A note should be made of any sightings of what are now becoming rarer animals such as large manta rays, sharks and turtles, but if these are off-transect records, they should be written at the bottom of the slate under "Comments".

Site Description Form

During the fish transect work, the other team members should be gathering descriptive site data and one should be responsible for filling out the Site Description form. Only one form is filled out per site. Some larger teams may desire to begin a second Reef Check survey while the first one is underway.

Invertebrate Belt Transect

When the fish belt transect is complete, Divers 3 and 4 can then carry out the belt transect survey for invertebrates. Estimated time to complete this work is 1 hour. If both divers want to record data, they can alternate 20 m segments as above or each do a 2.5m wide strip. To avoid confusion later, it is imperative that divers carefully mark their sheets with location and diver names.

Each belt transect is 5m wide with 2.5 m on either side of the transect line. The reason for choosing the relatively narrow belts is that visibility in many parts of the world is low, therefore it is necessary to restrict them for comparability. Total survey area will be 20 m x 5 m = 100 m² for each transect, for a grand total of 400 m² for each depth contour, (800 m² for each site including two depths), the same as the fish belt transect.

All of the items and organisms to be counted within the invertebrate belt transects are listed below and photographs are given on the species identification page. It is the responsibility of each team leader to ensure that his/her team is sufficiently prepared to identify these animals before work begins. Special attention should be given to identification tips for sea cucumbers given with the photos.

All sites

Banded coral shrimp	<i>Stenopus hispidus</i>
Long-spined black sea urchin	<i>Diadema spp.</i>
Lobster (all edible species)	Malacostraca (Decapod)
Trash (describe type and size)	
Recently broken coral (anchor, blast, divers) - estimate area	

Indo-Pacific

Giant clams (give size/species)	<i>Tridacna spp.</i>
Pencil urchin	<i>Heterocentrotus mammilatus</i>
Edible sea cucumbers (2 species)	
Prickly redfish	<i>Thelenota ananas</i>
Greenfish	<i>Stichopus chloronotus</i>
Crown of thorns starfish	<i>Acanthaster planci</i>
Triton shell	<i>Charonia tritonis</i>

In addition, each group should note the presence of coral bleaching or unusual conditions (e.g. that might be diseases) along the transects.

At the base of the Belt Transect Sheet, there is a place to record comments. In particular, if bleaching, suspected diseases or *Acanthaster* predation are observed, it will be useful to record the percentage of the population that is affected, and for affected colonies, the mean percentage of each colony that shows some diseased area. For the belt transects, team members should be encouraged to look in holes and under overhangs to detect organisms, such as lobster, that may be hiding.

Line Transect Instructions

When the invertebrate belt transect is almost completed, the next designated buddy pair can begin point sampling on the line transect. The estimated time to complete this work is 1 hour. The method chosen for Reef Check sampling of substrata is "point sampling." Point sampling was chosen because it is the least ambiguous and fastest method of survey and is easily learned by recreational divers. In use, the diver can simply look at a series of points where the transect tape touches the reef and note down what lies under those points. To remove any bias, it is useful to carry a 5 mm diameter nut or other small metal object tied onto a 2 m long cotton or nylon string for use as a plumb-line. The object is dropped at each designated point and it touches only one substrate type which can be recorded. This removes the need for thinking, especially in cases where the tape is hanging above the substratum and swinging back and forth with the surge. For Reef Check, substrate type will be recorded at 0.5 m intervals along the line, i.e. at: 0.0 m, 0.5 m, 1.0 m, 1.5 m etc. up to 19.5 m (40 data points/20 m transect segment). This procedure will be repeated for the remaining three transect segments at 3 m and the remaining four at 10 m depth.

Substratum categories and abbreviations

HC	Hard coral
SC	Soft coral
RKC	Recently killed coral
FS	Fleshy seaweed
SP	Sponge
RC	Rock
RB	Rubble
SD	Sand
SI	Silt/clay
OT	Other

The Line Transect pro-forma has a space for each point sample result, 1-40 for the first 19.5 m segment etc. Input the above abbreviations for the substrate types. As above, Diver 1 could record the substrate types for the first and third 20 m segments of the line transect, and Diver 2 could do the second and fourth 20 m segments. Do not write in the totals cells.

There are many cases when the substrate type may be ambiguous. Please follow the guidelines below to identify substrata for Reef Check. Note that these may differ from other definitions with which you are already familiar.

Reef Check Guidelines for Determining Substrate Types

Hard coral: Include fire coral (*Millepora*), blue coral (*Heliopora*) and organ pipe coral (*Tubipora*) because these are reef builders.

Soft coral: Include zoanthids, but not sea anemones (the latter go into "Other").

Recently killed coral: The aim is to record coral that has died within the past year. The coral may be standing or broken into pieces, but appears fresh, white with corallite structures still recognizable, only partially overgrown by encrusting algae etc.

Fleshy seaweed: The aim is to record blooms of fleshy algae that may be responding to high levels of nutrient input. Therefore do not include coralline algae in this category. When algae such as *Sargassum* that are a normal part of a healthy reef are present, please note the species in the comments section.

Sponge: All sponges (but no tunicates) are included; the aim is to detect sponge blooms that cover large areas of reef.

Rock: Any hard substratum whether it is covered in e.g. turf or encrusting coralline algae, barnacles, oysters etc. would be placed in this category. Rock will also include dead coral that is more than about 1 year old, i.e. is worn down so that few corallite structures are visible, and covered with a thick layer of encrusting organisms and/or algae.

Rubble: Includes rocks (often laying over sand) between 0.5 and 15 cm diameter. If it is larger than 15 cm it is rock, smaller than 0.5 cm and it is sand.

Sand: In the water, it is sand if it falls quickly to the bottom.

Silt/Clay: Sediment that remains in suspension if disturbed. Note that these are practical definitions not geotechnical.

Other: Any other sessile organism including sea anemones, tunicates, gorgonians or non-living substrata.

Post Dive Tasks

The Team Leader (TL)/Team Scientist (TS) are responsible for gathering the slates and data together as soon as the survey is completed and reviewing it immediately with the team members. The purpose is to make a quick assessment of the data to determine if some error has been made that can be corrected while the team is still on site, and the transect is in place. Typical errors that could be corrected would be "double-counting" of fish, mis-identification of organisms or mis-labelling the slate. When an error is suspected, a re-survey should be made to check or to correct it.

