

## EXECUTIVE SUMMARY

### Project Background

The island of Kosrae, located in the Caroline Islands group in the mid-Pacific Ocean, is one of the four states of the Federated States of Micronesia. It is a high volcanic island in a location noted for its lush vegetation and beautiful, productive coral reefs. The people of Kosrae have recognized the unique features of their island and sought ways to protect their resources.

In 1991, the Kosraen government contracted consultants from the East-West Center based in Hawaii to locate sites around the island thought essential to preserve and also to utilize for ecotourism projects. The consultants identified the Utwa-Walung mangrove channel as a potential site ideal for practicing conservation measures and encouraging ecotourism (East-West Center, 1992).

Efforts to raise public awareness and develop community support for the Marine Park began in the summer of 1994 when the Division of Tourism was assigned to the project.

A conference was held in Utwa and was open to everyone in the community. Representatives from The Nature Conservancy, Sea Grant and the South Pacific Biodiversity Conservation Programme (SPBCP) of the South Pacific Regional Environment Programme (SPREP) participated as well as representatives from many of the government agencies such as the Department of Fisheries & Marine Resources and the Dept. of Agriculture & Land.

The results of the conference and further consultation with community members were compiled into a report by a University of Oregon student entitled *The Utwa-Walung Marine Park Implementation Management Strategy*. This strategy is a working document which served as a guideline for developing management schemes for all aspects of the park. It was produced as a student exercise and although indicative of thoughts at that time, does not have any formal status.

The original concept, based predominantly on tourism, was submitted to SPBCP for consideration as a Conservation Area (CA). However, the proposal did not meet the criteria for funding support, primarily because not enough consultation with local communities had taken place and the concept was too narrowly focused on tourism. The SPBCP's Technical and Management Advisory Group, which considered the proposal, did recommend that financial support be given to Kosrae to undertake community consultations.

Since the initial conference, a public education program was been implemented to educate Kosraens about the concept of the project. Community members and government representatives specializing in marine resources, conservation, historic preservation and other areas participated in a series of community meetings to educate and facilitate discussion. In addition, a radio program and printed material in Kosraen were produced to further these efforts.

In summary, the development of the Marine Park has progressed rapidly over the past year. Community opposition has turned into support since the implementation of the education program. People in the community are excited about the project. Community members wanting to take an active role in the development of the project have been identified. It is evident from the meetings and workshops that people are concerned about protecting Kosrae's natural resources and preserving traditional ways.

The Park is an excellent opportunity to protect the area while providing a means of economic development. The philosophy being promoted by the Park is that of sustainable development, which is gaining acceptance in the FSM. In this broad sense, the proposal fits well with the ideals being promoted by the SPBCP.

Upon acceptance of the concept proposal into the SPBCP, the lead agency has continued to work with the community to receive input on the project. The lead agency utilized this input to expand upon the submitted proposal to prepare the Project Preparation Document (PPD) to facilitate future technical and financial support from SPREP and to use the document as a plan to guide the progress of the project.

### **Project Features**

Human activities which threaten the condition of coastal and marine ecosystems have been identified by government field representatives and resource users. These include:

- overharvesting of natural resources due to increase in population and economic incentive, resulting in the deterioration in health of ecosystems,
- road construction which increases erosion and runoff and which makes mangrove forests more accessible for harvesting of timber, crabs, and fish,
- pressure from economic development, earth-moving, land-filling, and other activities that inhibit the natural functioning of important ecosystems,
- pollution of surface water by sediment and wastes from agriculture and settlement-related activities as population increases
- a need to raise awareness of the linkages between conservation and development and to empower local communities to plan and manage their own environment and natural resources

Resolution of these issues is complicated by the gradual phase-out of the Compact of Free Association agreement with the U.S. Government, resulting in a smaller operational government budget. In addition, the government is limited in resource management capacity. To deal with these issues, technical assistance is being sought from SPREP and other donors to gather base-line data so management practices can be more effective at a local level.

### **Rationale, strategy, objectives, and target groups**

#### *Rationale and strategy*

The Utwa-Walung CA is of high ecological value and contains significant biodiversity. The local communities are also committed to the project and are already organizing themselves for participatory project planning and management. In addition, the area comprises a natural unit for management, large enough to be self-sustaining in ecological terms while being manageable in respect of community involvement and the range and scale of uses. The local communities have observed the early signs of resource depletion and modification and recognize that without integrated planning and management, current ad hoc resource use will lead to loss of essential natural resources, income, and erosion of their basis for sustainable development.

The project aims to identify community development needs and conflicts in natural resource utilization by gathering and analyzing ecological, physical, and socio-economic data. This information will then be used to develop a management plan to better utilize and monitor natural resources.

### Objectives

The following are considered to be the indicative aims of the Utwa-Walung CA project :

- ***To preserve and maintain the diversity and abundance of living things within the area as a basis for long term sustainable development.***
- ***To enable local communities to manage and develop their own resources.***
- ***To raise community awareness of the need for conservation management of resources as the basis of sustainable development, and to use the experiences and achievements of the project as an educational resource for the people of Kosrae, and as a place for research.***

In addition the project has 5 specific objectives:

1. *To provide an on-going process of community awareness-raising, liaison and participation as a basis for community based resource planning and management and long term conservation management of the resources of the CA.*
2. *To establish an appropriate institutional arrangement for community based resource planning and management decision-making.*
3. *To formulate and implement a resource management plan for the CA which both conserves biodiversity and meets the needs of landowners.*
4. *To provide a framework for the development of income-generating activities.*
5. *To establish an effective, participatory system of monitoring and review.*

### Target groups

The project aims to involve stakeholders who have a specific interest in developing wise natural resource management strategies in the CA. The majority of stakeholders are community members in the villages of Utwa and Walung who are landowners within or near the CA or utilize the CA to provide for their needs. Discussions are

also to be held with the Tafunsak community to assess its interest in also participating in the project. The project also plans to include government agency representatives with technical expertise in natural resource management with a vested interest in maintaining and monitoring these resources as well as those with experience in sustainable development projects. Through a cooperative and comprehensive approach, the project will accomplish its goals of sustainable development with particular attention to the maintenance of a healthy, productive environment.

## **Features of Project Design**

### Methodology

The planning, management and implementation process has been designed with the following approach in mind:

- the active participation of local communities in planing and management of their own environment through community education and participatory planning,
- the establishment of a Conservation Area Coordinating Committee (CACC) and the training of CACC members in resource and project management techniques which appropriately complement local traditional practices,
- the assessment of the overall biophysical condition of the CA and the identification of critical values and opportunities,
- the identification of community values, concerns and objectives and the prioritization of these, by participatory techniques,
- bringing together environmental and community values and priorities in a series of locally-based discussions and workshops,
- the investigation of alternative sustainable development activities by reviewing past and existing development proposals and practices and proposing others based on the socio-economic and biophysical potential of the area,
- the production of a series of community action plans and the development of resource management guidelines based on an appropriate mix of Western and traditional practices,
- the establishment of an appropriate institutional framework to facilitate community decision-making,
- the review of legislative provisions to investigate whether conservation efforts need to be legally safeguarded and to ensure that there are no legal impediments to local decision-making,
- the establishment of participatory project monitoring process and the carrying out of periodic evaluations to determine whether objectives are being achieved.

### Project phases

The Utwa-Walung CAP has been designed in two main stages. The first phase is the work required to establish an appropriate community level decision making structure, and will be completed with the establishment of the CACC.

Phase 1 will focus on the process of awareness raising and participatory project planning, and the design and establishment of an appropriate mechanism for project decision-making and management.

Phase 2 will consist of preparation of the planning for community management and development of resources, and the implementation of those plans via the operating CACC and its associated management and administrative structure.

**Benefits and risks**

Clearly the conservation of the biodiversity of the CA, as well as the long term sustainable development of the local communities will be the major benefits of the successful implementation of the project. It is also hoped that with the progressive reduction in Compact funds to Kosrae, the project will present a cost effective and viable pilot study for wider application in the State.