Photography/video

It is important for each group to document the transect location, survey results and findings using a combination of still photos and videography both on land and in the water. We recommend taking one dozen or so above water photos in several directions showing the transect buoy locations lined up against whatever landmarks may be available for future reference.

We suggest taking a video of the entire transect by swimming over it very slowly. We further suggest obtaining a complete set of slides of the transect using a camera equipped with a 28 to 35 mm lens, either mounted on a quadropod, or held free. Additional video and photographs should be obtained of as many of the Reef Check parameters as possible, particularly various types of damage. All of these visuals will be important for future comparison and for presenting the results of your survey to the media. A general video of the Reef Check survey and the site environment would be extremely useful to you for media presentations, and to us for our Press Conference.

Navigation

To allow re-surveys in the future, it will be important to document the actual start and end points of your transects. Use a small buoy attached to a line at the start and end points of your transects, and then note the position of these buoys in relation to land marks or line ups. Use compass bearings and drawings, GPS or more sophisticated gear. Note that most hand-held standard GPS units may vary in accuracy by as much as 100 m, and typically 30 m. For 1-2 m accuracy a differential GPS (using surveyed ground station) or twin hand-held recording GPS with a post-processing system would be required. For more information about this equipment and techniques, refer to your local GPS dealer. In any case, we would like to receive hand-held GPS or map coordinates of the general location for use in our global report.

Permanent transect marking

If you want to re-survey a transect, to allow easy relocation, it would be helpful to permanently mark the start and end points of the transects along the two depth contours using a rebar or other stake pounded into the reef.

List of publications

Hodgson, G. 2000. Coral Reef Monitoring and Management Using Reef Check. *Integrated Coastal Zone Management*. 1(1): 169-176.

Hodgson, (In press) Using Reef Check to Monitor Coral Reefs. *Bull. Mar. Sci.*

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Hodgson, G. and C.M. Stepath. 1999. Using Reef Check for long-term coral reef monitoring in Hawaii. p. 173-184. In: Maragos JE, Grober-Dunsmore R (eds). *Proceedings of the Hawaii Coral Reef Monitoring Workshop, June 8-11, 1998*. Department of Land and Natural Resources and East-West Center for Development, Honolulu, HI, USA. 334 pages.

Hodgson, G. 1999. Reef Check Global Survey Program: The first step in community-based management. In: I. Dight, R. Kenchington, J. Baldwin (eds). *Proc. International Tropical Marine Ecosystems Symposium, Townsville, Australia, November 1999*. pp 321-326.

Hodgson, G. 1999. A global assessment of human effects on coral reefs. *Marine Pollution Bulletin*. 38 (5) 345-355.

Hodgson, G. 1998. Reef Check and sustainable management of coral reefs. Pp. 165-68. In: C. Wilkinson (ed) *Status of Coral Reefs of the World: 1998*. Australian Institute of Marine Science, Townsville, Australia 184 p.

Hodgson G. 1992. An alternative to "paper parks". p. 35-45 In: *Proc. International Conference on Conservation of Tropical Biodiversity, Kuala Lumpur 12-16 June, 1990*.

Wilkinson, C. and G. Hodgson 1999. Coral reefs and the 1997-1998 mass bleaching and mortality. *Nature and Resources*. 35(2):17-25.

Wilkinson, C., O. Linden, H. Cesar, G. Hodgson, J. Rubens, and A. E. Stong. 1999. Ecological and socioeconomic impacts of 1998 coral bleaching in the Indian Ocean: an ENSO impact and a warning of future change? *Ambio* 28:188-196.

Reef Check Site Description Form

Site name	
Date	
Time of day that work started	
Time of day that work ended	
Longitude of transect start point	
Latitude of transect start point	
Chart or by GPS? (If GPS, indicate units)	Chart_____ GPS_____
Orientation of transect	N-S___ NE-SW___ E-W___ SE-NW___
Distance from shore	_____ m
Distance from nearest river	_____ km
River mouth width	<10m_ 11-50m_ 51-100m_ 101 500m_
Weather	sunny_____ cloudy_____ raining_____
Air temperature	___ degrees Celsius
Water temperature at surface	___ degrees Celsius
Water temperature at 3 m	___ degrees Celsius
Water temperature at 10 m	___ degrees Celsius
Distance to nearest population center	_____ km
Approximate population size	_____ x 1000 people
Horizontal visibility in water	_____ m
Why was this site selected?	
Is this site -	sheltered_____ or exposed_____
Major coral damaging storms in past years?	yes_____ no_____ unknown_____
Rate site in terms of anthropogenic impact?	none___ low___ moderate___ heavy___
What types of impact do you believe occur?	
Dynamite fishing	none___ low___ moderate___ heavy___
Poison fishing	none___ low___ moderate___ heavy___
Aquarium fish collection	none___ low___ moderate___ heavy___
Harvest of invertebrates for food	none___ low___ moderate___ heavy___
Harvest of invertebrates for curio sales	none___ low___ moderate___ heavy___
Tourist diving	none___ low___ moderate___ heavy___
Sewage pollution	none___ low___ moderate___ heavy___
Industrial pollution	none___ low___ moderate___ heavy___
Other forms of fishing? (Specify)	none___ low___ moderate___ heavy___
Other impacts? (Specify)	none___ low___ moderate___ heavy___
Protection (statutory/other) at site?	yes_____ no_____
If yes, what type of protection?	
Other comments	
Submitted by (enter TL/TS and your name)	

Indo-Pacific Fish and Invertebrate Belt Transect Form

Site Name:							
Depth:	Team Leader:						
Date:	Time:						

Indo-Pacific Belt Transect : Fish							
Data recorded by:	DO NOT TYPE BELOW						
	0-20m	25-45m	50-70m	75-100m	Total		
Butterfly fish							
Sweetlips (Haemulidae)							
Snapper (Lutjanidae)							
Barramundi Cod (<i>Cromileptes</i>)							
Grouper >30cm (Give sizes)							
Humphead wrasse							
Bumphead parrot							
Moray eels							

Indo-Pacific Belt Transect : Invertebrates							
Data recorded by:							
	0-20m	25-45m	50-70m	75-100m	Total		
Banded coral shrimp (<i>Stenopus hispidus</i>)							
<i>Diadema</i> urchins							
Pencil urchin (<i>Heterocentrotus mammilatus</i>)							
Sea cucumber (edible only)							
Crown-of-thorns star (<i>Acanthaster</i>)							
Giant clam (<i>Tridacna</i>)							
Triton shell (<i>Charonia tritonis</i>)							
Lobster							

For each segment, rate the following as: None=0, Low=1, Medium=2, High=3							
Coral damage : Anchor							
Coral damage: Dynamite							
Coral damage : Other							
Trash : Fish nets							
Trash : Other							
Comments:							
Grouper sizes (cm)							
Bleaching (%coral pop and % colony):							
Suspected disease (type/%):							
Rare animals sighted (type/#):							
Other:							

APPENDICES

- I. Project Contact List**
- II. Sample Menus from Inum Restarurant**
- III. U. S. Dept. of State Consular Information Sheet for F. S. M.**
- IV. References and Suggested Reading**
- V. Information on the Mangrove Forest and Lelu Ruins**
- VI. Participant Liability Releases (to be returned to project)**

Appendix I.

KOSRAE REEF PROTECTION PROJECT CONTACT LIST FOR FURTHER INFORMATION AND SUPPORT

Katrina Adams

Bruce Brandt

Project Coordinators, FSM
Owners/Operators

Kosrae Village Resort

Sleeping Lady Divers

P. O. Box 399

Kosrae, FSM 96944

www.kosraevillage.com

kosraevillage@mail.fm

691.370.3483

691.370.5839 fax

Additional Information for Participants:

Information regarding project accommodations can be found at the following internet address :

www.kosraevillage.com

Dr. Stephen E. Smith

Project Coordinator, U.S.A.

oceanearth

402 Via Royal,

Walnut Creek, CA 94596

nauticos@oceanearth.org

925.934.1051 voice

925.942.1051 fax

Additional Information for Participants:

More information regarding project goals, procedures, sponsors, and history (including photographs of dive teams at work) can be found at the following internet address :

www.oceanearth.org

Reef Check - Information

Additional information on Reef Check protocols and species identification photos can be found at the following internet address:

www.reefcheck.org

Appendix II.

Sample Menus from the Inum Restaurant Refer to KVR Website for Current Items and Prices

Breakfast

Tuna Omelet — Swiss Cheese and Lightly Grilled Tuna with Onion	\$5.75
Make Your Own Omelet! — Plain Omelet with Toast or Rice	\$4.25
Each Additional Item Add	.50
Vegetarian Scramble — Eggs Scrambled with Fresh Vegetables and Onions	\$4.75
Served with a Choice of Toast or Rice	
Two Eggs, Any Style — Served with Toast, Rice or Potatoes	\$4.00
add Bacon, Sausage, Linguica or Ham	\$6.50
Breakfast Sandwich — Two Eggs and Bacon on our Famous Bread	\$6.75
Breakfast Fried Rice — A Smaller Order of Fried Rice PLUS Two Eggs!	\$6.75
Pancake Usr — Delicious Banana Pancakes, Try A Local Fruit Syrup	\$5.00
Pancakes	\$4.50
French Toast	\$4.00

Side Dishes

Granola — Home Made Crunchy Cereal Served with Milk	\$3.50
Muffins — Two Apple Nut or Banana Muffins	\$3.00
Rose's Mini Cinnamon — Two small local cinnamon rolls	\$1.75
Steamed White Rice	\$1.25
Home Fried Potatoes or Hash Browns	\$3.00
Fruit Plate A Lovely Sampler of Fresh Island Fruits	\$4.00
Fruit Bowl An Assortment of Fresh Island Fruit in Bite Size Pieces	\$2.25
Toast with Butter and Jam	\$1.75

Beverages

Fresh Brewed Hot Coffee or Tea — Free Refills	\$1.00
Nu (Fresh Drinking Coconut)	\$1.00
Lime Juice, Iced Coffee or Ice Tea — Free Refills	\$1.00
Cola and Lemon Lime Soda	\$1.00
Italian Sodas — More Than 20 Flavors!	\$1.00
V8 or Tropical Juices	\$2.00

Lunch

Fried Chicken (We buy locally grown chicken which is not always available.)	\$5.50
Omelet — Pick Your Own Ingredients! (See the Breakfast Menu for Ideas.)	\$4.25 & up
Cheeseburger — Choice of Swiss, Mozzarella or Cheddar Cheese	\$4.75
Three Cheese Grilled Cheese Sandwich	\$4.50
Grilled Tuna Sandwich — Grilled Tuna Filet with Cheese	\$4.75
Grilled Ham and Cheese Sandwich	\$5.00
Italian Sausage Sandwich — Served with Mozzarella Cheese and Pasta Sauce	\$4.75
Pizza Sandwich!! — Open Face Sandwich with Pepperoni, Mushrooms, Sliced Olives	\$3.75
Linguica Sandwich — Served with Swiss Cheese and a Mustard Sauce	\$4.75
Tuna Kutak Sandwich — Fresh Tuna Salad on Slices of Soft Taro	\$4.50
Tuna, Grilled or Tempura Style — Fresh Tuna Filets	\$7.50
Tacos — Three Soft Shell Tacos served with Salsa	\$5.00
Sashimi Kosrae — Fresh Yellow Fin Served in the Kosraean Style	\$9.00
Fried Rice — Choice of Meats or Vegetarian	\$7.00
Super Salad	\$6.50
Chicken Super Salad	\$7.00
Mangrove Crab Super Salad	\$8.75
Vegetable Noodle Grill — Fresh Vegetables Quickly Grilled with Pasta	\$7.00
Curry — Choice of Meats, or Vegetarian, Served with Rice	\$4.75
Fijian Kosraean Combo — Grilled Noodles, Vegetables and Your Choice of Meat	\$7.75