There are, of course risks facing the project and potentially hindering the successful achievement of project objectives. These are outlined in the following logframe analysis:

<b>Project Aim and Objectives</b>	<b>Indicators of Achievement</b>	<b>How Quantified or Assessed</b>	<b>Risks and possible constraints</b>
<i>To conserve biodiversity while providing for sustainable development</i>	Monitoring shows conservation of indicator species and sustainable development activities implemented	Regular objective ecological and socio-economic monitoring	Assumes commitment by local people, government agencies and others (stakeholders)

<i>Specific Objectives</i>			
<i>To provide an on-going process of community awareness-raising, liaison and participation</i>	Increased awareness of conservation and active participation by the community in decision-making	Surveys and active involvement of local people in undertaking tasks and activities	Land tenure issues, disputes and lack of immediate benefits could diminish interest in the project
<i>To establish effective and appropriate institutional arrangements</i>	CACC in place and functioning regularly	Records of meetings	Disputes could delay cooperative action
<i>To formulate and implement a resource management plan</i>	Plan accepted by stakeholders and objectives and tasks carried out as planned	Plan in place and regularly reviewed. Rules and regulations adhered to. Monitoring indicates improvement in environmental conditions	Difficulty formulating and implementing the plan due to inadequate capacity, capability and commitment of local, State and National decision-makers
<i>To provide a framework for the development of income-generating activities</i>	Sustainable development opportunities researched and identified	Feasibility studies carried out	Lack of assistance and funding for infrastructure improvements could jeopardize economic success
<i>To establish an effective, participatory system of monitoring and review</i>	Community identifies and agrees on elements to be monitored	Periodic surveys and record keeping	Community does not have the capacity to carry out monitoring

## **PART 1: INTRODUCTION**

### **1.1 Background to the Project**

The island of Kosrae, located in the Caroline Islands group in the mid-Pacific Ocean, is one of the four states of the Federated States of Micronesia (see Figure 1). It is a high volcanic island in a location noted for its lush vegetation and beautiful, productive coral reefs.

The people of Kosrae have recognized the unique features of their island and sought ways to protect their resources. In 1991, the Kosrae government contracted consultants from the East-West Center based in Hawaii to locate sites around the island thought essential to preserve and also to utilize for ecotourism projects. The consultants identified the Utwa-Walung mangrove channel as a potential site ideal for practicing conservation measures and encouraging ecotourism (East-West Center, 1992).

Efforts to raise public awareness and develop community support for the Marine Park began in the summer of 1994 when the Division of Tourism was assigned to the project. A conference was held in Utwa and was open to everyone in the community. Representatives from The Nature Conservancy, Sea Grant and the South Pacific Biodiversity Conservation Programme (SPBCP) of the South Pacific Regional Environment Programme (SPREP) participated as well representatives from government agencies such as the Department of Fisheries & Marine Resources and the Dept. of Agriculture & Land.

The results of the conference, as well as further consultation with community members, were compiled into a report entitled: *The Utwa-Walung Marine Park Implementation Management Strategy*. This strategy is a working document which served as a guideline to developing management schemes for the park. It was produced as a student exercise and although indicative of thoughts at that time, does not have any formal status.

The original concept, based predominantly on tourism, was submitted to SPBCP for consideration as a Conservation Area (CA). However, while the proposal did not immediately meet the criteria for funding support, primarily because not enough consultation with local communities had taken place and the concept was too narrowly focused on tourism, the SPBCP's Technical and Management Advisory Group, which considered the proposal, approved the provision of financial support to Kosrae to undertake community consultations.

Following the workshop, Nena S. Nena, an interested community member from Utwa, attended a Conservation Area Support Officer (CASO) workshop sponsored by SPBCP in Fiji in October 1994. He shared his experience with the community in order to generate support for the Marine Park.

**Figure 1: Location Map**



In the spring of 1995, Marla Steinhoff, a Peace Corps Volunteer (PCV) with Kosrae's Department of Fisheries and Marine Resources, was assigned to work part-time with the Kosrae Division of Tourism as an environmental consultant and organizer for the project. In June 1995 a workshop was held in Walung to introduce the idea of the Park to the community. Community members and government representatives specializing in marine resources, conservation, historic preservation and other areas made presentations and generated discussions. A follow-up workshop in Utwa was held as well.

As a result of these workshops, the Utwa Marine Park Board (UMPB) was formed. The committee is a group of concerned citizens who share an interest in making the park a reality. At this time, the Board is keen to take an active role in the development of the park. The members recognize the need for public awareness and plan to continue activities in the communities and schools.

In summary, the development of the Marine Park has progressed rapidly in the past year. People in the community are excited about the project. It is evident from the workshops that people are concerned about protecting Kosrae's natural resources and preserving traditional ways. The Park is an excellent opportunity to protect the area while providing a means of economic development. The philosophy being promoted by the Park is that of sustainable development, which is gaining acceptance in the FSM.

The participatory planning work undertaken with SPBCP assistance has shown the viability of the project in terms of community commitment, and has resulted in the design of a project that well meets both the philosophy and criteria of the SPBCP.

## **1.2 The project preparation document**

The preparation of this Project Preparation Document (PPD) follows the approval of a concept proposal by the South Pacific Biodiversity Conservation Programme in April 1996. The purpose of the PPD is to establish a framework for the development of the project in a detailed and organized fashion.

The PPD has been prepared at the outset of community consultation and liaison, and as such it must be considered largely indicative in terms of detail, although this is to be expected in a process-oriented project such as this. The community work undertaken with SPBCP assistance has, however, demonstrated the significant level of interest and commitment to the project on the part of the community as well as the state.

The PPD identifies the project's aims, objectives, and key activities, sets the directions for the activities, and provides guidance for carrying them out. Particular emphasis is given in the PPD to the first phase of the project. This consists of the immediate priorities necessary to establish key project structures and process for participatory planning and decision-making.

**Figure 2: Map of Utwa-Walung Conservation Area**

## **PART 2: THE EXISTING SITUATION**

### **2.1 Introduction**

The proposed Conservation Area (CA) is located on the south-western coastline of the island of Kosrae (see Figure 2). While the total area has yet to be decided on by landowners and the local communities, it generally comprises reef, lagoon, estuary, associated wetlands, and surrounding terrestrial environment. It is centered on the most extensive area of mangrove and seagrass habitat in Kosrae, which extends some 5 miles from Utwa Harbor to the village of Walung behind the protection of low, barrier reef islands and includes significant areas of interlinked terrestrial, freshwater and marine ecosystems.

The area is considered to contain the largest and most pristine examples of mangrove, marine, and wetland ecosystems in Kosrae. A unique feature of the area are the marine lakes with depths of up to 60 ft which form part of the enclosed waterway linking Utwa and Walung Harbors. Generally these enclosed waters are much shallower.

Another prominent feature of the proposed area is human use of the lowland areas surrounding the wetlands, including an existing unsealed road largely built immediately beside and above the wetland fringe. A tentative date to seal the road has not been set.

Human use of the marine resources is also marked, from fishing to nature tourism, but there are signs that resources are being overexploited, evident in a decline in the numbers and size of fished species.

Actual boundaries to the marine park have not yet been established - consultation and dialogue with the two village communities with authority over the area have been conducted on the understanding that precise boundaries can be established later in the process. While agreement has readily been reached on a central area of lagoon, reef and mangrove to be included, further discussion and consultation will be required to determine the terrestrial boundary, as well as the extent to which the CA will extend up the west coast from Walung towards Okat.

### **2.2 Physical features**

#### **2.2.1 Geology**

Little has been done in the way of a comprehensive geological survey of Kosrae. The most detailed information can be found in archaeological studies of particular sites. Fortunately, studies have been conducted within the CA, evidenced by the detailed archaeological study *Landscape Archaeology: Prehistoric Settlement, Subsistence, and Environment of Kosrae* conducted by J.S. Athens in 1995.

Kosrae consists of a main volcanic island and also the much smaller volcanic island of Lelu. Kosrae is quite a young island, having formed some 1-2 million years ago over a hot spot trace in the earth's crust. The main island is made up of two rugged basaltic

mountain ranges rising to over 2,000 ft, whose slopes are scoured by deeply eroded valleys.

Coring information from an archaeological study provides information on the surface geology of areas within the CA. The base of the mangrove and freshwater swamps are composed of coralline sand deposits at their bases. At approximately 6m the sediment is of mostly silty peat deposits which is consistent with samples in several areas within the CA.

Few mineral resources besides sand and crushed rock have been exploited on Kosrae. There is no clear evidence of any precious metals.

### 2.2.2 Soils

A detailed survey of the soils of Kosrae was conducted by the U.S. Department of Agriculture: *Soil Survey of the Island of Kosrae* (Laird, 1983).

Kosrae soils can generally be classified as highly leached, acidic, and with a highly transitional humus layer. The CA includes four principal soil types:

- Soils in coastal tidal marshes (Naniak-Insak) are very deep and very poorly drained. They are described as loamy and mucky in the mangrove forest areas, and sandy and peaty in the tidal marsh areas. These soils are subject to frequent flooding and are generally waterlogged.
- The coastal strand soils are comprised of sandy, cobbly soil, suitable for coconut tree production.
- The bottom lands between the steep mountain regions and tidal areas are basically swamp forest and mixed forest. The soils in this group are very deep and somewhat poorly drained to very poorly drained. They formed in alluvium derived dominantly from basic igneous rock and in organic deposits and are described as loamy. This area is used for agroforestry, woodland, wetland taro and bananas, and is important wildlife habitat.
- The soils on the uplands are moderately steep to extremely steep. The soils in this group are very shallow to very deep and are well drained. They formed in residuum and colluvium derived dominantly from basic igneous rock. The soils are shallow and well drained and described as loamy and cobbly in some areas.