Dinner

Kosraean Seafood Stew — —Served Over Rice	\$5.25
Sashimi Kosrae Fresh Yellow Fin or SkipJack Served with Kosraean Hot Sauce	\$9.00
Marinated Tuna Salad — Super Salad with Lightly Grilled Tuna, Fantastic!	\$7.50
Pasta with Meat Sauce — Choice of Vermicelli or Angel Hair Pasta	\$8.00
Orange Pound Cake — Try it with Hot Fudge Chocolate Sauce!	\$3.25
Powa — A Whole Mangrove Crab, Steamed — Priced by the Size	\$10 to \$20
Powa Parmesan — Mangrove Crab, Fresh Vegetables, Pasta and Parmesan	\$9.25
Pacific Rim Tuna — Marinated and Grilled	\$8.50
Tuna Marinara — Marinara Glazed Tuna Served with Pasta	\$10.25
Tuna Pepper Steak — Tuna Fillets Grill with Pohnpei Black Pepper	\$7.75
Tuna Saipok — Delicious! Marinated in a Special Sauce and Grilled	\$8.25
Tuna, Grilled or Tempura Style — Fresh Tuna Fillets	\$7.50
Sirloin Strips Stir Fried with Vegetables — Chopped Steak	\$10.00
Sirloin Pepper Steak — Pohnpein Pepper!	\$9.50
Teriyaki Pork Steak — Our Special Teriyaki Sauce!	\$7.75
Fijian Kosraean Combo Grilled Noodles, Fresh Vegetables and Choice of Meat	\$7.75
Pasta with Marinara Sauce — Vegetarian Sauce and Angel Hair Pasta	\$7.00
Vegetable Noodle Grill — Fresh Vegetables Quickly Grilled with Pasta	\$7.00
Fried Rice — Choice of Pork, Beef, Ham, Turkey or Vegetarian	\$7.00
Mangrove Crab Super Salad — A Very LARGE Salad	\$8.75



Super Supper Salad	\$6.50
Steamed Kutak — Soft Taro	\$1.50
Baked Potato — Delicious with Creamy Lime Dressing or Butter <i>Limited</i>	\$2.75
Mini Dinner Salad — Smaller Green Salad, Perfect with a Main Dish	\$1.00
Green Salad — Italian, House, Creamy Lime or Garlic Mustard Dressing	\$2.75
Side Sashimi	\$4.75
Italian Sausage Side— Spicy Sausage Grilled and served with Marinara Sauce	\$3.50

Desserts and Snacks

Be sure to try our fresh *HOT* Chocolate Fudge and *HOT* Carmel Ice Cream Topping.

Ice Cream — Try a Bowl of Vanilla or one of the Specialty Flavors	\$2.75
Coffee Float — Rich Vanilla Ice Cream Floating in Cool Coffee	\$3.25
Linda Sundae — Vanilla Ice Cream with Brownie Pieces	\$3.75
Brownie Shra — Home Made Brownie Smothered in Vanilla Ice Cream	\$4.25
Fried Bananas — Delicious, Ripe and Healthy!	\$3.00
Brownie — Our Famous Home Made Brownie!	\$2.50
Popcorn!! — Warm, Buttered Popcorn!	\$3.00

Beverages

Coffee, Lime Juice or Ice Tea <i>Free Refills</i>	\$1.00
Cola, Lemon Lime and Italian Sodas	\$1.00

Beers \$2.50 to \$4.50

We usually carry about 20 different beers and ale's.
Please look above the bar for our current selection.

Sake Service — 1 to 4 People	\$4.50
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Wines \$4.50 by the Glass, \$16.50 by the Bottle

We have a variety of red and white dinner wines.
Please look in the corner above the bar for our current selections.

Mixed Drinks \$2.50 and up

A Kosrae State transaction tax of 5% is added to meals, including drinks.

Appendix III

U.S. Department of State *Bureau of Consular Affairs Washington, DC 20520*

Consular Information Sheet

[Please click on this link to read important information you should see before you travel abroad](#)

This information is current as of today, Sun Feb 11 2007 21:05:43 GMT-0800.

Micronesia, Federated States of

Americans planning travel to *Micronesia, Federated States of* should read [Worldwide Caution Public Announcement](#) available on the Department of State web site at <http://travel.state.gov>

January 23, 2007

COUNTRY DESCRIPTION: The Federated States of Micronesia (FSM) is composed of four states, named after their main islands, and dozens of atolls extending over a large area of the north central Pacific. The four states are: Pohnpei (formerly Ponape), Kosrae (formerly Kusaie), Chuuk (formerly Truk) and Yap. The federal capital is located at Palikir, on the island of Pohnpei, close to its largest city, Kolonia. The FSM is a constitutional democracy, and is party to a Compact of Free Association with the United States. Read the [Department of State Background Notes on Micronesia](#) for additional information.

ENTRY REQUIREMENTS: U.S. citizens require a U.S. passport, a completed FSM Immigration Arrival and Departure Record (FSM Form 5004), and a completed FSM Customs Form to enter the FSM. The passport must be valid for at least 120 days beyond the date of entry into the FSM. The FSM Immigration Arrival and Departure Record and Customs Form are distributed by the air carrier prior to arrival at the point of entry. There is no limit to the length of time U.S. citizens and nationals may remain in the FSM. All states except Yap levy a departure fee. A health certificate may be required if the traveler is arriving from an infected area. See our [Foreign Entry Requirements](#) brochure for more information on Micronesia and other countries.

The U.S. Embassy in Kolonia does not issue U.S. passports; passport applications are accepted from persons living or traveling in the FSM and forwarded to the Honolulu Passport Agency in Hawaii for processing. The U.S. Passport Office in Guam does not issue U.S. passports, but it does accept passport applications and forwards them to Hawaii.

See [Entry and Exit Requirements](#) for more information pertaining to [dual nationality](#) and the prevention of [international child abduction](#). Please refer to our [Customs Information](#) to learn more about customs regulations.

For more information about FSM entry requirements, travelers may consult the [Embassy of the Federated States of Micronesia](#) at <http://www.visit-fsm.org/visitors/entry.html>, 1725 N Street, N.W., Washington, D.C. 20038, tel: (202) 223-4383 or go to <http://www.visit-fsm.org/visitors/entry.html>. The FSM also has Consulates in Honolulu and Guam.

SAFETY AND SECURITY: U.S. citizens in the FSM should review their own personal security practices, be alert to any unusual activity around their homes or businesses, and report any significant incidents to local police authorities.

For the latest security information, Americans traveling abroad should regularly monitor the [Department's Internet web site](#) where the current [Travel Warnings and Public Announcements](#), including the [Worldwide Caution Public Announcement](#), can be found. Up-to-date information on safety and security can also be obtained by calling 1-888-407-4747 toll free in the U.S., or for callers outside the U.S. and Canada, a regular toll-line at 1-202-501-4444. These numbers are available from 8:00 a.m. to 8:00 p.m. Eastern Time, Monday through Friday (except U.S. federal holidays).

The Department of State urges American citizens to take responsibility for their own personal security while traveling overseas. For general information about appropriate measures travelers can take to protect themselves in an overseas environment, see the Department of State's pamphlet [A Safe Trip Abroad](#).

CRIME: On occasion foreigners have been subject to, and possibly singled out for, theft and verbal and physical abuse. Modern Western swimwear may be considered immodest by local standards, and persons wearing such clothing outside of hotels that cater to tourists could be subject to harassment.

INFORMATION FOR VICTIMS OF CRIME: The loss or theft abroad of a U.S. passport should be reported immediately to the local police and the nearest U.S. Embassy or Consulate. If you are the victim of a crime while overseas, in addition to reporting to local police, please contact the nearest U.S. Embassy or Consulate for assistance. The Embassy/Consulate staff can, for example, assist you to find appropriate medical care, to contact family members or friends and explain how funds could be transferred. Although the investigation and prosecution of the crime is solely the responsibility of local authorities, consular officers can help you to understand the local criminal justice process and to find an attorney, if needed.

See our information on [Victims of Crime](#).

MEDICAL FACILITIES AND HEALTH INFORMATION: Health care facilities in the FSM consist of hospitals on each of the four major islands and a few scattered clinics. These facilities sometimes lack basic supplies and medicines, and the quality of health care varies. Doctors and hospitals may expect immediate cash payment for health services. U.S. medical insurance is not always valid outside the United States. Supplemental medical insurance with specific coverage for overseas treatment and medical evacuation may prove useful. Medical evacuation can be very expensive for non-ambulatory patients and may not be immediately available. Scuba divers are advised there are only three decompression chambers in the FSM (in Yap, Pohnpei, and Chuuk); their availability and staff experience in treating dive injuries varies.

Information on vaccinations and other health precautions, such as safe food and water precautions and insect bite protection, may be obtained from the Centers for Disease Control and Prevention's hotline for international travelers at 1-877-FYI-TRIP (1-877-394-8747); or via the CDC's Internet site at <http://www.cdc.gov/travel>. For information about outbreaks of infectious diseases abroad consult the World Health Organization's (WHO) website at <http://www.who.int/en>. Further health information for travelers is available at <http://www.who.int/ith>.

MEDICAL INSURANCE: The Department of State strongly urges Americans to consult with their medical insurance company prior to traveling abroad to confirm whether their policy applies overseas and whether it will cover emergency expenses such as a medical evacuation. Please see our information on medical insurance overseas. Travelers may be required to pay in cash for medical services when received and seek insurance reimbursement later.

TRAFFIC SAFETY AND ROAD CONDITIONS: While in a foreign country, U.S. citizens may encounter road conditions that differ significantly from those in the United States. The information below concerning Micronesia is provided for general reference only, and may not be totally accurate in a particular location or circumstance.

In Micronesia, drivers drive on the right-hand side of the road, as in the United States. However, the majority of vehicles have the driver's seat on the right side. Traffic, particularly in the state capitals, is increasing. Congestion is a problem particularly at the beginning and end of the workday. Most roads are narrow and without sidewalks, creating a hazard for both drivers and pedestrians. Many roads are in poor condition, with potholes and little or no shoulder. Road conditions can worsen after heavy rains. Driving skills vary; drivers often make turns or stop to pick up pedestrians without warning. Roads outside the towns are often unpaved, and are used by pedestrians, playing children, animals, and drivers alike. Streetlights are rare. Taxis are available in state capitals, but visitors are advised to be careful, since some taxi drivers are reckless. There is no formal training in road safety; so many drivers are unaware of road safety rules. Drunk drivers can pose serious hazards, in particular on weekend evenings and holidays. Drivers are required by law to report all accidents involving property damage or personal injury immediately to local police authorities.

Please refer to our [Road Safety](#) page for more information. For specific information concerning Micronesian driving permits, vehicle inspection, road tax, and mandatory insurance, contact the Micronesian tourist organization offices via the Internet at <http://www.visit-fsm.org/>.

AVIATION SAFETY OVERSIGHT: As there is no direct commercial air service to the United States by FSM carriers, the U.S. Federal Aviation Administration (FAA) has not assessed the FSM's Civil Aviation Authority for compliance with International Civil Aviation Organization (ICAO) aviation safety standards. For more information, travelers may visit the FAA's internet website at http://www.faa.gov/safety/programs_initiatives/oversight/iasa.

Continental Airlines is the only commercial carrier serving the FSM. Flight schedules and routes are limited and subject to change. There may be few alternatives if flights are canceled or missed. Flights are usually 100% booked, and aircraft weight is an issue due to short runways and the type of aircraft used. Because of this and the numerous stops (the typical routing to get to Kolonia would be via Honolulu with intermediate stops in Majuro, Kwajilen and Kosrae or via Guam with a stop in Chuuk), with exiting and arriving passengers at each location, baggage sometimes may not be loaded at the departure point or may be off-loaded and left behind at an intermediate stop enroute. Americans are advised to keep these logistical challenges in mind when traveling in this region. Missing baggage should be reported immediately to Continental Airlines ground personnel before onward flight departure.

SPECIAL CIRCUMSTANCES: Micronesian customs authorities assess import taxes on cigarettes, tobacco, alcoholic beverages, gasoline, and other personal items that exceed specified amounts. All imports are subject to physical inspection by customs officials. There are strict quarantine regulations restricting entry of plant and animal products. It is advisable to contact the Embassy of Micronesia in Washington or one of Micronesia's consulates in the United States for specific information regarding customs requirements.

Please see our [Customs Information](#) .

CRIMINAL PENALTIES: While in a foreign country, a U.S. citizen is subject to that country's laws and regulations, which sometimes differ significantly from those in the United States and may not afford the protections available to the individual under U.S. law. Penalties for breaking the law can be more severe than in the United States for similar offenses. Persons violating Micronesian laws, even unknowingly, may be expelled, arrested or imprisoned. Penalties for possession of, use of, or trafficking in illegal drugs in Micronesia are strict and convicted offenders can expect jail sentences and heavy fines. Engaging in sexual conduct with children or using or disseminating child pornography in a foreign country is a crime, prosecutable in the United States. Prison conditions in the FSM meet minimal international standards. Legal procedures provide for due process. Please see our information on [Criminal Penalties](#).