Along the coastal area of the CA, land can be used for coconut production. The main form of land use in the CA is agroforestry in the bottom land region.

### 2.2.3 Climate

The climate in Kosrae is characterized by high humidity, heavy rainfall, and high temperatures. The average temperature is 27 degrees C (81 degrees F), which remains consistent throughout the year. Average monthly temperatures vary from the annual average by not more than 1 C, and the difference between the average minimum and the average maximum temperature is less than 8 C ( 14 F) throughout the year.

Humidity levels are generally very high, ranging between 78% and 95%. The steep mountain slopes, which rise to peaks as high as 629m within a few km of the shoreline, cause rapid cooling, resulting in the high rainfall. Rainfall which averages 470cm-630cm/ year is high year round without distinct wet and dry seasons.

Kosrae is situated at the edge of the tradewind belt to its east, which has only a slight effect on the island's climate between about February through April. During this time rainfall decreases slightly and offshore winds become more noticeable. Kosrae rarely experiences typhoons, which tend to have their origins to the west off the coasts of Pohnpei and Chuuk then move westward.

#### 2.2.4 Water resources

All communities on Kosrae currently receive untreated water for potable consumption. Existing water supplies include local gravity flow pipe systems from dams located on continuous flowing streams and individual household rainfall catchment basins. Little data has been collected as to the watershed areas within the proposed CA. At least four watershed areas have been identified. All of these watersheds flow into the Utwa-Walung channel, meriting the need for protection of these areas.

### **2.3 Biological Features of the CA**

The Utwa-Walung mangrove wetland complex has been recognized as a priority for conservation for some time by the government of Kosrae and the Non-Government Organizations (NGOs) and research agencies that have assisted it in its efforts to identify and conserve the environment. This particular area of mangroves, while being the largest on the island, also has some unique characteristics, one often quoted being that it exists behind sand and coral rubble barrier islands - a geomorphic feature considered to be different from most other mangrove forests of the Pacific region (Merlin et al 1993).

Of perhaps more significance, is the fact that these mangroves are considered to be particularly well developed, due largely to the fact that other Micronesian mangrove forests were decimated by a particularly large cyclone 90 years ago, which these forests escaped. Some trees are over 200 years old, approximately 60% of the mangrove forest area has average trunk diameters at breast height in excess of 30cm and individual fuliohfohl (*Sonneratia alba*) trees exceed 40m in height with trunk diameters at breast height of as much as 1.5m.

Ecosystems adjoining the mangroves and ecologically much interlinked, also exhibit particular significance. Kosrae's most outstanding examples of freshwater swamp forest are found in the proposed CA. The ka tree (*Terminalia carolinensis*) dominates the freshwater swamp forests immediately inland from the CA's mangrove habitat. It is endemic to Kosrae and Pohnpei and in other areas was extensively logged by the Japanese. Such logging often severely damaged the freshwater wetland habitat. Ka occurs in association with nunu (*Horsefieldia nunu*) in the proposed area. Nunu is endemic to Kosrae and traditionally its most important timber tree. It is still widely used today.

The swamp forests occurring within the proposed CA are considered to be “the most scientifically acclaimed in all Micronesia” (Merlin et al 1993). Nearby, but further north on the east coast are the only other two major occurrences of this habitat, one of which has in particular been identified as being regionally significant and warranting urgent protection (Director of Agriculture and Land, pers. com.). The extension of the

circumferential road, now underway, is likely to cross these areas, and it is highly likely that they will be logged as a consequence, as they are on private land. This places an even higher conservation status on the areas of this forest type within the proposed CA.

The terrestrial ecosystems adjoining the proposed CA have been less well surveyed, but are likely to include a number of endemic species, as well as being important reservoirs of species traditionally used as medicines and for other uses. In general it can be said that the lowland forests immediately adjoining the proposed CA demonstrate an historical and recently increasing pattern of human use and modification, although locally some ridges and slopes are relatively undisturbed and are known to provide habitat for wildlife. They also are likely to act as access corridors for wildlife between the mangroves and wetlands, and the upland forests, as well as playing an important role in catchment protection - a matter of considerable significance for the health and biodiversity of the wetlands, lagoon and reef resources of the CA.

The lower slopes contain agroforest gardens, a traditional form of land use still used today. These gardens are not considered to detract from catchment protection values, and of importance to the proposed CA project, represent a successful traditional approach to sustainable agricultural practice in their current form. Typically, crops such as taro, yams, and tapioca are grown amongst tree species including breadfruit, coconut, banana, mango, guava, perfume tree and various citrus species as well as timber trees such as ka and nunu. Pesticides and fertilizers are generally not used.

The marine environment has been subject to some scientific assessment during the late 1980s and early 1990s. While it is considered to be relatively unmodified and of high diversity relative to Kosrae’s lagoons and reefs generally, the local people in particular note the decline in abundance of the species which they utilize, and the beginnings of the effects of siltation from the existing road in certain places. Despite this, however, the CA provides a large volume of marine resources for the local communities, especially mangrove crabs (*Scylla serrata*), finfish, and forest products such as Nypa Palm fronds (*Nypa fruticans*) for roof thatching, and mangrove timber. Cutting of mangroves for timber, particularly the practice of clearcutting, is an increasingly severe threat to the proposed CA.

Marine surveys (Wilson and Hamilton (eds), 1992), report that the coral reefs of the proposed CA are “healthy and flourishing” and representative of the diversity of corals found in Kosrae, with 145 of 180 species being present. The good representation of coral colonies of a full range of ages, and in particular the large size of many old colonies (some table-top corals being nearly 4m in diameter) is considered to be quite unique and indicative of a long period without severe storm

wave action. This is not common in Micronesian reefs and lagoons, and is relatively rare throughout the Pacific. In addition a number of species of corals, invertebrates and fish uncommon to rare elsewhere can be found in relative abundance. The survey report concludes that the proposed CA *“is a special part of Kosrae which contains resources that are among the most remote and pristine on the whole island... Some sites at Foko Bac, Foko in Wiyu, Foko Saoksa, and the Yela-Mwot reef area are considered to be exceptional”* (Wilson and Hamilton (eds), 1992).

In addition Wilson and Hamilton, (1992) note that *“the combination of rich and healthy coral reef, seagrass, mangrove and swamp forests (in the area)...is relatively undisturbed and may be among the best in Micronesia... The reef slope and flats between Molsron Yela and Molsron Mwot also warrant consideration of protection due to their high productivity and diversity of marine life.”*

These last observations, by including the coastline north of Walung, are indicative of the findings of the marine survey team that while the highest biodiversity in the area was found at Foko Saoksa, within the proposed CA, the coastline immediately north of this contains consistently high values of biodiversity and abundance, in large part, higher than much of the rest of the reefs within the proposed CA. In addition, this area of reef also includes the existing Trochus reserve, which the survey team recommends for some form of complete protection, rather than just for the protection of Trochus.

Together, the biodiversity values of these reefs and those of the adjacent freshwater *Terminalia* wetland forests, are a particular focus for the communities as they consider the definition of CA boundaries generally, and in particular the northern boundary.

Of particular relevance to the eco-tourism currently operating, and its potential for the future, the area also contains significant historical resources. In particular the wreck of the Leonora can be easily dived to. This is the ship of the notorious “pirate” Bully Hayes and is rated as the third most famous ship to sail the Pacific after the Bounty and the Endeavour (Mitchener and Day, 1957).

In general, the proposed CA comprises a core area of highly significant mangrove, seagrass, and freshwater wetlands which support healthy and flourishing marine resources. It is an environment utilized by local communities both for subsistence purposes and to derive cash income by the sale of resources (such as mangrove crabs and timber) and the promotion of nature tourism. In addition, the immediately surrounding terrestrial environment is used for agricultural purposes. This area is ecologically very important to the long term health of the wetlands and the sustainability of marine resource uses. At present the interlinked environments and activities within the proposed CA are generally in a state of harmony, although there are signs of environmental stress as evident alongside the circumferential road which is unsealed. However, there is a growing interest in eco-tourism on the part of the communities and eco-tourists, fostering an interest in better resource management.

## **2.4 Population Dynamics**

There are two main population centers in the proposed Utwa-Walung Marine Park area: Utwa with a population of approximately 1,300 people in the municipality and Walung, considered a part of the Tafunsak municipality, with approximately 230 people. Settlement is concentrated in the two villages, with individual homesteads along the main road. Should discussions result in the inclusion of Tafunsak in the project, this village is the second largest in Kosrae, with a 1993 population of 1824.