CHILDREN'S ISSUES: For information on international adoption of children and international parental child abduction, see the [Office of Children's Issues](#) website.

REGISTRATION AND EMBASSY LOCATION: Americans living in or visiting the Federated States of Micronesia are encouraged to register at the Consular Section of the U.S. Embassy in Kolonia or through the [State Department's travel registration website](#) so that they can obtain updated information on travel and security within Micronesia. Americans without Internet access may register directly with the nearest U.S. Embassy or Consulate. By registering, American citizens make it easier for the Embassy or Consulate to contact them in case of emergency. The U.S. Embassy in Kolonia is located on Kaselehlie Street (the main downtown street) across from the Pohnpei Botanical Gardens. The mailing address is P.O. Box 1286, Pohnpei, Federated States of Micronesia 96941. The telephone number is (691) 320-2187. The Duty Officer telephone number is (691) 920-2369. The fax number is (691) 320-2186. The U.S. Embassy's website can be accessed at either <http://kolonia.usembassy.gov/> or <http://micronesia.usembassy.gov/>.

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This replaces the consular information sheet dated July 24, 2006, with minor changes to the entry, medical insurance, traffic safety and road conditions, aviation, and registration sections.

PROFILE

OFFICIAL NAME: [Federated States of Micronesia](#)

Geography Area: 702 sq. km (about 270 sq. mi.) in four major island groups (Pohnpei, Chuuk, Yap and Kosrae). Cities: *Capital*--Palikir. *Other cities*--Kolonia, Weno, Colonia, Lelu Terrain: 607 mountainous islands and low-lying coral atolls. Climate: Tropical.

People Nationality: *Noun and adjective*--Micronesian. Population: 108,000. Growth rate: 0.26%. Ethnic groups: Nine ethnic Micronesian and Polynesian groups. Religion: Roman Catholic 53%, Protestant 42.4%, Others 4.6%. Language: English, and nine ethnic languages. Education: *Literacy*--91%. Health: *Life expectancy*--male 65.6 yrs.; female 66.9 yrs. *Infant mortality rate*--40.4/1,000. Work force: More than one-half of workers are government employees.

Government Type: Constitutional confederation in free association with the U.S. The first Compact of Free Association entered into force in 1986, and an Amended Compact entered into force June 30, 2004. Independence (from U.S.-administered UN trusteeship): November 3, 1986. Constitution: May 10, 1979. Branches: *Executive*--President (chief of state and head of government), cabinet. *Legislative*--unicameral Congress with 14 seats. *Judicial*--Supreme Court. Major political parties: No formal parties.

Economy (FY 2004 Figures) GDP: \$218 million. GDP per capita (nominal): \$2,018. National income (GDP + foreign assistance): \$360 million. National income per capita: \$3,100. GDP composition by sector: services 77%, agriculture 19%, industry 4%. Industry: *Types*--fishing, agriculture, tourism Trade: *Exports* (\$14 million)--fish, kava, betel nut. *Export market*--Japan (21%), US (25%), Others (53%), U.S. *Imports* (\$133 million)--food, manufactured goods, fuel. *Import sources*--U.S. (50%), Japan (11%), Others (39%). External debt: \$ 60.81 million. Currency: U.S. dollar.

GEOGRAPHY AND PEOPLE The Federated States of Micronesia (FSM) consists of 607 islands extending 1,800 miles across the archipelago of the Caroline Islands east of the Philippines. The four states are the island groups of Pohnpei, Chuuk, Yap, and Kosrae. The federal capital is Palikir, on Pohnpei.

The indigenous population consists of various ethnolinguistic groups. English has become the common language. The birth rate remains high at more than 3%, but the population of the four states remains almost constant due to emigration.

HISTORY The ancestors of the Micronesians settled the Caroline Islands over 4,000 years ago. A decentralized chieftain-based system eventually evolved into a more centralized economic and religious empire centered on Yap. European explorers--first the Portuguese in search of the Spice Islands and then the Spanish--reached the Carolines in the 16th century, with the Spanish establishing sovereignty. The current FSM passed to German control in 1899, and then to the Japanese in 1914. Following World War II, these islands became part of the United Nations Trust Territory of the Pacific Islands, administered by the United States.

On May 10, 1979, four of the Trust Territory districts ratified a new constitution to become the Federated States of Micronesia. The neighboring trust districts of Palau, the Marshall Islands, and the Northern Mariana Islands chose not to participate. The FSM signed a Compact of Free Association with the U.S. in 1986. An Amended Compact entered into force in June 2004.

GOVERNMENT AND POLITICAL CONDITIONS The FSM is governed under a 1979 constitution, which guarantees fundamental human rights and establishes a separation of governmental powers. The unicameral Congress has 14 members elected by popular vote. Four senators--one from each state--serve 4-year terms; the remaining 10 senators represent single-member districts based on population and serve 2-year terms. The President and Vice President are elected by Congress from among the four senators who serve in 4-year seats. Once elected, the President and Vice President serve for four years. Their congressional seats are then filled by special elections. An appointed cabinet supports the president and vice president. There are no formal political parties.

The FSM is a confederation with a weak central government. Each of FSM's four states has its own constitution and its own elected legislature and governor. The state governments maintain considerable power, particularly regarding the implementation of budgetary policies.

The FSM's highest court is the Supreme Court, which is divided into trial and appellate divisions. The President appoints judges with the advice and consent of the Congress.

Principal Government Officials Head of State and Government--President Joseph J. Urusemal Secretary of Foreign Affairs--Sebastian L. Anefal Speaker of the Congress--Peter Christian Ambassador to the U.S.--James A. Naich, Charge d' Affaires Permanent Representative to the UN--Masao Nakayama

The FSM maintains an Embassy at 1725 N Street NW, Washington, DC 20036 (tel: 202-223-4383). It also maintains consulates in Honolulu and Guam.

ECONOMY Under the terms of the Compact of Free Association, the U.S. provided the FSM with about \$2 billion in grants and services between 1986 and 2001. The Compact's financial terms were renegotiated for the 20-year period 2004 through 2023. The U.S. will provide almost \$100 million in direct assistance every year until 2023, including contributions to a jointly managed Trust Fund. U.S. grants to the FSM in addition to these funds total approximately \$35 million annually. Assistance under the Amended Compact will be distributed via grants to the following six sectors: education, health, infrastructure, public sector capacity building, private sector development, and the environment.