The populations of Utwa and Walung has shown steady growth over the last few years, with that of Tafunsak increasing noticeably. as shown in Figure 3 below:

**Figure 3: Population**

<b>Municipality</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>
Utwa	1149	1172	1195	1218	1242
Walung	210	214	218	222	227
Tafunsak	1685	1719	1754	1790	1824

Source: Bureau of Planning Statistics (1994).

Kosrae as a whole is experiencing rapid population growth. The annual growth rate is estimated to range between 3.0%-3.2% per year, which translates to a doubling in the population every 23.5 years (FSM 1989; Kosrae State 1992). Evidence for rapid growth can also be found in the age distribution of the population. In 1991, fifty percent of the population was under the age of 16.7 years (Kosrae State 1992). Even if birth rates are reduced in the future, the population will continue to grow as the younger generation reaches childbearing years.

## **2.5 Socio-economic situation**

There are no extremes of poverty in the proposed CA but most families live at subsistence level, with few material possessions. Kosrae's economy is roughly two-thirds currency based, and one-third subsistence. The present monetary economy is at least 90% dependent, directly or indirectly, on government expenditures and not on the production of marketed goods or services (Auyong et al). Most of the government revenue comes from U.S. Compact Funds. Because of the distance from Tofol few individuals from the CA are likely to have formal employment, hence in relative material terms, villagers in Utwa-Walung can be considered to be less well off than those living in close proximity to the capital, Tofol. Locally based and controlled eco-tourism could thus offer a way of deriving income for the communities.

The traditional leadership system of chiefs no longer exists. Instead, civic decisions are made by municipal leaders. Utwa has a mayor and its own elected council and Walung is represented in Tafunsak by two councilmen. The church has a very strong influence in the community. The Protestant church became a forceful presence in the mid-1800s. Despite many changes in the last 100 years under Spanish, German, Japanese and American rule, respect for the church has remained strong and has become a major force in holding communities together through times of political change and a breakdown of traditional culture (Wilson & Hamilton (eds), 1992). It is the foundation for almost all social activities and interpersonal relationships and takes



a strong moral position on the consumption of alcohol and smoking. The direct influence of the church has also resulted in no betel nut chewing in Kosrae or the use of sakau (*Piper methysticum*).

Women are seldom found in leadership positions, but women do have some influence through institutions such as the church (Women's Christian Association). Although the traditional system has disappeared, the influence of decision-makers is strong and augurs well for the enforcement of community derived environmental rules, regulations and civic obligations.

The land tenure system in Kosrae is based upon individual property rights (Wilson & Hamilton (eds.), 1992). Only residents of Kosrae can own property on the island, though foreign investors can lease lands from Kosraen citizens. Nearly all families own land in Kosrae, but this is beginning to change (Likiak Wesley, pers. comm.). A few individual land owners have already sold their land in order to purchase automobiles and other material goods.

Land owners have the right to use the resources therein without restriction, except where discrete development activities are planned. The communities also utilize the lagoon and associated mangroves and sea for their livelihood. The State has legal jurisdiction over resources below high water mark but there is widespread belief by local people that they own the mangrove areas adjacent to their land properties seaward to the Lelu-Utwa and Lelu-Nefalil channels (Wilson and Hamilton, 1992).

Both terrestrial and marine resource usage is governed by the Kosrae State Land Use Plan. This plan came into effect in June 1994 to prevent negative impacts from development that affects commonly used resources, such as mangroves, reef areas and rivers. It sets out rules and regulations pertaining for instance to the harvesting of crabs, turtles, fishing, earthmoving, dredging, sand mining and built form. It does not cover incremental resource activities such as subsistence farming or the use of the mangroves.

There is very little cash cropping within the whole of Kosrae. Two farmers' markets export to neighboring islands, the principal crop being citrus fruit. Utwa supplies these markets but not Walung. There is a marina in Utwa and at Okat harbor (on the extreme western end of the proposed CA near the airport). There is a freezer and fish market at both locations. Local people supply these markets with fish. The mangroves are used as a source of firewood, some of which is sold on the open market. The craft industry also uses wood from the mangroves. Some building timbers also come from this source.

Although activities in the area are mainly directed to meeting subsistence needs, there has been a noticed deterioration in the state of the lagoon, associated fisheries and the mangroves. Community leaders report that there is a decline in fish and crab populations. The mangroves are beginning to be adversely affected by overharvesting. Sedimentation has increased in recent years. Though there are no quantitative data, evidence can easily be seen in the lagoon. Dredging and road building are major activities of concern.

## **2.6 Infrastructure**

Utwa is linked to Tofol by boat and by road, part of which is being sealed at present, to include Malem village, whereas Walung is only accessible by boat at high tide. As a result of the existing and planned upgrading of the road, access to the mangroves and the lagoon is going to improve. With increased access it can be expected that resource harvesting will increase: clearfelling of mangroves is already evident and the watershed which forms the backdrop to the mangrove ecosystem shows signs that clearing for new gardens is starting to have negative environmental effects.

Reticulated electricity is available in Utwa. This is a positive development as it potentially reduces the pressure on firewood resources. Electricity is not yet available in Walung. Potable water is collected from roofs and there are some wells. Piped water is also available but is untreated.

There is an elementary school in each village, providing an opportunity to educate students in the environmental benefits of conserving the Utwa-Walung area. High school is only available in Tofol.

## **2.7 Relevant Institutions**

Kosrae is one of four states united as the Federated States of Micronesia. Essentially the federal and state governments are organized in a similar way to the U.S. system with executive, administrative, and legislative branches. Kosrae has a governor and its own administration. There is a unicameral legislature comprising of a Senate with 14 senators elected from the municipalities based on population (Kosrae Code). Senators are then elected to the FSM national Congress.

The state is divided into 4 municipalities -Utwa, Lelu, Malem, and Tafunsak, (the latter including Walung). Hence 2 municipalities, Utwa and Tafunsak, are involved in the Marine Park. Each municipality elects a mayor along with a municipal council.

Since the arrival of the New England Congregationalist missionaries in the mid-1800s, the traditional leadership system has dissolved, eventually being replaced by the current democratic system. Although the Protestant church, the official church of Kosrae, does not have an official status in the government, it is very influential in Kosraen society.

The Development Review Commission (DRC) oversees all land use issues in accordance with the Kosrae Island Resource Management Plan (KIRMP), which was approved by the legislature in 1994. The DRC is responsible for conducting environmental impact statements of all development projects and has the authority to grant/deny permits.

Other government agencies have responsibility to monitor the condition of the environment. Most agencies have an increased awareness due to the Technical Advisory Committee, a semi-autonomous body serviced by the DRC. The TAC is comprised of technical experts from various government agencies enlisted to conduct environmental impact assessments of potential development projects and currently

has the following representation: Office of Budget and Planning, Department of Public Works, Division of History and Culture, Dept. of Marine Resources, Dept. of Land & Agriculture, Division of Tourism, Division of Land Management, and Division of Environmental Health and Sanitation.

Land-use jurisdiction constitutionally remains a state responsibility in the FSM. The land management organizations of Kosrae are vested in two government agencies, The Division of Land Management and The Land Commission. The Land Commission operates as an independent body which has the authority to determine and register interests in land and to refer to the Court difficult issues of law arising from contested parcels of land. Land Management provides survey and mapping services to the government and to the public. Boundary identification, adjudication, and deeding of public and private lands are only slowly being completed on Kosrae. About 68% of the private lands still need to be surveyed. Another complication is that the interior lands are government owned, but most of the boundaries are poorly delineated, and some land owners in the littoral zone have pushed private property lines up-slope into areas too steep even for forest cultivation (Kosrae State OB& P, 1992). The land deemed to be government owned was originally declared as such by the Japanese administration shortly before WWII. In 1932 the Japanese seized all uncultivated land. Additional lands were taken in 1935 through purchase by a Japanese agricultural company. All rights to lands acquired by the Japanese administration now belong to the government in trust for the people. Because these lands were originally taken from Kosraean landowners, the dispute over ownership still continues.

## **2.8 Environment and development policy context**

At independence many of the former Trust Territory laws and regulations were incorporated, almost verbatim, into the F.S.M. government (McCarthy 1978). Kosrae also adopted many of these Trust Territory laws into its own state laws. In some cases the laws and regulations have not been updated to reflect the new government or changes in attitudes that have developed since the Trust Territory era. This is especially true for environmental protection and conservation laws and regulations. Most of the environmental laws and regulations were drafted by the Trust Territory Environmental Protection Board in the 1970s and early 1980s, and are still used today.