The FSM public sector plays a central role in the economy as the administrator of Compact funds. The national and state-level governments employ over half of the country's workers, government services accounting for more than 40% of GDP. Real wages nationwide have been flat for the past decade, as has the number of jobs in the economy (about 15,500.) Private sector jobs pay about half as much as public sector jobs.

The fishing industry is highly important. Foreign commercial fishing fleets pay over \$14 million annually for the right to operate in FSM territorial waters. These licensing fees account for 28% of the national government revenues. Exports of marine products, mainly to Japan, account for nearly 85% of export revenues.

Visitor attractions include SCUBA diving , World War II battle sites, and the ancient ruined city of Nan Madol on Pohnpei. Some 18,000 visit the islands each year. However, the tourist industry has been hampered by a lack of infrastructure and limited commercial air connections. The Asian Development Bank has identified tourism as one of FSM's highest potential growth industries.

Agriculture is mainly subsistence farming. The principal crops are breadfruit, coconuts, bananas, betel nuts, cassava, taro, and kava. Less than 10% of the formal labor force and less than 7% of export revenue come from the agricultural sector.

The large inflow of official assistance to FSM allows it to run a substantial trade deficit--imports outstrip exports by a seven-to-one ratio--and to have a much lighter tax burden than other states in the region (11% of GDP in FSM compared to 18%-25% elsewhere). The government borrowed against future Compact disbursements in the early 1990s, yielding a significant external debt, close to \$60 million. In 2005, the FSM Government and Congress took positive steps toward nationwide tax system to improve collections and more fairly distribute the tax burden.

FOREIGN RELATIONS The Government of the Federated States of Micronesia conducts its own foreign relations. Since independence, the FSM has established diplomatic relations with a number of nations, including most of its Pacific neighbors, Japan, Australia, and the People's Republic of China. Regional cooperation through various multilateral organizations is a key element in its foreign policy. The FSM became a member of the United Nations in 1991.

U.S.-MICRONESIAN RELATIONS The Governments of the FSM and the U.S. entered into the first Compact of Free Association on November 3, 1986. An Amended Compact entered into force on June 30, 2004. Under the Compact, the U.S. has full authority and responsibility for the defense of the FSM. This security relationship can be changed or terminated by mutual agreement. The U.S. will provide about \$100 million annually in assistance to the FSM over the next 20 years. A Joint Economic Management Committee (JEMCO) consisting of representatives of both nations will ensure that assistance funds are spent effectively. The basic relationship of free association continues indefinitely.

Principal U.S. Officials Ambassador--[Suzanne K. Hale](#) Deputy Chief of Mission—Richard K. Pruett Management Officer--Michael Pace

The mailing address for the [U.S. Embassy](#) is P.O. Box 1286, Kolonia, Pohnpei, Federated States of Micronesia 96941. Telephone: 691-320-2187. Fax: 691-320-2186. Email: USEmbassy@mail.fm.

TRAVEL AND BUSINESS INFORMATION

Under the Amended Compact of Free Association, Americans can live and work freely in the FSM without the need for a visa.

The United States is the FSM's largest trade partner. See the FSM Country Commercial Guide at http://www.buyusainfo.net/docs/x_4834792.htm for further information on the business climate of the FSM.

The U.S. Department of State's Consular Information Program provides Consular Information Sheets, Travel Warnings, and Public Announcements. **Consular Information Sheets** exist for all countries and include information on entry requirements, currency regulations, health conditions, areas of instability, crime and security, political disturbances, and the addresses of the U.S. posts in the country. **Travel Warnings** are issued when the State Department recommends that Americans avoid travel to a certain country. **Public Announcements** are issued as a means to disseminate information quickly about terrorist threats and other relatively short-term conditions overseas that pose significant risks to the security of American travelers. Free copies of this information are available by calling the Bureau of Consular Affairs at 202-647-5225 or via the fax-on-demand system: 202-647-3000. Consular Information Sheets and Travel Warnings also are available on the Consular Affairs Internet home page: <http://travel.state.gov>. Consular Affairs Tips for Travelers publication series, which contain information on obtaining passports and planning a safe trip abroad, are available on the Internet and hard copies can be purchased from the Superintendent of Documents, U.S. Government Printing Office, telephone: 202-512-1800; fax 202-512-2250.

Emergency information concerning Americans traveling abroad may be obtained from the Office of Overseas Citizens Services at (202) 647-5225. For after-hours emergencies, Sundays and holidays, call 202-647-4000.

The National Passport Information Center (NPIC) is the U.S. Department of State's single, centralized public contact center for U.S. passport information. Telephone: 1-877-4USA-PPT (1-877-487-2778). Customer service representatives and operators for TDD/TTY are available Monday-Friday, 8:00 a.m. to 8:00 p.m., Eastern Time, excluding federal holidays.

Travelers can check the latest health information with the U.S. Centers for Disease Control and Prevention in Atlanta, Georgia. A hotline at 877-FYI-TRIP (877-394-8747) and a web site at <http://www.cdc.gov/travel/index.htm> give the most recent health advisories, immunization recommendations or requirements, and advice on food and drinking water safety for regions and countries. A booklet entitled Health Information for International Travel (HHS publication number CDC-95-8280) is available from the U.S. Government Printing Office, Washington, DC 20402, tel. (202) 512-1800.

Information on travel conditions, visa requirements, currency and customs regulations, legal holidays, and other items of interest to travelers also may be obtained before your departure from the FSM's Embassy and/or Consulates in the U.S. (for this country, see "Principal Government Officials" listing in this publication).

U.S. citizens who are long-term visitors or traveling in dangerous areas are encouraged to [register](https://travelregistration.state.gov) their travel via the State Department's travel registration web site at <https://travelregistration.state.gov> or at the Consular section of the U.S. embassy upon arrival in a country by filling out a short form and sending in a copy of their passports. This may help family members contact you in case of an emergency.

Further Electronic Information Department of State Web Site. Available on the Internet at <http://www.state.gov>, the Department of State web site provides timely, global access to official U.S. foreign policy information, including [Background Notes](#) and [daily press briefings](#) along with the directory of [key officers](#) of Foreign Service posts and more.