The Kosrae Island Resource Management Program represents an effort by Kosraean government officials to break away from these outdated laws and forge a new comprehensive coastal management scheme. In addition, Kosrae's Land Use Plan, the cornerstone of the KIRMP, designates 5 special conservation districts. The Plan directs the Department of Conservation and Development in cooperation with the Office of Budget and Planning to develop the following resource management strategies for the Special Conservation Districts:

- Shoreline and Reef Management Strategy
- Forestry Management Strategy
- Marine Park Management Strategy
- Cultural and Historic Site Preservation Strategy

- Comprehensive Waste Management Strategy

Although these exercises in policy have no formal status, these documents can be used as guides to making more sound management decisions.

Kosrae also participated in the development of the FSM's National Environmental Management Strategy (NEMS) in 1994 and which is now being implemented. The main strategies of the NEMS include integrating environmental considerations in economic development; improving environmental awareness and education; managing and protecting natural resources; and improving waste management and pollution control.

The NEMS also recognizes that the states are ultimately responsible for protection and preservation of their resources. Historically, there has been a strong division between federal and state government. A review of the environmental laws and regulations would suggest that the FSM government plays an important role in environmental management, however, in practice the role of the FSM is significantly less. This problem is due partly to the fact that there are no federal offices or resource managers stationed in Kosrae to enforce or administer the regulations, or to coordinate with state officials (Phillips, 1993). It is, therefore, important to recognize Kosrae's efforts to develop a comprehensive island management program and its commitment to environmental protection.

### **3.1 Rationale**

As described above, the proposed CA is of high ecological value and contains significant biodiversity. The local communities are also committed to the project and are already organizing themselves for participatory project planning and management. In addition, the area comprises a natural unit for management, large enough to be self sustaining in ecological terms, while being manageable in respect of community involvement and the range and scale of uses. The local communities have observed the early signs of resource depletion and modification and recognize that without integrated planning and management, current ad hoc resource use will lead to loss of essential natural resources, income, and erosion of their basis for sustainable development.

It is recognized that the earlier application to SPBCP was formatted incorrectly, with an overly strong focus on eco-tourism. In fact the project, as envisaged by the communities, is much wider than this and their consideration of the eco-tourism proposal has already acknowledged the inadvisability of such a narrow focus. The broad SPBCP aims of biodiversity protection and sustainable development much better fit their purpose in this project.

### **3.2 Selection of area**

Since the writing of the Utwa-Walung Marine Park Strategy, community consultation has taken place. The project, based on the community input, has expanded beyond the scope of the strategy into a community managed conservation project. It was

recognized by the lead agency that the SPBCP offers a very appropriate form of support for the characteristics of the CA.

Figure 4 assesses the Utwa-Walung CA proposal against SPBCP site selection criteria. It is considered that the project proposal meets all essential criteria in Category 1, as well as all those listed under Category 2.

**Figure 4: SPBCP site selection criteria**

Criteria	U-WMP features
<i>Category 1: Essential</i>	
<p>1. The area must contain regionally or nationally significant ecosystems of global conservation concern and be large enough to maintain ecological viability.</p>	<p>Existing information indicates that the area is both nationally and regionally significant particularly in terms of the central area of mangroves and freshwater wetlands. These areas contain important endemic species and, unlike all other similar areas in Micronesia, have escaped significant typhoon devastation, resulting in a very mature and well developed ecological structure. In addition the coral reefs are considered to be among the most significant in eastern Micronesia and, like the mangroves and freshwater wetlands, in unusually mature and healthy condition. The combination of environments is considered to be among the best in Micronesia. The CA is considered more than large enough to maintain ecological viability</p>
<p>2. The project must be achievable and exhibit a high degree of commitment by land owners and other parties.</p>	<p>State agencies have already made efforts to conserve the area. The Governor and particularly the Lt. Governor are very supportive of the proposal. Consultations with the communities at Utwa and Walung have steadily progressed and the communities are already organizing themselves to manage a process of participatory planning and management for the area. The communities are aware of the early signs of resource depletion and degradation and are keen to plan for a more sustainable future.</p>
<p>3. The area must be large and complex enough to include a wide range of interactions between people and natural resources.</p>	<p>The central area comprises a 5 mile length of coral reef, lagoon and associated mangroves and freshwater wetlands. An as yet undefined area of forest and watershed behind the mangroves will be included in the CA, but at this stage the discussions are not yet complete on this issue. The possible inclusion of further reef and <u>Terminalia</u> forest remnants to the north is also currently under discussion. The two communities of Utwa-Walung depend on this area for their subsistence and to meet their needs for cash income. Resource use is widespread and increasing in intensity, and in addition the communities are interested in developing the eco-tourism potential of the area. A national roading project is already bringing more pressure on the area, and the communities are anxious to ensure that this project is managed in the best way for them.</p>

Category 2 Criteria (at least one should be met)	
4. The area should contain high biodiversity and ecological complexity.	The biological surveys already carried out in the area clearly identify its high biodiversity and ecological complexity. These characteristics are considered to rate this area as being significant in Micronesia, and indeed the whole Pacific.
5. The proposed area may be important for the survival of endemic species, or those that are rare or threatened, nationally, regionally or globally.	The proposed area contains some important sites of endemism, particularly in the freshwater wetlands, and is judged to be the best, if not only, prospect in Kosrae for the protection of these endemic species. In addition to specific instances of endemism, the area offers a unique combination of environments and species, which is considered to be particularly valuable for the protection of biodiversity.
6. The proposed area may be threatened by destruction, degradation or conversion.	The natural resources of the proposed CA are already exhibiting signs of depletion and degradation. These appear to be arising mainly from unplanned activities and some overharvesting of certain species. Recent government and community interest in developing eco-tourism in the area has brought the issues of sustainability and community planning and management into prominence. The development of a through road and upgrading/sealing of the existing road already underway presents perhaps the biggest immediate threat to the area however, both by construction impacts and resulting ease of access.

### 3.3 Potentials and constraints

#### 3.3.1 Overview

The Utwa-Walung Marine Park has evolved into a project which embodies the guiding philosophy of the SPBCP. The project originally emphasized ecotourism as envisioned by consultants. However, through the initial community consultations, the project has expanded into a broader concept, one of long term conservation which incorporates sustainable development initiatives such as ecotourism.

The project is a process oriented endeavor which seeks to involve landowners and other stakeholders in order to ensure their ownership of and participation in the project. Particular emphasis has been given to the actual process of the project from community consultation and public education to project management and implementation. A well developed plan of action is crucial to the successful implementation of this project. Without the community's support and enthusiasm it cannot succeed. Too often projects are initiated through a top down approach in which the community is informed of projects after the fact instead of consulted throughout the development of projects. It is hoped that this project will be an exception to this standard. The long term vision is for project management to progressively shift from the lead agency to the local community and stakeholders.

Priority project activities include an expansion of the current community consultation. It is anticipated that as the project progresses, the community's involvement and input will increase, therefore, many of the project details as outlined in the PPD should be considered tentative. As the community takes ownership of the project, their desires will be incorporated and reflected in the long term plan of action.

### 3.3.2 Opportunities and constrains

It is important to recognize the opportunities as well as constraints of the project. These are outlined below. The project design has taken these considerations into account.

#### 3.3.2.1 Opportunities

The project offers a number of significant opportunities. Principal among these is the opportunity for establishing effective long term conservation of biodiversity in partnership with the sustainable development of the land owning communities. The interest of the landowners in the approach proposed in this PPD, and their commitment to this approach at the outset, is most encouraging. Other more specific opportunities include:

- The project has strong potential to raise awareness of issues relevant to the conservation of natural resources on Kosrae. Kosrae is currently faced with many new stresses on the environment which were not of concern in the past such as the highest population in the history of Kosrae, solid waste disposal due to an increase in imported goods, and an increasing need of income generating projects which may compromise Kosrae's resources. While damage has occurred, Kosrae is still considered one of the most pristine islands in the Pacific. It is not too late to take a proactive approach through projects such as the CA. This project can be used as a tool to educate Kosraens as well as encourage other communities to initiate conservation projects. The project may also serve as a model for other FSM states and other Pacific islands to increase their conservation efforts.
- The project has a high potential for developing sustainable income generating activities based on its natural resources. The development of these opportunities will be critical to the overall success of the project.
- The Utwa-Walung CA is rich in biodiversity. Kosrae has been recognized for its diversity and its endemic species of plants and birds. This project offers an opportunity for the protection of the area's flora and fauna as well as long term conservation.
- As mentioned previously, much of Kosrae's traditions have been replaced due to the strong influence of early missionaries. The CA is an opportunity not only for conservation but for the people to reacquaint themselves with traditional practices regarding resource management, history, and culture.
- The flora of Kosrae has not been adequately studied. Although some endemic species have already been identified, there are a number of endemic species which have yet to be recorded. The CA is an opportunity to raise awareness of these unidentified species and to generate interest in conducting more comprehensive scientific studies of this area.