[Export.gov](#) provides a portal to all export-related assistance and market information offered by the federal government and provides trade leads, free export counseling, help with the export process, and more.

[STAT-USA/Internet](#), a service of the U.S. Department of Commerce, provides authoritative economic, business, and international trade information from the Federal government. The site includes current and historical trade-related releases, international market research, trade opportunities, and country analysis and provides access to the [National Trade Data Bank](#).

TRAVEL AND BUSINESS INFORMATION The U.S. Department of State's Consular Information Program advises Americans traveling and residing abroad through Consular Information Sheets, Public Announcements, and Travel Warnings. **Consular Information Sheets** exist for all countries and include information on entry and exit requirements, currency regulations, health conditions, safety and security, crime, political disturbances, and the addresses of the U.S. embassies and consulates abroad. **Public Announcements** are issued to disseminate information quickly about terrorist threats and other relatively short-term conditions overseas that pose significant risks to the security of American travelers. **Travel Warnings** are issued when the State Department recommends that Americans avoid travel to a certain country because the situation is dangerous or unstable.

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The Department of State encourages all U.S. citizens who traveling or residing abroad to register via the [State Department's travel registration](#) website or at the nearest U.S. embassy or consulate abroad. Registration will make your presence and whereabouts known in case it is necessary to contact you in an emergency and will enable you to receive up-to-date information on security conditions.

Emergency information concerning Americans traveling abroad may be obtained by calling 1-888-407-4747 toll free in the U.S. and Canada or the regular toll line 1-202-501-4444 for callers outside the U.S. and Canada.

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IV. REFERENCES AND SUGGESTED READINGS

General

Bendure, Glenda, and Ned Friary. *Micronesia - A Lonely Planet Travel Survival Kit*. Lonely Planet Publications. P.O. Box 617, Hawthorn, Vic 3122, Australia

Booth, Tom and Virginia. *The Adventure Guide to Micronesia*. Hunter Publishing, Inc. 300 Raritan Center Parkway, Edison NY 08818. 201.225.1900. Sparse information but has the best maps and pictures of the bunch.

Campbell, I. C. *A History of the Pacific Islands*. University of California Press, Berkeley. 1989.

Kluge, P. F. *The Edge of Paradise, America in Micronesia*. University of Hawaii Press. 1993.

Price, A. Grenfell, ed. *The Explorations of Captain James Cook in the Pacific - As Told by Selections of His Own Journals 1768 - 1779*.

Segal, Harvey Gordon. *Kosrae - The Sleeping Lady Awakes*. Kosrae State Tourist Division, Dept. of Conservation and Development. Kosrae State Government, Federated States of Micronesia, FM 96944. The definitive (and probably only) work on Kosrae in a single volume.

Stanley, David. *Micronesia Handbook - Guide to the Caroline, Gilbert, Mariana, and Marshall Islands*. Moon Publications, Inc. 722 Wall Street, Chico, CA 95928. 916.345.5473 The best single reference.

Reef Biology

Allen, Dr. Gerald R. *Indo-Pacific Coral Reef Field Guide*. Tropical Reef Research. Blk 5055 Ang Mo Kio Industrial Park 2 #01-1155, Singapore 2056. The one to definitely have.

Auerbach, Paul S., M.D. *A Medical Guide to Hazardous Marine Life*. Progressive Printing Co., Inc. 4505 Lexington Avenue, Jacksonville, Florida 32210. 904.388.0746 An excellent take-along reference to prepare for the unexpected (or expected).

Kaplan, Eugene H. *Coral Reefs*. Peterson Field Guides Caribbean and Florida. Houghton Mifflin Company, Boston. 1982. Not oriented to the Indo Pacific but good background on the biology of reef inhabitants.

Reef Survey Protocol Documents Employed

Crosby, Michael P and Ernst S. Reese., A Manual for Monitoring Coral Reefs with Indicator Species: Butterflyfishes as Indications of Change on Indo-Pacific Reefs, Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration, Silver Spring, MD. 1996

Dahl, Arthur Lyon. Coral Reef Monitoring Handbook. South Pacific Commission. Noumea, New Caledonia. 1978.

English, S., Wilkinson, and C., Baker, V., Survey Manual for Tropical Marine Resources, 2nd Edition, Australian Institute of Marine Sciences, 1997

Rogers, Caroline S., Ph.D, et al. Coral Reef Monitoring Manual for the Caribbean and Western Atlantic. National Park Service, Virgin Islands National Parl. June 1994.

Appendix VI

**Reef Check Newsletter – May 2002
(Featuring Kosrae)**

<http://www.reefcheck.org/news/newsletter/newsletter04/newsletter4.htm>

Appendix VII

Liability Releases

(Refer to <http://www.oceanearth.org> for Currently Required Releases)

Acknowledgement

I, _____, hereby declare that I have read, understand, and agree to abide by the contents, guidelines and requirements of this project manual. I am a certified scuba diver possessing a valid certification from _____ and in possession of current dive insurance from _____ which will provide for the expenses of evacuation to and treatment of any and all injuries which I may suffer during my participation in this excursion, including but not limited to those associated with decompression or other hyperbaric injury.

Reef Check Liability Release

Liability

Since Reef Check is a volunteer program, Reef Check has no liability. Participants in Reef Check are considered to be fully independent individuals who have chosen to follow the Reef Check survey methodology of their own free will and are entirely responsible for their own safety.

Reef Check has been designed to minimize risks by limiting dives to 12 m maximum depth, however, accidents can occur anywhere.

Liability Release

I acknowledge that Reef Check is a volunteer program. I recognize that I do not have to participate. I acknowledge that I have chosen to follow the Reef Check survey methodology because it provides one suitable way of collecting scientific information, and not because it minimizes any of the risks of SCUBA diving. I have chosen to do this volunteer work of my own free will for the purpose of contributing to science and coral reef conservation and I agree that I, and only I, shall be responsible for my safety, and any injuries I may sustain. I agree that I will not hold liable or responsible Gregor Hodgson, the Institute of the Environment, University of California or any personnel associated with any of the above, whether employees, agents, independent contractors, team leaders or other volunteers. I absolve all of them from any responsibility for my safety or any injuries which I may suffer in the process of following the Reef Check survey methodology, or any deviation from it.

Signature: _____ Date: _____

Full name (in block letters): _____