### 3.3.2.2 Constraints

As with many new projects, constraints are evident at the outset and it is important to recognize so as to address them in project planning. The SPBCP necessitates the incorporation of traditional leadership values of conservation management and Western management skills and planning. As such, the program is perceived as a new approach to natural resource management. Few Kosraens have had exposure to the SPBCP concept including lead agency staff members and project staff. The most critical challenge faced is the ability of the organizers to set up a participatory process, to manage it successfully, and to be able to provide the skills and resources necessary to achieve the project objectives. Other project constraints are:

- The utilization of U.S. Compact Funds and other forms of aid has created a society which has become dependent on an aid-based cash economy. With the decline of Compact Funds, Kosraens are facing an increasing pressure to earn more income. Although wise management of natural resources is in the best interests of Kosraens in terms of conservation and development, this emphasis on money causes people to sacrifice natural resources in exchange for activities which promise immediate financial gains.
- Land is a sensitive issue in Kosrae. The development of privately owned land has always been up to the discretion of landowners. With the increasing stress on natural resources, more environmental protection laws have been developed and not always well received by the public. Therefore, it is critical that the project design is carefully planned and implemented.
- A project of this scope requires full-time attention. Planning, meetings, public awareness, and requirements set by donor organizations such as the SPBCP are all demanding elements essential to the success of the project. The lead agency is limited by the staff size and funding.

## 3.4 Project design

### 3.4.1 Tenets

The community and government representatives considering this project believe that the project needs to be based on a number of key features, including:

- the local landowning communities should ultimately be the prime managers of the conservation area and its resources,
- these communities should be the principal beneficiaries of conservation and sustainable development activities,
- the management and implementation of the project will be an interactive process which will evolve with time and the gaining of local experience,
- as a result of the fact that it will be a participatory process, it is expected that the management of the environment and the development of sustainable activities will take time. However, it is recognized that tangible benefits must be quickly developed in order to maintain community interest in environmental conservation,

- the lead agency will provide advice and assistance to enable the local community to achieve its environmental management and sustainable development objectives.

#### 3.4.2 Methodology

The planning, management and implementation process has been designed with the following approach in mind:

- the active participation of local communities in planning and management of their own environment through community education and participatory planning, the establishment of a Conservation Area Coordinating Committee (CACC) and the training of CACC members in resource and project management techniques which appropriately complement local traditional practices,
- the assessment of the overall biophysical condition of the CA and the identification of critical values and opportunities,
- the identification of community values, concerns and objectives and the prioritization of these, by participatory techniques,
- bringing together environmental and community values and priorities in a series of locally-based discussions and workshops,
- the investigation of alternative sustainable development activities by reviewing past and existing development proposals and practices and proposing others based on the socio-economic and biophysical potential of the area,
- the production of a series of community action plans and the development of resource management guidelines based on an appropriate mix of Western and traditional practices,
- the establishment of an appropriate institutional framework to facilitate community decision-making,
- the review of legislative provisions to investigate whether conservation efforts need to be legally safeguarded and to ensure that there are no legal impediments to local decision-making,
- the establishment of participatory project monitoring process and the carrying out of periodic evaluations to determine whether objectives are being achieved.

## **PART 4: THE PROJECT**

### **4.1 Project objectives**

#### **4.1.1 SPBCP aim and objectives**

Community and key government agency representatives have met to discuss the broad aims and objectives of the project. It is understood that the Utwa-Walung project falls within the overall SPBCP aim and objectives. The guiding objective of the SPBCP is:

- *to develop strategies for the conservation of biodiversity by means of the sustainable use of biological resources by the people of the South Pacific.*

Its more specific objectives are to:

- *Facilitate establishment of conservation areas that protect biodiversity, demonstrate ecologically sustainable development through management by local communities, NGOs and government agencies.*
- *Protect threatened and/or endangered terrestrial and marine species in the Pacific region.*
- *Identify new areas important for conservation of biodiversity.*
- *Improve regional awareness of the importance and means of conserving biological diversity.*
- *Improve capacities in, and working relationships between, different sectors and agencies contributing to the conservation of biodiversity.*

#### **4.1.2 Utwa-Walung CA project aim and objectives**

The following are considered to be the indicative aims of the proposed Utwa-Walung CA:

- *To preserve and maintain the diversity and abundance of living things within the area as a basis for long term sustainable development.*
- *To enable local communities to manage and develop their own resources.*
- *To raise community awareness of the need for conservation management of resources as the basis of sustainable development, and to use the experiences and achievements of the project as an educational resource for the people of Kosrae, and as a place for research.*

In addition, the project has 5 more detailed objectives:

1. *To provide an on-going process of community awareness-raising, liaison and participation as a basis for community based resource planning and management and long term conservation management of the resources of the CA.*

2. *To establish an appropriate institutional arrangement for community based resource planning and management decision-making.*
3. *To formulate and implement a resource management plan for the CA which both conserves biodiversity and meets the needs of landowners.*
4. *To provide a framework for the development of income-generating activities.*
5. *To establish an effective, participatory system of monitoring and review.*

## **4.2 Key participants**

Identification of all the key participants is one of the main tasks in the participatory work now underway as part of the establishment phase of the project. The governor and municipal leaders are supportive of the project. As community consultation continues, villager support increases as well as the desire to participate in the project. Once all key participants have been identified and consulted, the CACC will be officially formed. The CACC will agree on the boundaries of the CA, marking formal identification and involvement of the stakeholders.

The lead agency will identify organizations outside of the CA that will play role in the CAP, including other government agencies. The lead agency will facilitate and co-ordinate the input of these groups into the CAP.

## **4.3 Project components**

The Utwa-Walung CAP has been designed in two main stages. The first phase is the work required to establish an appropriate community level decision making structure, and will be completed with the establishment of the CACC. Phase 1 will focus on the process of awareness raising and participatory project planning, and the design and establishment of an appropriate mechanism for project decision-making and management.

Phase 2 will consist of preparation of the planning for community management and development of resources, and the implementation of those plans via the operating CACC and its associated management and administrative structure.

Project planning for the PPD has been structured around groups of activities proposed to meet each objective. Section 4.4 identifies the activities under each objective along with a brief description of the activity and its component tasks.

## **4.4 Project activities**

### **4.4.1 Objective 1**

*To provide an on-going process of community awareness-raising, liaison and participation as a basis for community based resource planning and management and long term conservation management of the resources of the CA.*

### *Activity 1: Community liaison*

This activity is intended to ensure that for the life of the project there is on-going regular liaison between the CASO and the communities involved. It is important for a truly participatory approach that communication is maintained with all community groups, and not just via specific meetings, workshops and training sessions, or just via the CACC.

### *Activity 2: Media and educational program*

The campaign will target Utwa and Walung communities but will be extended to include the entire island to fully gain support as well as raise awareness of the project. Printed materials in Kosraen will be designed and distributed in an effort to reach all community members and groups. In addition an on-going radio program will be established to educate the public as to the rationale of and the need for the CA, as well as of progress being made from the communities' perspective.

It is intended that the project will affect community members of all ages; therefore inclusion of youth, the future resource users, is essential. The education program will include school visits as well as competitions with environmental themes. Once the project becomes established schools in the communities will become involved in monitoring of environmental parameters in the CA.

### *Activity 3: PRA program*

PRA is a generic term used to identify participatory planning and management programs. In the context of the Utwa-Walung CAP it is intended as a program which:

- informs all groups and individuals within the communities involved of the purpose and nature of the project, and their potential roles/empowerment within it;
- establishes the interest and commitment of the communities;
- establishes the resource and socio-economic needs and aspirations of the communities; and
- assists the communities to meaningfully participate in project planning and management.

Key tasks in this program include:

- Development of strategy for the PRA program (what will be done, which groups will be targeted, who will be involved in the PRA team, and with what responsibilities).
- Assemble team and undertake PRA techniques training (SPBCP assistance will be sought, including possible transfer of PRA experience from Pohnpei, with PRA team training. Most will be conducted on the job).
- Collation of existing resource and socio-economic information on the communities by team members. For example the Department of Agriculture and Land will be requested to interpret aerial photos to determine changes in vegetative cover and human activities over time. The Office of Budget and Planning will be requested to provide a report on the changes in population and

settlement by major census divisions within the CA and Gather and interpret information about health and social conditions of populations in the CA. The Department of Health will be requested to identify pressing social infrastructural needs which might be provided for by the project. With the assistance of TAC, point and non-point pollution sources, and any unsustainable resource use practices within the CA may be identified.

- Community meetings, as determined by the PRA strategy, will be initiated to begin the process. Identification of the state and condition of natural resources, the causes and effects of unsustainable resource management practices and current activity levels in the CA will also be an objective of this task. One of the primary objectives of this project is to conserve the biodiversity of the CA, thus, assessing the existing use, state and condition of the environment and the causes of its declining state is essential. The gathering of anecdotal and other community-held information in this regard is most important to the project. The vital involvement of communities in this way is also essential to the overall participatory process approach being followed.
- Identification of resource and socio-economic needs of the communities, and of their aspirations for their future. This will constitute a significant input to the CA Management Planning activity and prepare the communities for this next step in the planning process.

#### *Activity 4: Traditionally-based resource management*

One of the main goals of the project is to revitalize traditional resource management practices and to incorporate them with Western approaches in partnership with State and National laws, regulations and policies. Through working with the communities, information can be gathered regarding traditional management practices. Not only will this process encourage community participation, but will also empower the community in the decision-making process.

Steps in the process include:

- Assessment of traditionally-based resource management practices by:
  - analyzing written material for information about traditional resource management
  - using PRA to focus on current traditional practices (including harvesting practices and methods, and customary sanctions)
  - determining present local resource management rules regulations and review these with local decision-makers to assess their relevance and effectiveness
  - working with decision-makers to identify any other traditional practices of relevance no longer practiced which may have benefit to the project.
- Providing for transfer of traditional knowledge among community groups and individuals.
- Organizing weaving and carving workshops.
- Organizing canoe building workshops.

- Preparing display information from these exercises for subsequent use in information, awareness-raising, and education activities.

#### 4.4.2 Objective 2

##### ***To establish an appropriate institutional arrangement for community based resource planning and management decision-making.***

*Activity 5: Establishment of appropriate structures, procedures, and resources for effective project management and administration prior to the formation of the CACC.*

An endeavor of this nature is a long-term undertaking. Significant time needs to be invested in public awareness and community education. Until the CACC is formed, the lead agency will be responsible for project management, beginning with a public awareness campaign. A component of this activity will be the employment of a CASO to continue consultation and work within the community. Eventually the CASO will be increasingly involved in project management and administration, including preparation quarterly and annual reporting to SPBCP and financial management.

Another component will be the organization of the CACC. The CACC will be the key for formal project discussion and decision-making. It is the intent of this project that everyone involved will come together and plan for the management of the CA through the CACC. In the interim, it is the responsibility of the lead agency to assume the duties of the CACC until this organization has formed and is ready to take on the leadership role.

Key tasks in this activity include:

- Dialogue with stakeholders as part of activity 1, as well as the PRA work to determine the preferred structure for interim project discussion and decision-making.
- Arrangements for the first meeting of the CACC.
- On-going project administration (i.e. SPBCP reporting) and management of the implementation of other interim project activities.

Currently, there is a loose organization of Utwa and Walung community members, including landowners and municipal leaders, who are interested in the project. The lead agency is working closely with this group to facilitate community consultation and to help establish an acceptable management structure. There are plans to expand upon this grouping to make it more representative of stakeholders i.e. women's group reps, more resource users, and members of the clergy, as well as possible inclusion of the Tafunsak community.

*Activity 6: Establishment and operation of appropriate structures, procedures and resources for effective project management and administration by the CACC (Phase 2).*

The purpose of this activity is to establish the operating regime of the new CACC. While some of this task may already have been undertaken in the interim dialogue under activity 5, the new CACC will itself have to decide on exactly how it will operate. This includes such matters as the scope of its decision-making powers, meeting proposals, frequency and timing of meetings, location of meetings, the relationship of CASO and other project staff to the CACC etc. This will be the newly formed CACC's first task.

Tasks in this activity include:

- Preparation of previously considered proposals for CACC operations for presentation to the CACC.
- Lead agency to prepare draft agenda for the first CACC meeting with the issue of CACC authority, procedures, and protocols first on the list.
- Facilitate CACC discussion on the topic.

*Activity 7: Priority agenda items for newly established CACC (Phase 2).*

A number of priority decisions will be required of the CACC, in addition to deciding on its own operating procedures as provided for in Activity 6. These will be presented to the CACC by the lead agency, along with any relevant background material and advice. In addition some decisions made in the interim period should be reviewed by the CACC and possibly ratified to meet the CACC's approval. Agenda items on this priority list include:

- The PPD, and the proposed Phase 2 workplan.
- Determination of CA boundaries.
- Appropriate project management to support the CACC.
- Arrangements for managing any income from the project (apart from budgets from SPBCP) and any other donor agencies for activities on the workplan (i.e. apportionment of earnings between communities for income generating activities that occur in more than one village or clan area, including possible use of trust funds, legal arrangements, etc.)
- Determination of the nature of an appropriate resource management plan for the CAP as well as the most appropriate process for formulating it.

*Activity 8: Preparation of a medium to long term management strategy for the CAP (Phase 2).*

The CACC will need to agree to a project management strategy which will progressively move responsibility from the lead agency to the community, and which is appropriate to the Committee. This strategy will need to include a training



component aimed toward key personnel who will take on leadership positions following the transition from the lead agency to the CACC. Proposals which have been developed by the lead agency after varying degrees of discussion with other stakeholders at the early stages of the project will be proposed for consideration by the CACC.

Key tasks in this activity include:

- Introduction of this concept from the beginning of the participatory planning work.
- Lead agency to introduce the issue as a formal CACC agenda item.

*Activity 9: Project administration and management of on-the-ground activities according to the agreed CAP workplan (Phase 2).*

This activity covers the Phase 2 administration and on-the ground management of the CAP workplan. As plans and activities are approved for implementation by the CACC it will be the task of project management to see them carried out. It should be noted that while the CACC will be established from the outset of Phase 2, the day to day operations of the park will be the responsibility of the CASO and the lead agency. The CACC will remain the decision- making body.

Tasks in this activity include:

- Undertaking the on-going administration procedures required by the lead agency, SPBCP and other donors.
- Servicing the CACC meetings
- Financial control and budgeting
- Implementation of work plan activities.

*Activity 10: Project management training and development.*

In order to prepare for community management of the project, a training programme relating to project management is essential. Tasks within this activity will include:

- Study tour to another SPBCP CAP by CACC members.
- CASO training.
- CACC training

#### 4.4.3 Objective 3

***To formulate and implement a resource management plan for the CA which both conserves biodiversity and meets the needs of landowners.***

*Activity 11: Establishment of an appropriate procedure for formulating the Utwa-Walung Marine Park Resource Management Plan (Phase 2).*

The Management Plan will provide the planning framework for all activities to be carried out within the CA. It will include strategies and plans for assessing the feasibility of income generating projects, and training and monitoring plans. The actual planning work will be executed by the project staff and technical advice as needed, however, the content will primarily be determined by input from the communities and other stakeholders. The focus of this activity is to design a process for developing a CA Management Plan that meets basic planning needs, as well as the needs of the communities. This will be developed as a final part of the PRA program, and finally approved by the CACC.

*Activity 12: Preparation of the Utwa-Walung Resource Management Plan (Phase 2).*

Once the process for developing the Management Plan has been developed and approved by the CACC, the lead agency can begin managing the preparation of the plan itself. This activity will draw on the PRA and participatory planning work already undertaken and necessitates input from the stakeholders. The details of the process will depend on the outcome of the CACC decisions arising from Activity 11, however at this stage of the process a number of tasks have been tentatively identified by the lead agency. These include:

Review of PRA/participatory planning work already undertaken.

Development of aims and/or objectives for the CA which will set the direction for the formulation of the plan and its long term management.

Carrying out key resource survey work, including:

- erosion study
  - biodiversity study
  - identify protected fish nursery areas
  - identify seasonal fish reserves
  - identify important bird nesting areas
  - identify mangrove replanting areas
- Identification of key areas where activities of different types will be conducted,
  - Prioritizing of development plans for the CA.
  - Identification of training needs.
  - Design of overall monitoring program for the CAP.
  - Design of community awareness program based on the final plan.
  - Approval of plan by communities and CACC
  - Carry out community awareness program.

*Activity 13: Assessment of the relevant National and State legislation to identify possible avenues for legislative amendment to strengthen the legal basis for the Utwa-Walung CAP (Phases 1 and 2).*

Current legislation has been identified as not promoting or supporting the community-based approach to resource management, conservation and development desired by this project. This activity will, as part of the partnership between the project and Government, seek to amend legislation accordingly.



*Activity 14: Devise a set of guidelines to assist resource users (Phase 2).*

Daily rural resource management activities (i.e. agriculture and forestry) are not specified in law. To assist those carrying out these daily activities to do so in the most environmentally favourable and sustainable manner, simple guidelines will be prepared covering techniques for potentially detrimental activities such as agricultural clearance or road building, and for conservation of soil, water, fauna, and flora. These will be included in the CA Management Plan.

Key tasks in this activity include:

- Identification of potential destructive practices in the CA (part of Activity 3)
- Prioritization of resource use activities which could benefit from guidelines.
- Lead agency to facilitate preparation of guidelines with assistance from local and regional technical assistance when needed.

*Activity 15: Implementation of the Management Plan (Phase 2).*

Once the Plan is approved by the CACC, it will be implemented. The CASO and project staff will oversee the day to day management of its implementation. Regular reporting on the progress and the results of monitoring to the CACC will be the responsibility of the CASO.

Key tasks for this activity include:

- CASO and lead agency to facilitate and manage the workplan.
- Management of any consultants and studies required by the plan.
- Monitoring.

#### 4.4.4 Objective 4

***To provide a framework for the development of income-generating activities.***

*Activity 16: Development of Ecotourism.*

Ecotourism is already beginning in the CA. The project seeks to identify the appropriate level of this activity and manage its development accordingly. Key tasks include:

- Feasibility study
- Community co-ordination
- Preparation of business plan
- Tour guide training
- Install mooring buoys
- Survey historic sites
- Signage

- Mnagrove boardwalk.

*Activity 17: Identification of options for income generating (Phases 1 & 2).*

The participatory approach will be the mechanism for determining income generating options within the CA. The CACC will prioritize options. This activity will be on-going, beginning in Phase I and continued until completion in Phase 2. Key tasks in this activity include:

- Collect all proposals for natural resource based developments in the CA.
- Review past developments and their sustainability.
- Lead agency to prepare agenda item for CACC discussion.
- CACC consideration.

*Activity 18: Feasibility studies for selected income generating proposals (Phase 2).*

Following prioritization of options for income generating activities by the CACC, the CAP will be assisted to undertake feasibility studies. Environmental effects as well as economic feasibility will be considered. Feasibility studies will include in their terms of reference an assessment of training needs, and monitoring requirements. This activity will be completed by CACC acceptance of the feasibility report and approval to the implementation of the activity. Key tasks include:

- Preparation of terms of reference for feasibility studies in conjunction with SPBCP.
- Management of consultants carrying out the studies according to the terms of reference.
- Presentation of final studies to the CACC for approval.
- Preparation of community awareness and education programs.
- Incorporation of monitoring and training needs into overall CAP monitoring and training programs.

*Activity 19: Implementation of income generating proposals.*

Following approval from the CACC, the proposals will be implemented. Responsibility for implementation will be determined per proposal. The CASO will have a monitoring role and assist in coordination of training. Key tasks include:

- Coordination of preparations for and carrying out of development activities.
- Monitoring of development and operation.
- Reporting to the CACC.

#### 4.4.5 Objective 5

***To establish an effective, participatory system of monitoring and review.***

*Activity 20: To design an effective, participatory system of physical and socio-economic monitoring (Phase 1 & 2).*

Through monitoring the effect of the project on key physical and socio-economic factors, the results can be used to improve project planning and management. Monitoring systems should be simple and easily executed with as little specialized equipment or expertise as possible. Key tasks in this activity include:

- Ensure that any resource survey work and income generating feasibility studies include the design of appropriate monitoring programs as well as desirable training needs.
- A monitoring component covering all aspects of the CAP should be included in the Utwa-Walung Marine Park Resource Management Plan.
- Review of the monitoring design at the time of management planning to identify areas needing revisions, improvements.

*Activity 21: Implementation of monitoring (Phase 2).*

Once the monitoring program has met approval by the CACC, the program will be implemented. Key tasks include:

- Carrying out training requirements for all to be involved in monitoring.
- Begin monitoring programme
- CASO to report to the CACC.

#### **4.5 Project workplan**

The project activities are to be implemented over the 5 year planning time frame for the CAP. Figure 6 shows the 5 year work plan and identifies the planned sequence of project activities. The work plan should be considered the tentative work plan due to the nature of community based projects. The work program will be updated in the project's annual plans and as needed via quarterly reporting and financial requests.

**Figure 6: Project Workplan**

#### **4.6 Project financing and administration**

**Figure 7: Utwa-Walung CA Budget Summary**



#### **4.7 Project organization, management and co-ordination**

The details of project organization, management and co-ordination will be considered as a priority activity in Phase 1 of the project. At the outset of the project all these activities are being carried out by the Division of Tourism as lead agency for the Utwa-Walung CAP. A CASO has been appointed to undertake the day to day project work.

An essential task within the priority participatory work with the local communities and other stakeholders is the identification of an interim management structure and process. Once the CACC is established, a priority task for that body will be to consider and agree on its own management structure and processes. In addition, the CACC will also consider and agree to a long term plan for community based project management.

#### **4.8 Legal framework**

With the legislation of the Kosrae Island Resource Management Program, Kosrae has made headway in providing legal safeguards for the purpose of protecting the environment and providing for the sustainable development of resources. The next phase will be to strengthen the enforcement of existing laws and regulation. The establishment of the DRC has paved the way in the area of environmental protection by acting as a liason between other government agencies.

Some areas which need to be addressed are as follows:

- additional training for TAC members in the EIA process
- soil conservation measures
- appropriate recognition of traditional resource management authority and practice

#### **4.9 Monitoring and evaluation**

While the fifth objectives of the Utwa-Walung CAP focuses on the strategy for project monitoring, the overall strategy for project monitoring will be brought together in the CA Resource Management Plan. Both resource survey work to be carried out and feasibility studies for income generating activities will include identification of key indicators for both bio-physical and socio-economic monitoring, appropriate monitoring techniques, and associated training needs in their terms of reference. Additional needs will be addressed by the Management Plan.

While some resource monitoring will need to be undertaken by specialist agencies, it is the philosophy of the project to simplify monitoring techniques as much as is possible, and to maximize the involvement of the local communities in this activity. The reason for this approach is to provide for a monitoring program that is manageable within long term project budgets and within the capacity of available human resources, and is therefore sustainable as an on-going project activity.

## **PART 5: PROJECT IMPACTS**

### **5.1 Introduction**

Achieving the conservation and sustainable development of the Utwa-Walung CAP would be a major achievement due to the high biodiversity value of the area and to serve as a successful example of an integrated conservation and development project.

Improvements in environmental quality will bring direct benefits to local stakeholders as there will be an increase in food availability from the marine environment. The channel serves as a nursery for marine organisms and needs to be maintained in a healthy state to ensure maximum biological productivity. Reducing detrimental land use practices will assist this endeavor. It will also ensure that the environment is attractive to visitors and tourists, who could bring significant economic benefits to the area.

The directing of attention to compatible income generating activities will also provide an opportunity to identify projects which could bring local economic, and in turn social, benefits. With thorough study and the conducting of feasibility studies the groundwork will have been prepared for financial assistance from other donors or the commercial sector.

### **5.2 Logical framework analysis**

Figure 8 indicates in broad terms how the project's aim and objectives can be achieved and monitored and identifies the possible risks and constraints which could work against their achievement. However, these risks can be minimized and sometimes avoided if stakeholders are mindful of them and take active steps to counter them.

**Figure 8: Logframe Analysis for Utwa-Walung CAP**

<b>Project Aim and Objectives</b>	<b>Indicators of Achievement</b>	<b>How Quantified or Assessed</b>	<b>Risks and possible constraints</b>
<i>To conserve biodiversity while providing for sustainable development</i>	Monitoring shows conservation of indicator species and sustainable development activities implemented	Regular objective ecological and socio-economic monitoring	Assumes commitment by local people, government agencies and others (stakeholders)
<b><i>Specific Objectives</i></b>			
<i>To provide an on-going process of community awareness-raising, liaison and participation</i>	Increased awareness of conservation and active participation by the community in decision-making	Surveys and active involvement of local people in undertaking tasks and activities	Land tenure issues, disputes and lack of immediate benefits could diminish interest in the project
<i>To establish effective and appropriate institutional arrangements</i>	CACC in place and functioning regularly	Records of meetings	Disputes could delay cooperative action
<i>To formulate and implement a resource management plan</i>	Plan accepted by stakeholders and objectives and tasks carried out as planned	Plan in place and regularly reviewed. Rules and regulations adhered to. Monitoring indicates improvement in environmental conditions	Difficulty formulating and implementing the plan due to inadequate capacity, capability and commitment of local, State and National decision-makers
<i>To provide a framework for the development of income-generating activities</i>	Sustainable development opportunities researched and identified	Feasibility studies carried out	Lack of assistance and funding for infrastructure improvements could jeopardize economic success

<i>To establish an effective, participatory system of monitoring and review</i>	Community identifies and agrees on elements to be monitored	Periodic surveys and record keeping	Community does not have the capacity to carry out monitoring
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